



DRAFT
Program Environmental
Impact Report

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2040 RTPSCS

FOR THE 2016-2040 RTP/SCS
Southern California Association of Governments

**DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT
FOR THE
2016 REGIONAL TRANSPORTATION PLAN/
SUSTAINABLE COMMUNITIES STRATEGY**

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EXECUTIVE SUMMARY

In accordance with California Environmental Quality Act (CEQA) Guidelines Section 15123, this chapter of the Draft Program Environmental Impact Report (PEIR) contains an overview of the proposed project, its potential environmental impacts and mitigation measures, and a summary of the alternatives to the proposed project evaluated in this Draft PEIR.

This PEIR evaluates the potential environmental impacts associated with the adoption of the 2016 Regional Transportation Plan/Sustainable Communities Strategy by the Southern California Association of Governments (SCAG). SCAG, as the Lead Agency, prepared this PEIR pursuant to the CEQA, for the proposed, Draft 2016-2040 Regional Transportation Plan and Sustainable Communities Strategy (“2016 RTP/SCS,” “Plan” or “Project”).

As described in more detail below, the 2016 RTP/SCS is a long-range regional transportation plan that provides a vision for regional transportation investments, integrated with land use strategies, over the period from 2016 to 2040. The 2016 RTP/SCS includes integrated land use and transportation strategies that are shaped by the Plan’s vision, goals, guiding policies and performance measures as well as by changes that the region has been facing since adoption of the 2012 RTP/SCS, adopted in April 2012. Other major components of the 2016 RTP/SCS include a list of transportation projects; a description of programs and public participation processes; a description of regional growth trends that identify future needs for travel and goods movement; and a financial plan that identifies the amount of funding that is reasonably expected to be available to build, operate, and maintain the region’s surface transportation system through the forecast horizon year of 2040.

The PEIR for the 2016 RTP/SCS serves as an informational document to inform decision-makers and the public of the potential environmental consequences of approving the proposed Plan. The PEIR includes mitigation measures designed to help avoid or minimize significant environmental impacts. This PEIR serves as a first-tier document for later CEQA review of individual projects included in the program. These project-specific CEQA reviews will focus on project-specific impacts and mitigation measures, and need not repeat the broad analyses contained in the PEIR. As discussed by the California Supreme Court, “it is proper for a lead agency to use its discretion to focus a first-tier EIR on only the...program, leaving project-specific details to subsequent EIRs when specific projects are considered” (*In re Bay Delta* (2008) 43 Cal. 4th 1143, 1174). As such, the focus of the environmental analysis in the PEIR is on regional-scale and cumulative impacts of implementation of the Plan and the alternatives.

The long-range planning horizon of more than 20 years necessitates that many of the highway, arterial goods movement, and transit projects included in the Plan (and the alternatives) are identified at the conceptual level. This document addresses environmental impacts to the level that they can be assessed without undue speculation (CEQA Guidelines § 15145). This PEIR acknowledges this uncertainty and incorporates these realities into the methodology to evaluate the environmental effects of the Plan, given its long-term planning horizon. The degree of specificity in an EIR corresponds to the degree of specificity of the underlying activity being evaluated (CEQA Guidelines Section 15146). Also, the adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project (CEQA Guidelines Sections 15151 and 15204(a)). The activity being evaluated in this PEIR is the long-term Regional Transportation Plan (RTP) including the Sustainable Communities Strategy (SCS). This Draft PEIR strives to provide as much quantitative detail as feasible regarding the regional

environmental impacts of the Plan. Not all impacts can be feasibly and/or accurately quantitatively analyzed at a regional level and/or up to the year 2040.

A Notice of Preparation (NOP) for this Draft EIR was issued on March 9, 2015 by SCAG for a 30-day public review period. A total of 26 comment letters were received. Information, data and observations resulting from these letters are included throughout this Draft EIR where relevant. The NOP and copies of each comment letter received are included in **Appendix A** of this Draft PEIR. Two scoping meetings were held on March 17th and 18th, 2015. The purpose of these meetings was to provide early consultation for the public to express their concerns about the proposed project, and acquire information and make recommendations on issues to be addressed in the Draft PEIR. In accordance with Sections 15087 and 15105 of the CEQA Guidelines, this Draft PEIR is being circulated for a 60-day public review period. Responsible and trustee agencies and the public are invited to comment in writing on the information contained in this document. Persons and agencies commenting are encouraged to provide information that they believe is missing from the Draft PEIR and to identify where the information can be obtained. All comment letters received concerning the Draft PEIR will be responded to in writing, and the comment letters, together with the responses to those comments will be included in the Final PEIR

ES.1 BACKGROUND AND PROJECT OVERVIEW

ES.1.1 SCAG Role and Responsibilities

SCAG is a federally designated Metropolitan Planning Organization (MPO) pursuant to Title 23, United States Code (USC) 134(d)(1) for the region comprising the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura. In addition, SCAG is designated under California state law as the Multicounty Designated Transportation Planning Agency and Council of Governments (COG) for the six-county region. Founded in 1965, SCAG is a Joint Powers Authority, established as a voluntary association of local governments and agencies.

SCAG serves as the regional forum for cooperative decision making by local government elected officials and its primary responsibilities in fulfillment of federal and state requirements include the development of the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), the Federal Transportation Improvement Program (FTIP), the annual Overall Work Program, and transportation-related portions of the South Coast Air Quality Management plans. SCAG's other major functions include determining that regional transportation plans and programs are in conformity with state air quality plans, periodic preparation of a Regional Housing Needs Assessment (RHNA), and intergovernmental review of regionally significant projects.

The Regional Council is SCAG's main governing body. It consists of 86 elected officials, representing cities, counties, county transportation commissions, transportation corridor agencies, tribal governments, and air districts in the region. The Regional Council has general authority to conduct the affairs of SCAG and directs the actions of the Agency throughout the year. Additionally, the Regional Council implements the policy direction provided at the annual General Assembly of the membership, acts upon policy recommendations from SCAG's standing policy committees and external agencies, and appoints standing or ad-hoc subcommittees to study specific programs or issues.

ES.1.2 Regional Cooperation

SCAG places great importance on regional cooperation in the regional planning process. SCAG seeks feedback from subregional organizations that have been recognized by the Regional Council as partners in the regional policy planning process. Subregions play an important role as a conduit between SCAG and the cities and counties of the region by participating and providing input on SCAG's planning activities. A total of 15 subregions are recognized by the Regional Council and represent portions of the region, with shared interests, issues, and geography. The subregions vary according to geographical size, number of local member jurisdictions, staffing, decision-making structure, and legal status.

SCAG provides opportunities to participate in regional planning through collaboration and participation in regional programs and dialogs. Responsible for regional policy direction and review, the primary standing committees at SCAG include; the Executive/Administration Committee; the Transportation Committee; the Community, Economic & Human Development (CEHD) Committee; the Energy & Environmental Committee; and the Legislative/Communication & Membership Committee. In addition to the standing committees, there are various subcommittees, technical advisory committees, working groups, and task forces that either report to the standing committees or provide input to SCAG staff, while other groups are established on an ad hoc basis to assist with specific projects or address specific regional policy.

ES.1.3 Bottom-Up Planning Process

A critical component to developing the proposed, Draft 2016 RTP/SCS is the participation and cooperation of all local government partners and stakeholders within the SCAG region. To this end, SCAG uses a bottom-up planning process by which all local government jurisdictions and county transportation commissions (CTCs) in the SCAG region as well as other stakeholders are informed about the Plan development process and have adequate opportunities to provide input. The bottom-up planning process uses a "local control-regional collaboration" strategy for the 2016 RTP/SCS and employs, among other efforts, one-on-one meetings with local jurisdictions to solicit input and feedback on draft growth forecast and land use data.¹ In particular, SCAG works closely with CTCs, local governments, tribal governments, nonprofit organizations, businesses, and local stakeholders within Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties. The six CTCs in the region are responsible for managing and prioritizing and approving the portfolio of transportation investments in their respective counties and providing updated information on transportation projects for inclusion in the 2016 RTP/SCS. Since March 2013, SCAG has been coordinating with cities and counties responsible for land use and transportation planning to develop forecasts of future land use pattern, population, household, employment, and land scenarios, which were developed in consultation with SCAG's CEHD Committee and Technical Working Group.² Additionally, SCAG works closely with various stakeholders and agencies to seek input on specific topic areas of the 2016 RTP/SCS such as active transportation strategies, public health, open space, and environmental justice. To ensure the

¹ Southern California Association of Governments. 2 January 2014. *Item No. 2 Staff Report: One-on-One Meetings with Local Jurisdictions to Provide Assistance for a Bottom-Up Local Input Process*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/cehd010214fullagn.pdf>

² Southern California Association of Governments. 2 October 2014. *Item No. 6 Staff Report: Update on SCAG's Bottom-Up Local Input Process for the 2016-2040 Regional Transportation Plan and Sustainable Communities Strategy (2016 RTP/SCS)*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/cehd100214fullagn.pdf>

region makes progress towards achieving the goals and guiding policies as described in the 2016 RTP/SCS, SCAG will continue to rely on and build upon regional cooperation, public outreach and bottom-up planning process to engage, solicit input, and share information with relevant parties and the public.

The purpose of the 2016 RTP/SCS is to provide a clear, long-term vision of the regional transportation goals, policies, objectives, strategies, and investments integrated with land use strategies for the SCAG region while at the same time providing strategies to meet greenhouse gas emissions reduction and air quality conformity requirements. The necessity for the 2016 RTP/SCS is driven by the need to plan for the region's changing socioeconomic, transportation, financial, technological, and environmental conditions. Additionally, the 2016 RTP/SCS is necessary to plan for improvements to the aging regional transportation system, among others, to preserve its long-term viability in light of the projected population growth.

ES.2 PURPOSE AND NEED FOR ACTION

Federal regulations (40 Code of Federal Regulations [CFR] § 1502.13) require the preparation of a statement of purpose and need in conjunction with environmental documents prepared to meet the requirements of the National Environmental Policy Act (NEPA). Consistent with the protocols established in NEPA, this statement of Purpose and Need has been included to facilitate the use of an Environmental Impact Report (EIR) as a functional equivalent to environmental review required pursuant to NEPA, to the extent that the proposed action adequately characterized and analyzed anticipated adverse effects, and sufficient mitigation measures have been considered to avoid or reduce the anticipated adverse direct, indirect and cumulative effects of the proposed action. Although adoption of the 2016 RTP/SCS is not subject to NEPA, SCAG has chosen to include this statement of purpose and need to enable proponents of projects included in the 2016 RTP/SCS to discuss the purpose and need for their individual projects relative to the Plan.

The SCAG Regional Council has the responsibility for consideration of the 2016 RTP/SCS, with substantial input from its member jurisdictions, agencies, and stakeholders. This statement of Purpose and Need has been prepared to identify the underlying purpose for adopting the 2016 RTP/SCS. It was not prepared to be a comprehensive statement of need for each individual project included in the 2016 RTP/SCS. However, the 2016 RTP/SCS includes transportation improvements that may involve a federal action, such as the use of federal funds, right-of-way, permits and or leases at the time that project-level design is initiated; thus triggering the requirement for environmental review under NEPA, as set forth in 40 CFR Section 1502.13. Therefore, where determined appropriate by a Lead Agency asked to undertake a site or project-specific federal action, evaluated in this PEIR at the programmatic-level of detail, this statement of purpose and need may be incorporated by reference in site- or project-specific NEPA documents as provided in 40 CFR § 1502.21.

ES.3 PROPOSED PROJECT / PLAN

ES.3.1 Project Description

Similar to the 2012 RTP/SCS, last adopted by SCAG’s Regional Council in April 2012 and subsequently amended in September 2014 (Amendment No. 2 to the 2012 RTP/SCS),³ the 2016 RTP/SCS is a long-range transportation plan that provides a vision for regional transportation investments, integrated with land use strategies, over a minimum 20-year period. The 2016 RTP/SCS contains regional transportation investments and integrated land use strategies. It includes investments and strategies to improve the regional transportation system (e.g., highways, transit, active transportation, etc.) and land use integration strategies. It also includes transportation financial strategies based upon committed, available or reasonably available funding sources, thereby constituting the 2016 RTP/SCS as a “financially constrained Plan.” As part of the constrained Plan, the 2016 RTP/SCS is intended to identify reasonably available sources of funding over the Plan period, and allocate these funds to transportation projects and programs that benefit the SCAG communities and residents. The 2016 RTP/SCS is designed to assure that, to the greatest extent possible, the money invested would have the best chance of achieving the objectives communities and residents care about.

The last chapter of the 2016 RTP/SCS entitled “Looking Ahead” serves as a Strategic Plan and discusses which projects, programs, or initiatives the region should pursue in the coming decades. Unlike the constrained Plan, the Strategic Plan of the 2016 RTP/SCS presents a vision for regional improvements beyond committed, available, or reasonably available funding sources. It identifies additional projects that may require study and consensus building before the decision can be made as to whether to commit the funding to include these projects in a future RTP/SCS constrained plan. These are projects for which funding sources have not been identified, but the implementation of which would provide transportation, air quality, and health benefits to the region. The 2012 RTP/SCS also included a Strategic Plan, and it played a large role in informing the investments and strategies detailed in the financially constrained component of the 2016 RTP/SCS. Hence, the Strategic Plan included in the 2016 RTP/SCS is intended to play a similar role in informing future RTP/SCS updates.

This PEIR for the 2016 RTP/SCS does not analyze strategic projects because their lack of funding indicates that implementation is speculative at this point. If these projects become reasonably foreseeable, they will be included in the future RTP/SCS updates, and their impacts will be addressed in the PEIRs for future Plans.

ES.3.2 Vision, Goals, Guiding Policies, and Performance Measures

The 2016 RTP/SCS includes a vision, goals, guiding policies and performance measures developed through extensive outreach to the general public and stakeholders across the region. The 2016 RTP/SCS is intended to build upon the progress made since the 2012 RTP/SCS while recognizing the current conditions of land use and transportation throughout the region as well as emerging developments and technologies since the adoption of the 2012 RTP/SCS. It is intended to respond to a changing region by meeting the challenges and creating conditions and infrastructure that motivate increased mobility and

³ Southern California Association of Governments. September 2014. Amendment No. 2 to 2016 Regional Transportation Plan/Sustainable Communities Strategy. Available at: <http://scagrtpscsc.net/Pages/2012RTPSCS.aspx>

accessibility, expanded transportation options, broader economic growth, equitably distributed benefits, and sustainability.

Based upon extensive local collaboration, the 2016 RTP/SCS has a vision for achieving a range of quality of life outcomes. It envisions vibrant, livable communities that are healthy and safe, and which offer transportation options that provide timely access to schools, jobs, services, health care, and other basic needs. It offers opportunities to communities for walking and bicycling, and offers residents improved access to parks, open space, natural lands, and recreational opportunities. Collectively, the 2016 RTP/SCS is intended to support and enhance opportunities for business, investment and employment, fueling a more prosperous economy. This vision recognizes the region’s tremendous diversity, and that one-size solutions are not practical or feasible. The Plan’s goals are intended to help carry out the vision for improved mobility, a strong economy and sustainability. The 2016 RTP/SCS goals remain unchanged from those adopted in the 2012 RTP/SCS (Table ES.3.2-1, *2016 RTP/SCS Goals*).

**TABLE ES.3.2-1
2016 RTP/SCS GOALS**

Goal 1	Align the plan investments and policies with improving regional economic development and competitiveness.
Goal 2	Maximize mobility and accessibility for all people and goods in the region.
Goal 3	Ensure travel safety and reliability for all people and goods in the region.
Goal 4	Preserve and ensure a sustainable regional transportation system.
Goal 5	Maximize the productivity of our transportation system.
Goal 6	Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g. bicycling and walking).
Goal 7	Actively encourage and create incentives for energy efficiency, where possible.
Goal 8	Encourage land use and growth patterns that facilitate transit and active transportation.
Goal 9	Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.

SOURCE:

Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*, Chapter 4.

The guiding policies for the 2016 RTP/SCS are intended to help focus future investments on the best-performing projects and strategies to preserve, maintain and optimize the performance of the existing transportation system. The 2016 RTP/SCS includes two additional guiding policies since the 2012 RTP/SCS (Table ES3.2-2, *2016 RTP/SCS Guiding Policies*).

**TABLE ES 3.2-2
DRAFT 2016 RTP/SCS GUIDING POLICIES**

Policy 1	Transportation investments shall be based on SCAG's adopted regional Performance Indicators
Policy 2	Ensuring safety, adequate maintenance, and efficiency of operations on the existing multimodal transportation system should be the highest RTP/SCS priorities for any incremental funding in the region.
Policy 3	RTP/SCS land use and growth strategies in the RTP/SCS will respect local input and advance smart growth initiatives.
Policy 4	Transportation demand management (TDM) and active transportation will be focus areas, subject to Policy 1.
Policy 5	High-Occupancy vehicle (HOV) gap closures that significantly increase transit and rideshare usage will be supported and encouraged, subject to Policy 1.
Policy 6:	The RTP/SCS will support investments and strategies to reduce non-recurrent congestion and demand for single occupancy vehicle use, by leveraging advanced technologies.
Policy 7	The RTP/SCS will encourage transportation investments that result in cleaner air, a better environment, a more efficient transportation system, and sustainable outcomes in the long run.
Policy 8	Monitoring progress on all aspects of the Plan, including the timely implementation of projects, programs, and strategies, will be an important and integral component of the Plan.

SOURCE:

Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*, Chapter 4.

The first addition (Guiding Policy 6) addresses emerging technologies and the potential for such technologies to lower the number of collisions, improve traveler information, reduce the demand for driving alone, and lessen congestion related to road incidents and other non-recurring circumstances (a car collision, for example). The second addition (Guiding Policy 7) recognizes the potential for transportation investments to improve both the efficiency of the transportation network and the environment.

Performance measures are closely tied to the broader vision, goals, and guiding policies to ensure that the implementation of the 2016 RTP/SCS moves the region closer to achieving these vision, goals and policies. The 2016 RTP/SCS uses a number of performance measures to help gauge progress, how well the region meets the federal air quality conformity requirements, the new federal requirements of MAP-21, and state requirements for reducing greenhouse gas emissions and planning for a more sustainable future. Like the 2012 RTP/SCS, performance measures continue to play a critical role in the development of the 2016 RTP/SCS. Performance measures included in the 2016 RTP/SCS are built upon and updated from those developed for the 2012 RTP/SCS to ensure that there is consistency when tracking and assessing the region's performance and whether the region is progressing towards meeting and exceeding federal and state requirements. It is also intended to help quantify regional goals, estimate potential impacts of proposed investments, and evaluate progress over time. An extended discussion on Plan performance is covered in Chapter 8 entitled "Measuring Our Progress for the Future" of the 2016 RTP/SCS .

ES.3.3 Scenario Planning

The scenario planning process played a critical role in developing the 2016 RTP/SCS. To facilitate development of the Plan, SCAG generated four preliminary “sketch scenarios” for the region’s future land use and transportation investments during the next 25 years.⁴ Using several relevant land use and transportation inputs, sketch scenarios explored a range of potential regional development patterns, and evaluated how the scenarios performed in terms of sustainability, mobility and other performance metrics. The purpose for developing sketch scenarios was to engage in a bottom-up planning process, and solicit input and feedback on the scenarios as part of the 2016 RTP/SCS development process.⁵

Based on feedback received on the sketch scenarios, a preliminary draft policy growth forecast (PGF) was developed. The PGF serves as the foundation for the regional policy growth scenario, which proposed for inclusion in the 2016 RTP/SCS. As part of the scenario planning development process and consistent with the bottom-up planning process, the preliminary draft PGF, including population, households and employment, was distributed for local technical review in summer 2015. All technical corrections made to the preliminary draft PGF during the technical review process were completed in fall 2015, and these technical corrections were incorporated and used to modify the preliminary draft PGF.⁶

This modified version of the draft PGF serves as the basis for the technical modeling for the 2016 RTP/SCS, maintains local input-based jurisdictional growth totals with targeted growth in opportunity areas that are well served by transit and are conducive to successful mixed-use and higher density housing in the future (based on future transit investments and recent construction trends for similar developments).⁷

To guide the development of PGF, a set of five guiding principles and framework were developed, reviewed and supported by SCAG’s CEHD Committee.⁸ Based on this support and consistent with the guiding principles and framework approved by the CEHD Committee, the 2016 RTP/SCS includes proposed land use and transportation strategies.⁹

⁴ Southern California Association of Governments. 13 March 2015. *Preliminary Scenario Planning Matrix*. Available at: http://www.scag.ca.gov/committees/CommitteeDocLibrary/oscwg031915_draftscenario.pdf

⁵ Southern California Association of Governments. Accessed October 2015. *Workshop Materials. Station 6: The 4 Scenarios Posters*. Available at: <http://scagrtpsc.net/Pages/WorkshopMaterials.aspx>

⁶ Southern California Association of Governments. 8 October 2015. *Staff Report: 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (Draft 2016 RTP/SCS) – Policy Growth Forecast (PGF) Guiding Principles and Framework*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/cehd100815fullagn.pdf>

⁷ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

⁸ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

⁹ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

ES.3.4 Land Use and Transportation Strategies

The 2016 RTP/SCS envisions future regional growth that is well coordinated with the transportation system improvements, as well as anticipates new transportation projects planned by the region's CTCs and transit providers region's transportation network and land uses. The 2016 RTP/SCS makes a concerted effort to integrate the region's transportation network and land uses, so that the region can be developed into an even more sustainable region over the coming decades. Accordingly, the following overview of regional strategies for growth and land use set the context for a comprehensive review of the region's transportation system.

Land Use Strategies

Built upon the success of the 2012 RTP/SCS, the 2016 RTP/SCS includes a set of regional land use strategies that are intended to increase transportation mode choice, guide future land development patterns, and further improve air quality.¹⁰ These proposed land use strategies recognize a higher portion of new households and employment in areas well served by transit, and reduce growth in high value habitat areas along with neighborhoods that are adjacent to highways. Like the 2012 RTP/SCS, the proposed land use strategies included in the 2016 RTP/SCS continue to focus new growth in HQTAs, existing suburban town centers, and more walkable, mixed-use communities:

- Identify regional strategic areas for infill and investment;
- Structure the plan on a three-tiered system of centers development;¹¹
- Develop "Complete Communities";
- Develop nodes on a corridor;
- Plan for additional housing and jobs near transit;
- Plan for changing demand in types of housing;
- Continue to protect stable, existing single-family areas;
- Ensure adequate access to open space and preservation of habitat; and
- Incorporate local input and feedback on future growth.

In support of the foundation policies and guiding principles, the RTP/SCS includes six proposed land use strategies:

- High Quality Transit Areas (HQTA)
- Livable Corridors
- Neighborhood Mobility Area
- Zero-Emission Vehicles and Electric Vehicle Charging Stations
- Natural Lands Preservation
- Balancing Growth Distribution between 500 Feet of Freeways and HQTAs

¹⁰ Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 5.

¹¹ "Identify strategic centers based on a three-tiered system of existing, planned, and potential, relative to transportation infrastructure. This strategy more effectively integrates land use planning and transportation investment." A more detailed description of these strategies and policies can be found on pages 90-92 of SCAG's 2008 Regional Transportation Plan, which was adopted in May 2008.

Transportation Strategies

Like the proposed land use strategies, the 2016 RTP/SCS includes transportation investments that are built off the framework and strategies in the 2012 RTP/SCS. Specifically, the proposed transportation investments in the 2016 Plan recognize that the region can no longer afford to rely solely on expanding the transportation system to address the region’s many changes and challenges. There is a need to use a comprehensive planning approach for a transportation system that focuses on preservation, sustainability, and productivity, as well as strategic expansion. The proposed land use patterns as part of the 2016 RTP/SCS provide a strategic opportunity to build a smart transportation system that is responsive to the region’s changes and challenges

As such, the 2016 RTP/SCS includes proposed strategies for transportation investments, totaling approximately \$556 billion, in nine (9) areas: 1) system preservation and maintenance; 2) highway and arterials; 3) transportation demand management (TDM) and system manage (TSM); 4) transit; 5) passenger rail including High Speed Rail; 6) goods movement; 7) active transportation; 8) aviation and 9) debt service (Table ES 3.4-1, 2016 RTP/SCS: *Proposed Allocation of Transportation Investments [in Billions]*)

**TABLE ES 3.4-1
2016 RTP/SCS: PROPOSED ALLOCATION OF TRANSPORTATION INVESTMENTS
(IN BILLIONS)**

System Preservation	\$275
Highway and Arterials	\$55
TDM and TSM	\$16 (\$6.9 for TDM; and \$9.2 for TSM)
Transit	\$56
Passenger Rail and High Speed Rail	\$39
Goods Movement	\$75
Active Transportation	\$8
Other (Environmental Mitigation, Landscaping and Project Development Costs)	\$3
Aviation	Included in modal investments
Debt Service	\$31

NOTE: due to rounding, the total will not exactly match.

SOURCE:

Southern California Association of Governments. December 2015. Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy, Chapter 6

ES.3.5 Transportation Funding

In accordance with federal fiscal constraint requirements, the 2016 RTP/SCS is a financially constrained Plan. The financial plan for the 2016 RTP/SCS identifies the amount of funding that is reasonably expected to be available to build, operate, and maintain the region’s surface transportation system through the forecast horizon year of 2040.¹²

¹² Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 6.

The financial plan's forecast of core revenue totals approximately \$356 billion. Local sources, totaling approximately \$255 billion, comprise the largest share of core revenues at 71 percent, followed by state sources totaling \$64 billion (18 percent) and federal sources totaling \$38 billion (11 percent). Core revenues are existing transportation funding sources projected through 2040. The core revenue forecast does not include future increases in tax rates or adoptions of new tax measures.

The financial plan's forecast of expenditure needs totals approximately \$556 billion. Operating and maintenance (O&M) expenditures needed to achieve a state of good repair total \$275 billion (49 percent). O&M includes \$65 billion in state highway O&M, \$157 billion in transit O&M, \$16 billion in passenger rail O&M, and \$37 billion in regionally significant local streets and roads O&M. Capital project expenditures total \$251 billion (45 percent) and debt service totals \$31 billion (6 percent).¹³

Similar to the amount of funding gap identified in the 2012 RTP/SCS, the 2016 RTP/SCS is expected to have an approximately \$200 billion difference between the expenditure forecast total (\$556 billion) and the core revenue forecast total (\$356 billion). As such, like the 2012 Plan, the 2016 Plan includes reasonable available new revenue sources including short-term adjustments to state and federal gas excise tax rates and long-term replacement of gas taxes with mileage-based user fees were included to fill the gap.

A set of key guiding principles were used to develop transportation funding strategies:^{14,15}

- Establish a user-based system that better reflects the true cost of transportation with firewall protection for transportation funds while ensuring an equitable distribution of costs and benefits;
- Promote national and state programs that include return to source guarantees while maintaining flexibility to reward regions that continue to commit substantial local resources;
- Leverage locally available funding with innovative financing tools (e.g., tax credits and expansion of Transportation Infrastructure Finance and Innovation Act (TIFIA)) to attract private capital and accelerate project delivery; and
- Promote funding strategies that strengthen federal commitment to the nation's goods movement system, recognizing the pivotal role that our region plays in domestic and international trade.

¹³ Southern California Association of Governments. 3 September 2015. *Item No. 2 Staff Report: Draft 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Financial Strategies*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/tc090315fullagn.pdf>

¹⁴ As part of the 2012 RTP/SCS, the Regional Council adopted a set of key guiding principles to lay the foundation for identifying reasonably available new revenues. SCAG's Transportation Committee at its September 3, 2015 meeting re-confirmed the use of these guiding principles and approved the proposed near-term transitional strategies and long-term initiatives for inclusion in the Draft 2016 RTP/SCS.

¹⁵ Southern California Association of Governments. 11 September 2014. *Item No. 2 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy – Proposed Financial Strategies*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/tc090315fullagn.pdf>

Based on these guiding principles, the 2016 RTP/SCS includes both near-term transitional strategies and long-term initiatives to fill the approximately \$200-billion funding gap (Table ES.3.5-1, *Reasonably Available Revenue Sources and Innovative Funding Strategies: \$200 Billion [in Nominal Dollars]*).¹⁶

**TABLE ES.3.5-1
REASONABLY AVAILABLE REVENUE SOURCES AND INNOVATIVE FUNDING STRATEGIES:
\$200 BILLION (IN NOMINAL DOLLARS)**

Revenue Sources	Amount (Billion)
State and Federal Gas Excise Tax Adjustment to Maintain Historical Purchasing Power	\$6.0
Mileage-Based User Fee (or equivalent fuel tax adjustment)	\$124.8 (est. increment only)
Highway Tolls (includes toll revenue bond proceeds)	\$23.5
Private Equity Participation	\$3.4
Freight Fee/National Freight Program	\$5.4
State Bond Proceeds, Cap-and-Trade Auction Proceeds & Other for California High-Speed Rail Program	\$34.0
Value Capture Strategies	\$1.2
Local Option Sales Tax (Ventura County)	\$2.1

SOURCE:

Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 4.

ES.3.6 Plan Performance

The 2016 RTP/SCS uses a number of performance measures to gauge progress toward meeting the Plan’s goals. Plan performance is shown by performance outcomes in seven categories, and these performance outcomes are tied to the 2016 RTP/SCS goals. Within each category of performance outcome, there are performance measures.¹⁷ To determine how effective the Plan’s land use and transportation strategies would be, Chapter 8 of the 2016 RTP/SCS includes a “Plan” vs. “Baseline” analysis—essentially comparing what the region would look like with and without implementation of the Plan in 2040.¹⁸

The majority of the performance measures in the 2016 RTP/SCS remain the same as those in the 2012 RTP/SCS. Recognizing that integrated land use and transportation strategies are expected to have impacts beyond those exclusively transportation-related, the health outcome was first introduced in the 2012 RTP/SCS. Continuing with this emphasis on health outcome, the 2016 RTP/SCS includes a number of new measures, including three health-related measures. These health-related measures are tied with the proposed transportation investments in transit, active transportation, more walkable communities, and land use strategies which focus new housing and employment in the region’s HQTAs, livable corridors and neighborhood mobility areas.

¹⁶ Southern California Association of Governments. 11 September 2014. *Item No. 2 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy – Proposed Financial Strategies*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/tc090315fullagn.pdf>

¹⁷ Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 8.

¹⁸ Note that the Draft 2016 RTP/SCS baseline year is 2012 as required for RTP/SCSs. This PEIR properly uses 2015 at the time when the Notice of Preparation (NOP) is published as the existing conditions against which impacts are analyzed.

ES.3.7 Social Equity

The 2016 RTP/SCS places an important emphasis on social equity. Like the 2012 RTP/SCS, the 2016 RTP/SCS includes an analysis on environmental justice.¹⁹ The concept of environmental justice is about equal and fair access to a healthy environment, with the goal of protecting underrepresented and poorer communities from incurring disproportionate environmental impacts. Consideration of environmental justice in the transportation planning process stems from Title VI of the Civil Rights Act of 1964. Title VI of the Civil Rights Act of 1964 establishes the need for transportation agencies to disclose to the public the benefits and burdens of proposed projects on minority populations. The understanding of civil rights has expanded to include low-income communities. In addition to Federal requirements, SCAG must comply with California Government Code Section 11135, which states that, “no person in the State of California shall, on the basis of race, national origin, ethnic group identification, religion, age, sex, sexual orientation, color, or disability, be unlawfully denied full and equal access to the benefits of, or be unlawfully subjected to discrimination under, any program or activity that is conducted, operated, or administered by the state or by any state agency, is funded directly by the state, or receives any financial assistance from the state.”

ES.3.8 Public Health

Built upon the public health emphasis of the 2012 RTP/SCS, the 2016 RTP/SCS places an even greater emphasis on public health. Public health is affected by the Plan in several ways, notably through its impact on the total level of air emissions, the exposure of the population to those emissions as a function of their location, and opportunities for physical activities including active transportation and recreation. Additionally, the health benefits of an active lifestyle have become apparent in recent years, and there is a growing support of increasing the walkability and bikeability of the communities in the region. Proposed land use strategies and transportation investments such as provision of additional investments in active transportation networks including first/last mile improvements, Safe Routes to School projects, and regional bikeways infrastructures are expected to increase the number of short trips and improve physical activity outcomes. Finally, including health-related measures in the Plan helps build an ongoing regional monitoring on the Plan’s performance on public health.

ES.4 SUMMARY OF IMPACTS AND MITIGATION MEASURES

As required by Section 15126 of the State CEQA Guidelines, the determination of impacts in the 2016 RTP/SCS PEIR is based on a comparison of the 2040 planning horizon for the proposed Project (i.e., the 2016 RTP/SCS) to existing conditions. Section 15125(a) of the State CEQA Guidelines specifies that the environmental baseline conditions are the existing condition as they exist at the time of publication of the NOP for the PEIR (March 2015). In most instances, the most recent complete data sets are for 2014, and in some instances 2012. In accordance with Section 15123 of the State CEQA Guidelines, for each of the 18 environmental issue areas that are evaluated, one of three determinations is made: No Impact, Less than Significant Impact, or Significant Impact (Table ES.4-1, *Summary of Environmental Consequences*). For each significant impact, feasible mitigation measures are identified, consistent with the provisions of Section 15126.4 of the State CEQA Guidelines.

¹⁹ Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 8.

TABLE ES.4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Aesthetics		Mitigation Measures	Significance after Mitigation
<p>AES-1: Potential to have a substantial adverse effect on a scenic vista.</p>		<p>SCAG Mitigation Measures</p> <p>MM-AES-1(a): SCAG shall facilitate minimizing impacts to scenic vistas through cooperation, information sharing regarding the locations of designated scenic vistas, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online Training materials. Caltrans and Lead agencies, such as county and city planning departments, shall be consulted during this update process.</p> <p>Project-Level Mitigation Measures</p> <p>MM-AES-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects of visual intrusions on scenic vistas, or National Scenic Byways that are in the jurisdiction and responsibility of Caltrans, other public agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with regulations for Caltrans scenic vistas and goals and policies within county and city general plans, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Use a palette of colors, textures, building materials that are graffiti-resistant, and/or plant materials that complement the surrounding landscape and development. • Use contour grading to better match surrounding terrain. Contour edges of major cut-and-fill to provide a more natural looking finished profile. • Use alternating facades to "break up" large facades and provide visual interest. • Design new corridor landscaping to respect existing natural and man-made features and to complement the dominant landscaping of the surrounding areas. • Replace and renew landscaping along corridors with road widenings, interchange projects, and related improvements. • Retain or replace trees bordering highways, so that clear-cutting is not evident. • Provide new corridor landscaping that respects and provides appropriate transition to existing natural and man-made features, and is complementary to the dominant landscaping or native habitats of surrounding areas. • Implement design guidelines, local policies, and programs aimed at protecting views of scenic corridors and avoiding visual intrusions in design of projects to minimize contrasts in scale and massing between the project and surrounding natural forms and developments. Avoid, if possible, large cuts and fills when the visual environment (natural or urban) would be substantially disrupted. Site or design of projects should minimize their intrusion into important viewsheds and use contour grading to better match surrounding terrain. 	<p>Significant and Unavoidable</p>
<p>AES-2: Potential to substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.</p>		<p>No mitigation required.</p>	<p>Less than Significant</p>
<p>AES-3: Potential to substantially degrade the existing visual character or quality of the site and its surroundings.</p>		<p>SCAG Mitigation Measures</p> <p>See MM-AES-1(a).</p> <p>Project-Level Mitigation Measures</p> <p>MM-AES-3(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects of degrading the existing public viewpoints, visual character or quality of the site that are in the jurisdiction and responsibility of local jurisdictions and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the goals and policies within county and city general plans, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Minimize contrasts in scale and massing between the projects and surrounding natural forms and development, minimize their intrusion into important viewsheds, and use contour grading to better match surrounding terrain in accordance with county and city hillside ordinances, where applicable. • Design landscaping along highway corridors to add significant natural elements and visual interest to soften the hard-edged, linear transportation corridors. 	<p>Significant and Unavoidable</p>

**TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>AES-4: Potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Potential to result in shade and shadow impacts.</p>	<p>Require development of design guidelines for projects that make elements of proposed buildings/facilities visually compatible, or minimize visibility of changes in visual quality or character through use of hardscape and softscape solutions. Specific measures to be addressed include setback buffers, landscaping, color, texture, signage, and lighting criteria.</p> <ul style="list-style-type: none"> Design projects consistent with design guidelines of applicable general plans. Apply development standards and guidelines to maintain compatibility with surrounding natural areas, including site coverage, building height and massing, building materials and color, landscaping, site grading, and so forth in accordance with general plans and adopted design guidelines, where applicable. Require that sites are kept in a blight/nuisance-free condition. Remove blight or nuisances that compromise visual character or visual quality of project areas including graffiti abatement, trash removal, landscape management, maintenance of signage and billboards in good condition, and replace compromised native vegetation and landscape. <p>SCAG Mitigation Measures</p> <p>MM-AES-4(a): SCAG shall facilitate minimizing impacts on aesthetics related to new sources of light or glare or expanded areas of shade and shadow through cooperation, information sharing regarding the guidelines and policies, design approaches, building materials, siting, and technology, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online Training materials. Lead agencies, such as county and city planning departments, shall be consulted during this update process.</p> <p>Project-Level Mitigation Measures</p> <p>MM-AES-4(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or minimizing the effects of light and glare on routes of travel for motorists, cyclists, and pedestrians, or on adjacent properties, and limit expanded areas of shade and shadow to areas that would not adversely affect open space or outdoor recreation areas that are in the jurisdiction and responsibility of local jurisdictions and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the goals and policies within county and city general plans, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> Use lighting fixtures that are adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties. Restrict the operation of outdoor lighting for construction and operation activities to the hours of 7:00 a.m. to 10:00 p.m. Use high pressure sodium and/or cut-off fixtures instead of typical mercury-vapor fixtures for outdoor lighting. Use unidirectional lighting to avoid light trespass onto adjacent properties. Design exterior lighting to confine illumination to the project site, and/or to areas which do not include light-sensitive uses. Provide structural and/or vegetative screening from light-sensitive uses. Shield and direct all new street and pedestrian lighting away from light-sensitive off-site uses. Use non-reflective glass or glass treated with a non-reflective coating for all exterior windows and glass used on building surfaces. Architectural lighting shall be directed onto the building surfaces and have low reflectivity to minimize glare and limit light onto adjacent properties. 	<p>Significant and Unavoidable</p>
<p>Agriculture and Forestry Resources</p> <p>AF-1: Potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.</p>	<p>SCAG Mitigation Measures</p> <p>MM AF-1(a)(1): SCAG shall facilitate minimizing future impacts to Important Farmland resources through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online Training materials. Lead Agencies, such as county and city planning departments, shall be consulted during this update process.</p> <p>MM AF-1(a)(2): SCAG shall work with member agencies and the region's farmland interests, through regional forums such as SCAG's Open Space Conservation Work Group, to develop regional best practices information for buffering farmland from urban encroachment, resolving conflicts that prevent farming on hillsides and other designated areas, and closing loopholes that allow conversion of non-farm uses without a grading permit.</p>	<p>Significant and Unavoidable</p>

**TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>AF-2: Potential to conflict with existing zoning for agricultural use, or a Williamson Act contract.</p>	<p>MM AF-1(a)(3): SCAG shall expand on the Natural Resource Inventory Database and Conservation Framework & Assessment by incorporating strategic mapping layers to build the database and further refine the priority conservation areas by (1) further investing in mapping and farmland data tracking and (2) working with County Transportation Commissions (CTCs) to support their county-level efforts at data building. SCAG shall encourage CTCs to develop advanced mitigation programs or include them in future transportation measures by (1) funding pilot programs that encourage advance mitigation including data and replicable processes, (2) participating in state-level efforts that would support regional advanced mitigation planning in the SCAG region, and (3) supporting the inclusion of advance mitigation programs at county level transportation measures. SCAG shall align with funding opportunities and pilot programs to begin implementation of the Conservation Plan through acquisition and restoration through (1) seeking planning funds, such as cap and trade auction proceeds that could help prepare for local action on acquisition and restoration, (2) supporting CTCs and other partners, and (3) continuing support of the State Wildlife Action Plan 2015 Update and its implementation. SCAG shall provide incentives to jurisdictions that cooperate across county lines to protect and restore natural habitat corridors, especially where corridors cross county boundaries, as detailed in the Natural & Farm Lands Appendix strategies of the 2016 RTP/SCS.</p> <p>Project-Level Mitigation Measures</p> <p>MM AF-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects from the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses that are within the jurisdiction and responsibility of the Natural Resources Conservation Service, the California Resources Agency, other public agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the Farmland Protection Act and implementing regulations, and the goals and policies established within the applicable adopted county and city general plans to protect agricultural resources consistent with the Farmland Mapping and Monitoring Program of the California Resources Agency. Such measures may include the following, other comparable measures identified by the Lead Agency taking into account project and site-specific considerations as applicable and feasible:</p> <ul style="list-style-type: none"> • For projects that require approval or funding by the USDOT, comply with Section 4(f) U.S. Department of Transportation Act of 1966 (USDOT Act). • Project relocation or corridor realignment to avoid Prime Farmland, Unique Farmland, or Farmland of Local or Statewide Importance. • Maintain and expand agricultural land protections such as urban growth boundaries. • Support the acquisition or voluntary dedication of agriculture conservation easements and other programs that preserve agricultural lands, including the creation of farmland mitigation banks. Local governments would be responsible for encouraging the development of agriculture conservation easements or farmland mitigation banks, purchasing conservation agreements or farmland for mitigation, and ensuring that the terms of the conservation easement agreements are upheld. • Provide for mitigation fees to support a mitigation bank that invests in farmer education, agricultural infrastructure, water supply, marketing, etc. that enhance the commercial viability of retained agricultural lands. • Include underpasses and overpasses at reasonable intervals to maintain property access. • Use berms, buffer zones, setbacks, and fencing to reduce conflicts between new development and farming uses and protect the functions of farmland. • Ensure individual projects are consistent with federal, state, and local policies that preserve agricultural lands and support the economic viability of agricultural activities, as well as policies that provide compensation for property owners if preservation is not feasible. • Contact the California Department of Conservation and each county's Agricultural Commissioner's office to identify the location of prime farmlands and lands that support crops considered valuable to the local or regional economy and evaluate potential impacts to such lands using the land evaluation and site assessment (LESA) analysis method (CEQA Guidelines §2.1095), as appropriate. Use conservation easements or the payment of in-lieu fees to offset impacts. <p>SCAG Mitigation Measures</p> <p>MM AF-2(a): SCAG shall facilitate minimizing conflicts with existing zoning for agricultural use and Williamson Act contracts through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online training materials. Lead Agencies, such as county and city planning departments, shall be consulted during this update process.</p> <p>MM-AF-1(a)(2) and MM-AF-1(a)(3).</p> <p>Project-Level Mitigation Measures</p> <p>MM AF-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects from conflict</p>	<p>Significant and Unavoidable</p>

**TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>AF-3: Potential to conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).</p> <p>AF-4: Potential to result in the loss of forest land or conversion of forest land to non-forest use.</p> <p>AF-5: Potential to involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.</p>	<p>with existing zoning for agricultural use or a Williamson Act contract that are within the jurisdiction and responsibility of the California Department of Conservation, other public agencies, and Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to mitigate the significant effects of agriculture and forestry resources to ensure compliance with the goals and policies established within the applicable adopted county and city general plans to protect agricultural resources consistent with the California Land Conservation Act of 1965, the Farmland Security Zone Act, and county and city zoning codes, as applicable and feasible. Such measures may include the following, other comparable measures identified by the Lead Agency taking into account project and site-specific considerations as applicable and feasible:</p> <ul style="list-style-type: none"> • Project relocation or corridor realignment to avoid lands in Williamson Act contracts. • Establish conservation easements consistent with the recommendations of the Department of Conservation, or 20-year Farmland Security Zone contracts (Government Code Section 51296 et seq.), 10-year Williamson Act contracts (Government Code Section 51200 et seq.), or use of other conservation tools available from the California Department of Conservation Division of Land Resource Protection. • Prior to final approval of each project, encourage enrollments of agricultural lands for counties that have Williamson Act programs, where applicable. <p>No mitigation required.</p>	<p>Less than Significant</p>
<p>AF-4: Potential to result in the loss of forest land or conversion of forest land to non-forest use.</p> <p>AF-5: Potential to involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.</p>	<p>No mitigation required.</p> <p>SCAG Mitigation Measures</p> <p>MM-AF-1(a)(1) through MM-AF-1(a)(3).</p> <p>MM-GHG-1(a)(1) through MM-GHG-1(a)(11).</p> <p>Project-Level Mitigation Measures</p> <p>MM-AF-1(b) and MM-GHG-1(b).</p>	<p>Less than Significant</p> <p>Significant and Unavoidable</p>
<p>Air Quality</p> <p>Air-1: Potential to conflict with or obstruct implementation of the applicable air quality plan.</p> <p>Air-2: Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation.</p>	<p>No mitigation required.</p> <p>SCAG Mitigation Measures</p> <p>MM-Air-2(a)(1); SCAG shall determine as part of its conformity finding pursuant to the federal CAA that the Plan and updates provide for timely implementation of transportation control measures (TCMs), as required in the CAA Section 108(f)(1)(A). TCMs are identified in the Transportation Conformity Appendix to the 2016 RTP/SCS. SCAG has identified 17 measures as illustrative of TCMs based on review information contained in CAA Section 108(f)(1)(A) and information provided by utilities that serve the SCAG region:</p> <ol style="list-style-type: none"> Programs for improved use of public transit; Restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or HOV; Employer-based transportation management plans, including incentives; Trip-reduction ordinances; 	<p>Less than Significant</p> <p>Significant and Unavoidable</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
	<p>V. Traffic flow improvement programs that achieve emission reductions;</p> <p>VI. Fringe and transportation corridor parking facilities, serving multiple occupancy vehicle programs or transit service;</p> <p>VII. Programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration, particularly during periods of peak use;</p> <p>VIII. Programs for the provision of all forms of high-occupancy, shared-ride services, such as the pooled use of vans;</p> <p>IX. Programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;</p> <p>X. Programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;</p> <p>XI. Programs to control extended idling of vehicles;</p> <p>XII. Programs to reduce motor vehicle emissions, consistent with Title II of the CAA, which are caused by extreme cold start conditions;</p> <p>XIII. Employer-sponsored programs to permit flexible work schedules;</p> <p>XIV. Programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;</p> <p>XV. Programs for new construction and major reconstruction of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation, when economically feasible and in the public interest;</p> <p>XVI. Programs to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks.</p> <p>XVII. Programs to encourage the installation of personal electric vehicle charging stations, and other alternative fuel sources.</p> <p>MM-Air-2(a)(2): During the 2016 to 2040 Planning Horizon, SCAG shall pursue activities to reduce the impacts associated with health risk for sensitive receptors within 500 feet of freeways and high-traffic volume roadways as follows:</p> <ul style="list-style-type: none"> • Participate in ongoing statewide deliberations on health risks near freeways and high-traffic-volume roadways. This involvement includes supporting the statewide process by providing available data and information such as the current and projected locations of sensitive receptors relative to transportation infrastructure. • Continue to work with air agencies including ARB, SCAQMD, and all air districts in the SCAG region to support their work in monitoring the progress on reducing exposure to emissions of PM₁₀ and PM_{2.5} for sensitive receptors, including schools and residents within 500 feet of freeways and high-traffic-volume roadways. • Work with stakeholders to identify planning and development practices that are effective in reducing health impacts to sensitive receptors. • Share information on all of the above efforts with stakeholders, member cities, counties, and the public. <p>Project-Level Mitigation Measures</p> <p>MM-Air-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures that are within the jurisdiction and authority of the CARB, air quality management districts and other regulatory agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider the measures that have been identified by CARB and air district(s) and other agencies as set forth below, or other comparable measures, to facilitate consistency with plans for attainment of the NAAQS and CAAQS, as applicable and feasible.</p> <p>CARB, South Coast AQMD, Antelope Valley AQMD, Imperial County APCD, Mojave Desert AQMD, Ventura County APCD, and Caltrans have identified project-level feasible measures to reduce construction emissions:</p> <ul style="list-style-type: none"> • Minimize land disturbance. • Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. • Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes. • Cover trucks when hauling dirt. • Stabilize the surface of dirt piles if not removed immediately. • Limit vehicular paths on unpaved surfaces and stabilize any temporary roads. • Minimize unnecessary vehicular and machinery activities. • Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway. • Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities. 	

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>Air 3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable NAAQS or CAAQS</p> <p>Air-4: Expose sensitive receptors to substantial pollutant concentrations and harm public health outcomes substantially.</p>	<p>On Caltrans projects, Caltrans Standard Specifications 10-Dust Control, 17-Watering, and 18-Dust Palliative shall be incorporated into project specifications. Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.</p> <ul style="list-style-type: none"> • Ensure that all construction equipment is properly tuned and maintained. • Minimize idling time to 5 minutes—saves fuel and reduces emissions. • Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway. • Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators. • Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites. • As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site. <p>No mitigation required.</p> <p>SCAG Mitigation Measures See MM-Air-2(e)(1) and MM-Air-2(e)(2). Project-Level Mitigation Measures</p> <p>MM-Air-4(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures that are within the jurisdiction and authority of the air quality management district(s) where proposed 2016 RTP/SCS projects or development projects resulting from the land use patterns in the 2016 RTP/SCS would be located. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider the measures that have been identified by CARB and air district(s), or other comparable measures, to reduce cancer risk pursuant to the Air Toxics “Hot Spots” Act of 1987 (AB2588), as applicable and feasible. Such measures include those adopted by CARB designed to reduce substantial pollutant concentrations, specifically diesel, from mobile sources and equipment. CARB’s strategy includes the following elements:</p> <ul style="list-style-type: none"> • Set technology forcing new engine standards. • Reduce emissions from the in-use fleet. • Require clean fuels, and reduce petroleum dependency. • Work with US EPA to reduce emissions from federal and state sources. • Pursue long-term advanced technology measures. <p>Proposed new transportation-related SIP measures include:</p> <p><u>On-Road Sources</u></p> <ul style="list-style-type: none"> ○ Improvements and Enhancements to California’s Smog Check Program ○ Expanded Passenger Vehicle Retirement ○ Modifications to Reformulated Gasoline Program 	<p>Less than Significant</p>
		<p>Significant and Unavoidable</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>Alr-5: Expose a substantial number of people to objectionable odors.</p> <p>Biological Resources</p> <p>BIO-1: Potential to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations; or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.</p>	<p>Cleaner In-Use Heavy-Duty Trucks</p> <ul style="list-style-type: none"> ○ Ship Auxiliary Engine Cold Ironing and Other Clean Technology ○ Cleaner Ship Main Engines and Fuel ○ Port Truck Modernization ○ Accelerated Introduction of Cleaner Line-Haul Locomotives ○ Clean Up Existing Commercial Harbor Craft ○ Limited idling of diesel-powered trucks ○ Consolidated truck trips and improve traffic flow ○ Late model engines, Low emission diesel products, engine retrofit technology ○ Alternative fuels for on-road vehicles <p><u>Off-Road Sources</u></p> <ul style="list-style-type: none"> ○ Cleaner Construction and Other Equipment ○ Cleaner In-Use Off-Road Equipment ○ Agricultural Equipment Fleet Modernization ○ New Emission Standards for Recreational Boats ○ Off-Road Recreational Vehicle Expanded Emission Standards 	<p>Less than Significant</p>
<p>MM-BIO-1(a)(1): SCAG shall facilitate reducing future impacts to species identified as a candidate, sensitive, or special status species and its habitats through cooperation, information sharing, and program development. SCAG shall consult with the resource agencies, such as the USFWS, NMFS, USACE, USFS, BLM, and CDFW, as well as local jurisdictions including cities and counties, to incorporate designated critical habitat, federally protected wetlands, the protection of sensitive natural communities and riparian habitats, designated open space or protected wildlife habitat, local policies and tree preservation ordinances, applicable HCPs and NCCPs, or other related planning documents into SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online Training materials. Planning efforts shall be consistent with the approach outlined in the California Wildlife Action Plan.</p> <p>MM-BIO-1(a)(2): SCAG shall develop a conservation strategy (including regional mitigation policies) in coordination with local jurisdictions and agencies, including California Transportation Commissions. The conservation strategy will build from existing efforts including those at the sub-regional and local levels to identify potential priority conservation areas based on mitigation approaches adopted by local agencies. SCAG shall produce and maintain a list/map of potential conservation opportunity areas based on most recent land use data</p> <p>Project-Level Mitigation Measures</p> <p>MM-BIO 1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on threatened and endangered species and other special status species that are in the jurisdiction and responsibility of U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Wildlife, other public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with Sections 7, 9, and 10(a) of the federal Endangered Species Act; the California Endangered Species Act; the Native Plant Protection Act; the State Fish and Game Code; and the Desert Native Plant Act; and related applicable implementing regulations, as applicable and feasible. Additional compliance should adhere to applicable implementing regulations from the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and/or the California Department of Fish and Wildlife. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Require project design to avoid occupied habitat, potentially suitable habitat, and designated critical habitat, wherever practicable and feasible. • Where avoidance is determined to be infeasible, provide conservation measures to fulfill the requirements of the applicable authorization for incidental take pursuant to Section 7 or 	<p>Significant and Unavoidable</p>	

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>BIO-2. Potential to have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations; or by the California Department of Fish and Game or US Fish and Wildlife Service.</p>	<p>10(a) of the federal Endangered Species Act or Section 2081 of the California Endangered Species Act to support issuance of an incidental take permit. A wide variety of conservation strategies have been successfully used in the SCAG region to protect the survival and recovery in the wild of federally and state-listed endangered species including the bald eagle:</p> <ul style="list-style-type: none"> ○ Avoidance strategies ○ Contribution of in-lieu fees ○ Use of mitigation bank credits ○ Funding of research and recovery efforts ○ Habitat restoration ○ Conservation easements ○ Permanent dedication of habitat ○ Other comparable measures <ul style="list-style-type: none"> ● Design projects to avoid desert native plants, salvage and relocate desert native plants, and/or pay in lieu fees to support off-site long-term conservation strategies. ● Develop and implement a Worker Awareness Program (environmental education) to inform project workers of their responsibilities in regards to avoiding and minimizing impacts on sensitive biological resources. ● Appoint an Environmental Inspector to monitor implementation of mitigation measures. ● Schedule construction activities to avoid sensitive times for biological resources (e.g. steelhead spawning periods during the winter and spring, nesting bird season) and to avoid the rainy season when erosion and sediment transport is increased. ● Conduct pre-construction monitoring to delineate occupied sensitive species' habitat to facilitate avoidance. ● Where projects are determined to be within suitable habitat of listed or sensitive species that have specific field survey protocols or guidelines outlined by the USFWS, CDFW, or other local agency, conduct pre-construction surveys that follow applicable protocols and guidelines and are conducted by qualified and/or certified personnel. <p>SCAG Mitigation Measures</p> <p>MM-BIO-1(a)(1) and MM-BIO-1(a)(2).</p> <p>Project-Level Mitigation Measures</p> <p>MM-BIO-1(b).</p> <p>MM-BIO-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant impacts on state-designated sensitive habitats, including riparian habitats, that are in the jurisdiction and responsibility of U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the California Department of Fish and Wildlife, and other public agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with Section 1600 of the State Fish and Game Code, USFS Land Management Plan for the four national forests in the six-county area: Angeles, Cleveland, Los Padres, and San Bernardino, implementing regulations for the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the California Department of Fish and Wildlife; and other related federal, state, and local regulations, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> ● Consult with the USFWS and NMFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal Endangered Species Act. ● Consult with the USFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal Endangered Species Act and any additional species afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-county area: Angeles, Cleveland, Los Padres, and San Bernardino. ● Consult with the CDFW where such state-designated sensitive or riparian habitats provide potential or occupied habitat for state-listed rare, threatened, and endangered species afforded protection pursuant to the California Endangered Species Act, or Fully-Protected Species afforded protection pursuant to the State Fish and Game Code. ● Consult with the CDFW pursuant to the provisions of Section 1600 of the State Fish and Game Code as they relate to Lakes and Streambeds. ● Consult with the USFWS, USFS, CDFW, and counties and cities in the SCAG region, where state-designated sensitive or riparian habitats are occupied by birds afforded protection pursuant to the Migratory Bird Treaty Act during the breeding season. 	<p>Significant and Unavoidable</p>

TABLE ES.4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>BIO-3. Potential to have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.</p>	<ul style="list-style-type: none"> • Consult with the CDFW for state-designated sensitive or riparian habitats where fur-bearing mammals, afforded protection pursuant to the provisions of the State Fish and Game Code for fur-bearing mammals, are actively using the areas in conjunction with breeding activities. • Require project design to avoid sensitive natural communities and riparian habitats, wherever practicable and feasible. • Where avoidance is determined to be infeasible, develop sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) to protect sensitive natural communities and riparian habitats. • Install fencing and/or mark sensitive habitat to be avoided during construction activities. • Salvage and stockpile topsoil (the surface material from 6 to 12 inches deep) and perennial plants for use in restoring native vegetation to all areas of temporary disturbance within the project area. • Revegetate with appropriate native vegetation following the completion of construction activities. • Complete habitat enhancement (e.g., through removal of non-native invasive wetland species and replacement with more ecologically valuable native species). • Use Best Management Practices (BMPs) at construction sites to minimize erosion and sediment transport from the area. BMPs include encouraging growth of vegetation in disturbed areas, using straw bales or other silt-catching devices, and using settling basins to minimize soil transport. <p>SCAG Mitigation Measures</p> <p>MM-BIO-1(a)(1) and MM-BIO-1(a)(2).</p> <p>Project-Level Mitigation Measures</p> <p>MM-BIO-1(b) and MM-BIO-2(b).</p> <p>MM-BIO-3(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant impacts on protected wetlands that are in the jurisdiction and responsibility of the U.S. Army Corps of Engineers, public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with Section 404 of the Clean Water Act and regulations of the U.S. Army Corps of Engineers (USACE), and other applicable federal, state and local regulations, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Require project design to avoid federally protected wetlands consistent with the provisions of Section 404 of the Clean Water Act, wherever practicable and feasible. • Where the Lead Agency has identified that a project, or other regionally significant project, has the potential to impact other wetlands or waters not protected under Section 404 of the Clean Water Act, seek comparable coverage for these wetlands and waters in consultation with the USACE and applicable Regional Water Quality Control Boards (RWQCB). • Where avoidance is determined to be infeasible, develop sufficient conservation measures to fulfill the requirements of the applicable authorization for impacts to federally protected wetlands to support issuance of a permit under Section 404 of the Clean Water Act as administered by the USACE. The use of an authorized Nationwide Permit or issuance of an individual permit requires the project applicant to demonstrate compliance with the USACE's Final Compensatory Mitigation Rule. The USACE reviews projects to ensure environmental impacts to aquatic resources are avoided or minimized as much as possible. Consistent with the administration's performance standard of "no net loss of wetlands" a USACE permit may require a project proponent to restore, establish, enhance or preserve other aquatic resources in order to replace those affected by the proposed project. This compensatory mitigation process seeks to replace the loss of existing aquatic resource functions and area. Project proponents required to complete mitigation are encouraged to use a watershed approach and watershed planning information. The new rule establishes performance standards, sets timeframes for decision making, and to the extent possible, establishes equivalent requirements and standards for the three sources of compensatory mitigation: <ul style="list-style-type: none"> ○ Permittee-responsible mitigation ○ Contribution of in-lieu fees ○ Use of mitigation bank credits • Require review of construction drawings by a certified wetland delineator as part of each project-specific environmental analysis to determine whether wetlands will be affected and, if necessary, perform a formal wetland delineation. 	<p>Less than Significant</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>BIO-4: Potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.</p>	<p>SCAG Mitigation Measures</p> <p>MM-BIO-1(a)(1) and MM-BIO-1(a)(2).</p> <p>Project-Level Mitigation Measures</p> <p>MM-BIO-1(b), MM-BIO-2(b), and MM-BIO-3(b).</p> <p>MM-BIO-4(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant impacts on migratory fish or wildlife species or within established native resident and/or migratory wildlife corridors, and native wildlife nursery sites that are in the jurisdiction and responsibility of U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife, U.S. Forest Service, public agencies and/or Lead Agencies, as applicable and feasible. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with regulations of the USFWS, USFS, CDFW, and related regulations, goals and policies of counties and cities, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> ▪ Consult with the USFWS, USFS, CDFW, and counties and cities in the SCAG region, where impacts to birds afforded protection pursuant to the Migratory Bird Treaty Act during the breeding season may occur. ▪ Consult with the USFS where impacts to migratory wildlife corridors may occur in an area afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-county area: Angeles, Cleveland, Los Padres, and San Bernardino. ▪ Consult with Counties, cities, and other local organizations when impacts may occur to open space areas that have been designated as important for wildlife movement. • Prohibit construction activities within 500 feet of occupied breeding areas for wildlife afforded protection pursuant to Title 14 § 460 of the California Code of Regulations protecting fur-bearing mammals, during the breeding season. • Conduct a survey to identify active raptor and other migratory nongame bird nests by a qualified biologist at least two weeks before the start of construction at project sites from February 1 through August 31. • Prohibit construction activities with 250 feet of occupied nest of birds afforded protection pursuant to the Migratory Bird Treaty Act, during the breeding season. • Ensure that suitable nesting sites for migratory nongame native bird species protected under the Migratory Bird Treaty Act and/or trees with unoccupied raptor nests should only be removed prior to February 1, or following the nesting season. • Conduct site-specific analyses of opportunities to preserve or improve habitat linkages with areas on- and off-site. Analyze Habitat linkages/wildlife movement corridors on a broader and cumulative impact analysis scale to avoid adverse impacts from linear projects that have potential for impacts on a broader scale or critical narrow choke points that could reduce function of recognized movement corridors on a larger scale. Require review of construction drawings and habitat connectivity mapping provided by the CDFW or CNDDB by a qualified biologist to determine the risk of habitat fragmentation. • Pursue mitigation banking to preserve habitat linkages and corridors (opportunities to purchase, maintain, and/or restore offsite habitat). • Demonstrate that proposed projects would not adversely affect movement of any native resident or migratory fish or wildlife species, wildlife movement corridors, or wildlife nursery sites through the incorporation of avoidance strategies into project design, wherever practicable and feasible. • Evaluate the potential for overpasses, underpasses, and culverts in cases where a roadway or other transportation project may interrupt the flow of species through their habitat. Provide wildlife crossings in accordance with proven standards, such as FHWA's Criterium Crossings or Ventura County Mitigation Guidelines and in consultation with wildlife corridor authorities with sufficient knowledge of both regional and local wildlife corridors, and at locations useful and appropriate for the species of concern. • Install wildlife fencing where appropriate to minimize the probability of wildlife injury due to direct interaction between wildlife and roads or construction. Where avoidance is determined to be infeasible, design sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) and in accordance with the respective counties and cities general plans to establish plans to mitigate for the loss of fish and wildlife movement corridors and/or wildlife nursery sites. The consideration of conservation measures may include the following measures, in addition to the measures outlined in MM-BIO-1(b), where applicable: <ul style="list-style-type: none"> ○ Wildlife movement buffer zones ○ Corridor realignment ○ Appropriately spaced breaks in center barriers ○ Stream rerouting ○ Culverts ○ Creation of artificial movement corridors such as freeway under- or overpasses 	<p>Significant and Unavoidable</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>BIO-5: Potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.</p>	<ul style="list-style-type: none"> o Other comparable measures • Where the Lead Agency has identified that a RTP/SCS project, or other regionally significant project, has the potential to impact other open space or nursery site areas, seek comparable coverage for these areas in consultation with the USFWS, CDFW, NMFS, or other local jurisdictions. <p>SCAG Mitigation Measures</p> <p>MM-BIO-1(a)(1) and MM-BIO-1(a)(2).</p> <p>Project-Level Mitigation Measures</p> <p>MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), and MM-BIO-4(b).</p> <p>MM-BIO-5(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant impacts related to conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, that are in the jurisdiction and responsibility of local jurisdictions and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to comply with county, city and local policies or ordinances, protecting biological resources, such as tree preservation policies or ordinances, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Consult with the appropriate local agency responsible for the administration of the policy or ordinance protecting biological resources. • Prioritize retention of trees on-site consistent with local regulations. Provide adequate protection during the construction period for any trees that are to remain standing, as recommended by a certified arborist. • If specific project area trees are designated as "Protected Trees," "Landmark Trees," or "Heritage Trees," obtain approval for encroachment or removals through the appropriate entity, and develop appropriate mitigation measures at that time, to ensure that the trees are replaced. Mitigation trees shall be locally collected native species. • Before the start of any clearing, excavation, construction or other work on the site, securely fence off every protected tree deemed to be potentially endangered by said site work. Keep such fences in place for duration of all such work. Clearly mark all trees to be removed. Establish a scheme for the removal and disposal of logs, brush, earth and other debris that will avoid injury to any protected tree. • Where proposed development or other site work could encroach upon the protected perimeter of any protected tree, incorporate special measures to allow the roots to breathe and obtain water and nutrients. Minimize any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter. Require that no change in existing ground level occur from the base of any protected tree at any time. Require that no burning or use of equipment with an open flame occur near or within the protected perimeter of any protected tree. • Require that no storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees occur from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. Require that no heavy construction equipment or construction materials be operated or stored within a distance from the base of any protected trees. Require that wires, ropes, or other devices not be attached to any protected tree, except as needed for support of the tree. Require that no sign, other than a tag showing the botanical classification, be attached to any protected tree. • Thoroughly spray the leaves of protected trees with water periodically during construction to prevent buildup of dust and other pollution that would inhibit leaf transpiration. • If any damage to a protected tree should occur during or as a result of work on the site, the appropriate local agency will be immediately notified of such damage. If, such tree cannot be preserved in a healthy state, require replacement of any tree removed with another tree or trees on the same site deemed adequate by the local agency to compensate for the loss of the tree that is removed. • Remove all debris created as a result of any tree removal work from the property within two weeks of debris creation, and such debris shall be properly disposed of in accordance with all applicable laws, ordinances, and regulations. • Design projects to avoid conflicts with local policies and ordinances protecting biological resources. • Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the applicable policy or ordinance shall be developed, such as to support issuance of a tree removal permit. The consideration of conservation measures may include: <ul style="list-style-type: none"> o Avoidance strategies o Contribution of in-lieu fees o Planting of replacement trees at a minimum ratio of 2:1 	<p>Significant and Unavoidable</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>BIO 6: Potential to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.</p>	<ul style="list-style-type: none"> o Re-landscaping areas with native vegetation post-construction o Other comparable measures. <p>SCAG Mitigation Measures</p> <p>See MM-BIO-1(a)(1) and MM-BIO-1(a)(2).</p> <p>Project-Level Mitigation Measures</p> <p>See MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-BIO-4(b), and MM-BIO-5(b).</p> <p>MM-BIO-6(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant impacts on HCP and NCCPs that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with Section 7 or 10(a) of the federal Endangered Species Act or Section 2081 of the California Endangered Species Act; and implementing regulations, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Consult with the appropriate federal, state, and/or local agency responsible for the administration of HCPs or NCCPs. • Wherever practicable and feasible, the project shall be designed to avoid through project design lands preserved under the conditions of an HCP or NCCP. • Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the HCP and/or NCCP, which would include but not be limited to applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal Endangered Species Act or Section 2081 of the California Endangered Species Act, shall be developed to support issuance of an incidental take permit or any other permissions required for development within the HCP/NCCP boundaries. The consideration of additional conservation measures would include the measures outlined in MM-BIO-1(b), where applicable. 	<p>Less than Significant</p>
<p>Cultural Resources</p> <p>CUL 1: Potential to directly or indirectly destroy unique paleontological resources or sites or unique geological features.</p>	<p>SCAG Mitigation Measures</p> <p>MM-CUL-1(a): Impacts to cultural resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as Toolbox Tuesday series and sharing of associated online Training materials. SCAG shall consult with resource agencies such as the National Park Service, Office of Historic Preservation, and Native American Heritage Commission to identify opportunities for early and effective consultation to identify unique paleontological resources, unique geological features, archeological sites, historical resources, Tribal Cultural Resources, cemeteries, and Native American sacred sites to avoid such resources wherever practicable and feasible and reduce or mitigation for conflicts in compatible land use to the maximum extent practicable.</p> <p>Project-Level Mitigation Measures</p> <p>MM-CUL-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on unique paleontological resources or sites and unique geologic features that are within the jurisdiction and responsibility of National Park Service, Office of Historic Preservation, and Native American Heritage Commission, other public agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures consistent with Section 15064.5 of the State CEQA Guidelines capable of avoiding or reducing significant impacts on unique paleontological resources or sites or unique geologic features. Ensure compliance with the National Historic Preservation Act, Section 5097.5 of the Public Resources Code (PRC), state programs pursuant to Sections 5024 and 5024.5 of the PRC, adopted county and city general plans, and other federal, state and local regulations, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Obtain review by a qualified geologist or paleontologist to determine if the project has the potential to require excavation or blasting of parent material with a moderate to high potential to contain unique paleontological or resources, or to require the substantial alteration of a unique geologic feature. • Avoid exposure or displacement of parent material with a moderate to high potential to yield unique paleontological resources. • Where avoidance of parent material with a moderate to high potential to yield unique paleontological resources is not feasible: 	<p>Significant and Unavoidable</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>CUL-2: Potential to cause a substantial adverse change in the significance of a historical resource, including tribal cultural resources, as defined in CEQA Guidelines Section 15064.5.</p>	<p>SCAG Mitigation Measures</p> <p>MM-CUL-1(a). Project-Level Mitigation Measures</p> <p>MM-CUL-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects of on historical resources within the jurisdiction and responsibility of the Office of Historical Preservation, Native American Heritage Commission, other public agencies, and/or Local Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures consistent with Section 15064.5 of the State CEQA Guidelines capable of avoiding or reducing significant impacts on historical resources, to ensure compliance with the National Historic Preservation Act, Section 5097.5 of the Public Resources Code (PRC), state programs pursuant to Sections 5024 and 5024.5 of the PRC, adopted county and city general plans and other federal, state and local regulations. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Pursuant to CEQA Guidelines Section 15064.5, conduct a record search at the appropriate Information Center to determine whether the project area has been previously surveyed and whether historic resources were identified. • Obtain a qualified architectural historian to conduct historic architectural surveys as recommended by the Information Center. In the event the records indicate that no previous survey has been conducted, the Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for historical resources within 1,000 feet of the project. • Comply with Section 106 of the National Historic Preservation Act (NHPA) including, but not limited to, projects for which federal funding or approval is required for the individual project. This law requires federal agencies to evaluate the impact of their actions on resources included in or eligible for listing in the National Register. Federal agencies must coordinate with the State Historic Preservation Officer in evaluating impacts and developing mitigation. These mitigation measures may include, but are not limited to the following: <ul style="list-style-type: none"> ○ Employ design measures to avoid historical resources and undertake adaptive reuse where appropriate and feasible. If resources are to be preserved, as feasible, carry out the maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation or reconstruction in a manner consistent with the Secretary of the Interior's Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. If resources would be impacted, impacts should be minimized to the extent feasible. ○ Where feasible, noise buffers/walls and/or visual buffers/landscaping should be constructed to preserve the contextual setting of significant built resources. • Secure a qualified environmental agency and/or architectural historian, or other such qualified person to document any significant historical resource(s), by way of historic narrative, photographs, and architectural drawings, as mitigation for the effects of demolition of a resource. • Consult with the NAHC to determine whether known sacred sites are in the project area, and identify the Native American(s) to contact to obtain information about the project site. • Prior to construction activities, obtain a qualified archaeologist to conduct a record search at the appropriate Information Center of the California Archaeological Inventory to determine whether the project area has been previously surveyed and whether resources were identified. • Prior to construction activities, obtain a qualified archaeologist or architectural historian (depending on applicability) to conduct archaeological and/or historic architectural surveys as recommended by the Information Center. In the event the records indicate that no previous survey has been conducted, the Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for archaeological resources. 	<p>Significant and Unavoidable</p>
	<p>Mitigation Measures</p> <ul style="list-style-type: none"> ○ All on-site construction personnel receive Worker Education and Awareness Program (WEAP) training to understand the regulatory framework that provides for protection of paleontological resources and become familiar with diagnostic characteristics of the materials with the potential to be encountered. ○ Prepare a Paleontological Resource Management Plan (PRMP) to guide the salvage, documentation and repository of representative samples of unique paleontological resources encountered during construction. If unique paleontological resources are encountered during excavation or blasting, use a qualified paleontologist to oversee the implementation of the PRMP. ○ Monitor blasting and earth-moving activities in parent material, with a moderate to high potential to yield unique paleontological resources using a qualified paleontologist or archeologists cross-trained in paleontology to determine if unique paleontological resources are encountered during such activities, consistent with the specified or comparable protocols. ○ Identify where excavation and earthmoving activity is proposed in a geologic unit having a moderate or high potential for containing fossils and specify the need for a paleontological or archeological (cross-trained in paleontology) to be present during earth-moving activities or blasting in these areas. • Avoid routes and project designs that would permanently alter unique features with archaeological and/or paleontological significance • Salvage and document adversely affected resources sufficient to support ongoing scientific research and education. 	<p>Significant and Unavoidable</p>

**TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>CUL-3: Potential to cause a substantial adverse change in the significance of an archaeological resource, including tribal cultural resources, pursuant to CEQA Guidelines Section 15064.5.</p>	<ul style="list-style-type: none"> • If a record search indicates that the project is located in an area rich with cultural materials, retain a qualified archaeologist to monitor any subsurface operations, including but not limited to grading, excavation, trenching, or removal of existing features of the subject property. • Conduct construction activities and excavation to avoid cultural resources (if identified). If avoidance is not feasible, further work may be needed to determine the importance of a resource. Retain a qualified archaeologist familiar with the local archaeology, and/or as appropriate, an architectural historian who should make recommendations regarding the work necessary to determine importance. If the cultural resource is determined to be important under state or federal guidelines, impacts on the cultural resource will need to be mitigated. • Stop construction activities and excavation in the area where cultural resources are found until a qualified archaeologist can determine the importance of these resources. <p>SCAG Mitigation Measures MM-CUL-1(a). Project-Level Mitigation Measures See MM-CUL-2(b)</p>	<p>Significant and Unavoidable</p>
<p>CUL-4: Potential to disturb human remains, including those interred outside of formal cemeteries, including Native American Sacred Sites.</p>	<p>SCAG Mitigation Measures See MM-CUL-1(a). Project-Level Mitigation Measures</p> <p>MM-CUL-4(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects to human remains that are within the jurisdiction and responsibility of the Native American Heritage Commission, other public agencies, and/or Local Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency should consider mitigation measures capable of avoiding or reducing significant impacts on human remains, to ensure compliance with the California Health and Safety Code, Section 7060 and Section 18950-18961 and Native American Heritage Commission, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • In the event of discovery or recognition of any human remains during construction or excavation activities associated with the project, in any location other than a dedicated cemetery, cease further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of the county in which the remains are discovered has been informed and has determined that no investigation of the cause of death is required. • If any discovered remains are of Native American origin: <ul style="list-style-type: none"> ○ Contact the County Coroner to contact the NAHC to ascertain the proper descendants from the deceased individual. The coroner should make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. This may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains. ○ If the NAHC is unable to identify a descendant, or the descendant failed to make a recommendation within 24 hours after being notified by the commission, obtain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance where the following conditions occur: <ul style="list-style-type: none"> ▪ The NAHC is unable to identify a descendant; ▪ The descendant identified fails to make a recommendation; or ▪ The landowner or their authorized representative rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the landowner. 	<p>Significant and Unavoidable</p>
<p>Energy EN-1: Potential to increase petroleum and non-renewable fuel consumption in the regional transportation system.</p>	<p>No mitigation required.</p>	<p>Less than Significant</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>EN-2: Potential to increase residential energy consumption use.</p>	<p>SCAG Mitigation Measures</p> <p>MM-EN-2(a): SCAG shall encourage energy efficient design for buildings, potentially including strengthening local building codes for new construction and renovation to achieve a higher level of energy efficiency.</p> <p>See also MM-EN-3(a)(1), MM-EN-3(a)(2), MM-GHG-3(a)(12).</p> <p>Project-Level Mitigation Measures</p> <p>MM-EN-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects of increased residential energy consumption that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with CALGreen, local building codes, and other applicable laws and regulations governing residential building standards, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Integrate green building measures consistent with CALGreen (California Building Code Title 24) into project design including: <ul style="list-style-type: none"> ○ Use energy efficient materials in building design, construction, rehabilitation, and retrofit. ○ Install energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems. ○ Reduce lighting, heating, and cooling needs by taking advantage of light colored roofs, trees for shade, and sunlight. ○ Incorporate passive environmental control systems that account for the characteristics of the natural environment. ○ Use high-efficiency lighting and cooking devices. ○ Incorporate passive solar design. ○ Use high-reflectivity building materials and multiple glazing. ○ Prohibit gas-powered landscape maintenance equipment. ○ Install electric vehicle charging stations. ○ Reduce wood burning stoves or fireplaces. ○ Provide bike lanes accessibility and parking at residential developments. 	<p>Significant and Unavoidable</p>
<p>EN-3: Potential to increase building energy consumption in anticipated development.</p>	<p>SCAG Mitigation Measures</p> <p>MM-EN-3(a)(1): SCAG shall continue to work with local jurisdictions and energy providers, through its Energy and Environment Committee, and administration of the Clean Cities program, Sustainability Planning grants program, and other SCAG energy-related planning activities, to encourage energy efficient building development. SCAG's Sustainability Program works actively with Southern California communities and stakeholders to create a dynamic regional growth vision based on the principles of mobility, livability, prosperity and sustainability.</p> <p>MM-EN-3(a)(2): SCAG shall continue to pursue partnerships with SCE, municipal utilities, and the CPUC to promote energy efficient development in the SCAG region, through coordinated planning and data and information sharing activities.</p> <p>Project-Level Mitigation Measures</p> <p>MM-EN-2(b).</p>	<p>Significant and Unavoidable</p>
<p>EN-4: Potential to increase water consumption and energy use related to water in anticipated development.</p>	<p>No mitigation required.</p>	<p>Less than Significant</p>
<p>Geology and Soils</p> <p>GEO-1: IMPACT GEO-1: Potential to expose people or structures to potential substantial adverse effects, including the</p>	<p>SCAG Mitigation Measures</p> <p>MM-GEO-1(a): SCAG shall facilitate minimizing future impacts to geological resources from exposure of people or structures to potential substantial adverse effects including the risk of loss,</p>	<p>Significant and Unavoidable</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>risk of loss, injury, or death involving (i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of failure, including liquefaction; (iv) landslides.</p>	<p>Project-Level Mitigation Measures</p> <p>MM-GEO-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on the potential for projects to result in the exposure of people and infrastructure to the effects of earthquakes, seismic related ground-failure, liquefaction, and seismically induced landslides, that are in the jurisdiction and responsibility of public agencies, regulatory agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with County and City Public Works and Building and Safety Department Standards, the Uniform Building Code (UBC) and the California Building Code (CBC), and other applicable laws and regulations governing building standards, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Consistent with Section 4.7.2 of the Alquist-Priolo Earthquake Fault Zoning Act, conduct a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults. An evaluation and written report of a specific site be prepared by a licensed geologist. If an active fault is found and unfit for human occupancy over the fault, place a setback of 50 feet from the fault. • Use site-specific fault identification investigations conducted by licensed geotechnical professionals in accordance with the requirements of the Alquist-Priolo Act, as well as any applicable Caltrans regulations that exceed or reasonably replace the requirements of the Act to either determine that the anticipated risk to people and property is at or below acceptable levels or site-specific measures have been incorporated into the project design, consistent with the CBC and UBC. • Ensure that projects located within or across Alquist-Priolo Zones comply with design requirements provided in Special Publication 117, published by the California Geological Survey, as well as relevant local, regional, state, and federal design criteria for construction in seismic areas. • Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that projects are designed in accordance with county and city code requirements for seismic ground shaking. With respect to design, consider seismicity of the site, soil response at the site, and dynamic characteristics of the structure, in compliance with the appropriate California Building Code and State of California design standards for construction in or near fault zones, as well as all standard design, grading, and construction practices in order to avoid or reduce geologic hazards. • Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that site-specific geotechnical investigations conducted by a qualified geotechnical expert be required prior to preparation of project designs. These investigations shall identify areas of potential expansive soils and recommend remedial geotechnical measures to eliminate any problems. Recommended corrective measures, such as structural reinforcement and replacing soil with engineered fill, shall be implemented in project designs. Geotechnical investigations identify areas of potential failure and recommend remedial geotechnical measures to eliminate any problems. • Adhere to design standards described in the CBC and all standard geotechnical investigation, design, grading, and construction practices to avoid or reduce impacts from earthquakes, ground shaking, ground failure, and landslides. • Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, projects avoid geologic units or soils that are unstable, expansive soils and soils prone to lateral spreading, subsidence, liquefaction, or collapse wherever feasible. 	<p>Significant and Unavoidable</p>
<p>GEO-2: Potential to result in substantial soil erosion or the loss of topsoil.</p>	<p>SCAG Mitigation Measures</p> <p>MM-GEO-1(a).</p> <p>Project-Level Mitigation Measures</p> <p>MM-GEO-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on the potential for projects to result in substantial soil erosion or the loss of topsoil, that are in the jurisdiction and responsibility of public agencies, regulatory agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with County and City Public Works and Building and Safety Department Standards, the Uniform Building Code (UBC) and the California Building Code (CBC), and other applicable laws and regulations governing building standards, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p>	<p>Significant and Unavoidable</p>

**TABLE ES.4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>GEO-3: Potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.</p> <p>GEO-4: Potential to be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.</p> <p>GEO-5: Potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.</p> <p>Greenhouse Gas Emissions and Climate Change GHG-1: Potential to directly or indirectly result in an increase in GHG emissions compared to existing conditions (2015). GHG-2: Potential to conflict with SB 375 GHG Emission Reduction Targets.</p>	<ul style="list-style-type: none"> • Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that site-specific geotechnical investigations conducted by a qualified geotechnical expert are conducted to ascertain soil types prior to preparation of project designs. These investigations can and should identify areas of potential failure and recommend remedial geotechnical measures to eliminate any problems. • Consistent with the requirements of the State Water Resources Control Board (SWRCB) for projects over one acre in size, obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit) issued by the SWRCB and conduct the following: <ul style="list-style-type: none"> ○ File a Notice of Intent (NOI) with the SWRCB. ○ Prepare a stormwater pollution prevention plan (SWPPP) and submit the plan for review and approval by the Regional Water Quality Control Board (RWQCB). At a minimum, the SWPPP should include a description of construction materials, practices, and equipment storage and maintenance; a list of pollutants likely to contact stormwater; site-specific erosion and sedimentation control practices; a list of provisions to eliminate or reduce discharge of materials to stormwater; best management practices (BMPs); and an inspection and monitoring program. ○ Submit to the RWQCB a copy of the SWPPP and evidence of submittal of the NOI to the SWRCB. Implementation of the SWPPP should start with the commencement of construction and continue through the completion of the project. ○ After construction is completed, the project sponsor can and should submit a notice of termination to the SWRCB. • Consistent with the requirements of the SWRCB and local regulatory agencies with oversight of development associated with the Plan, ensure that project designs provide adequate slope drainage and appropriate landscaping to minimize the occurrence of slope instability and erosion. Design features should include measures to reduce erosion caused by storm water. Road cuts should be designed to maximize the potential for revegetation. • Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that, prior to preparing project designs, new and abandoned wells are identified within construction areas to ensure the stability of nearby soils. <p>SCAG Mitigation Measures</p> <p>MM-GEO-1 (a).</p> <p>Project-Level Mitigation Measures</p> <p>MM-GEO-1 (b)</p>	<p>Significant and Unavoidable</p>
<p>GEO-3: Potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.</p> <p>GEO-4: Potential to be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.</p> <p>GEO-5: Potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.</p> <p>Greenhouse Gas Emissions and Climate Change GHG-1: Potential to directly or indirectly result in an increase in GHG emissions compared to existing conditions (2015). GHG-2: Potential to conflict with SB 375 GHG Emission Reduction Targets.</p>	<p>SCAG Mitigation Measures</p> <p>MM-GEO-1 (a).</p> <p>Project-Level Mitigation Measures</p> <p>MM-GEO-1 (b)</p>	<p>Significant and Unavoidable</p>
<p>GEO-3: Potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.</p> <p>GEO-4: Potential to be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.</p> <p>GEO-5: Potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.</p> <p>Greenhouse Gas Emissions and Climate Change GHG-1: Potential to directly or indirectly result in an increase in GHG emissions compared to existing conditions (2015). GHG-2: Potential to conflict with SB 375 GHG Emission Reduction Targets.</p>	<p>SCAG Mitigation Measures</p> <p>MM-GEO-1 (a).</p> <p>Project-Level Mitigation Measures</p> <p>MM-GEO-1 (b)</p>	<p>Less than Significant</p>

**TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>GHG-3: Potential to conflict with AB 32 and or any applicable plan, policy or regulation adopted for the purpose of reducing emissions of GHGs. GHG Cumulative Impacts.</p>	<p>No mitigation required.</p> <p>SCAG Mitigation Measures</p> <p>MM-GHG-3(a)(1): SCAG shall update any future RTP/SCS to incorporate policies and measures that lead to reduced GHG emissions in accordance with AB 32.</p> <p>MM-GHG-3(a)(2): SCAG shall coordinate with CARB and air districts in efforts to implement the AB 32 Scoping Plan.</p> <p>MM-GHG-3(a)(3): SCAG shall continue coordination with other metropolitan planning organizations (MPOs) regarding statewide strategies to reduce GHG emissions and facilitate the implementation of SB 375.</p> <p>MM-GHG-3(a)(4): SCAG shall work with utilities, sub-regions, and other stakeholders to promote accelerated penetration of zero- (and/or near zero-) emission vehicles in the region, including developing a strategy for the deployment of public charging infrastructure.</p> <p>MM-GHG-3(a)(5): SCAG shall in its capacity as a Clean Cities Coalition establish coordinated, creative public outreach activities, including publicizing the importance of reducing GHG emissions and steps community members may take to reduce their individual impacts.</p> <p>MM-GHG-3(a)(6): SCAG shall work with local community groups and business associations to organize and publicize walking tours and bicycle events, and to encourage pedestrian and bicycle modes of transportation such as the "Go Human" Campaign.</p> <p>MM-GHG-3(a)(7): SCAG shall support and/or sponsor workshops on water conservation activities, such as selecting and planting drought tolerant, native plants in landscaping, and installing advanced irrigation systems.</p> <p>MM-GHG-3(a)(8): SCAG shall in coordination with local jurisdictions (as practicable) support and/or sponsor a periodic Climate Protection Summits or Fairs, to educate the public on current climate science, projected local impacts, and local efforts and opportunities to reduce GHG emissions, including exhibits of the latest technology and products for conservation and efficiency.</p> <p>MM-GHG-3(a)(9): Schools Programs: SCAG shall develop and implement a program in coordination with school districts to present information to students about climate change and ways to reduce GHG emissions, and will support school-based programs for GHG reduction, such as school-based trip reduction and the importance of recycling.</p> <p>MM-GHG-3(a)(10): As outlined in the AHSC Action Plan approved by the Regional Council at the July 2, 2015, meeting, SCAG shall work with the Strategic Growth Council and seek legislative revisions to AHSC programs to revise the AHSC competitive grant program for future rounds.</p> <p>MM-GHG-3(a)(11): SCAG shall encourage local jurisdictions to support the following transportation-related strategies to reduce emissions:</p> <ul style="list-style-type: none"> • Support the planning and development of HQTAs, jobs and housing balance, transit oriented development, and infill development through transportation investments and other funding decisions. • Offer incentives such as free or low-cost monthly transit passes to employees or free ride areas to residents and customers • Coordinate the funding of low carbon transportation with smart growth development. • Promote parking management measures that encourage walking and transit use in smart growth areas. • Develop comprehensive parking policies that encourages the use of alternative transportation • Incorporate bicycle lanes, routes and facilities into street systems, new subdivisions, and large developments, and create transit, bicycle, and pedestrian connections. • Require amenities for non-motorized transportation, such as secure and convenient bicycle parking. <p>MM-GHG-3(a)(12): As part of SCAG's Sustainability Program, SCAG shall assist local jurisdictions in developing Climate Actions Plans (CAPs, also known as Plans for the Reduction of Greenhouse Gas Emissions), as appropriate and feasible.</p>	<p>Less than Significant</p> <p>Significant and Unavoidable</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>Project-Level Mitigation Measures</p> <p>MM-GHG-3(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of greenhouse gases that are within the jurisdiction and authority of California Air Resources Board, local air districts, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to mitigate the significant effects of greenhouse gas impacts to ensure compliance with all applicable laws, regulations, governing CAPs, general plans, adopted policies and plans of local agencies, and standards set forth by responsible public agencies for the purpose of reducing emissions of greenhouse gases, as applicable and feasible. Consistent with Section 15126.4(c) of the State CEQA Guidelines, compliance can be achieved through adopting greenhouse gas mitigation measures that have been used for projects in the SCAG region as set forth below, or through comparable measures identified by Lead Agency:</p> <ul style="list-style-type: none"> • Measures in an adopted plan or mitigation program for the reduction of emissions that are required as part of the Lead Agency's decision. • Reduction in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines. • Off-site measures to mitigate a project's emissions. • Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to: <ul style="list-style-type: none"> ○ Use energy and fuel efficient vehicles and equipment; ○ Deployment of zero- and/or near zero emission technologies; ○ Use lighting systems that are energy efficient, such as LED technology; ○ Use the minimum feasible amount of GHG-emitting construction materials that is feasible; ○ Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production; ○ Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse; ○ Incorporate design measures to reduce energy consumption and increase use of renewable energy; ○ Incorporate design measures to reduce water consumption; ○ Use lighter-colored pavement where feasible; ○ Recycle construction debris to maximum extent feasible; ○ Plant shade trees in or near construction projects where feasible; and ○ Solicit bids that include concepts listed above. • Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to, transit-active transportation coordinated strategies, increased bicycle carrying capacity on transit and rail vehicles; • Incorporating bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; providing adequate bicycle parking and planning for and building local bicycle projects that connect with the regional network; • Improving transit access to rail and bus routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and • Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs. • Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles; • Land use siting and design measures that reduce GHG emissions, including: <ul style="list-style-type: none"> ○ Developing on infill and brownfields sites; ○ Building high density and mixed use developments near transit; ○ Retaining on-site mature trees and vegetation, and planting new canopy trees; Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and ○ Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse. 		

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact Hazardous and Hazardous Materials	Mitigation Measures	Significance after Mitigation
<p>HAZ-1: Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.</p>	<p>SCAG Mitigation Measures</p> <p>MM-HAZ-1(a)(1): SCAG shall work with the U.S. DOT, the OES, Caltrans, and the private sector to continue to conduct driver safety training programs and enforce speed limits on roadways. In an effort to reduce risks associated with the transport of hazardous materials in the SCAG region, SCAG shall encourage the U.S. DOT and the California Highway Patrol to continue to enforce speed limits and existing regulations governing goods movement and hazardous materials transportation.</p> <p>MM-HAZ-1(a)(2): SCAG shall work with the CUPAs and counties and cities within the SCAG region to encourage education and monitoring of the use and storage of hazardous materials consistent with the provisions OSHA CPL 02-02-038.</p> <p>MM-HAZ-1(a)(3): SCAG shall notify member agencies of the importance of ensuring that construction and operation of transportation projects provide for the safe transport and disposal of hazardous waste, consistent with the provisions of HMR, 49 CFR Parts 171–180.</p> <p>MM-HAZ-1(a)(4): SCAG shall coordinate with OES to identify any transportation infrastructure elements within the SCAG region where risks to people and property occur at an above-average incident level, potentially warranting consideration for remedial design in future RTPs.</p> <p>Project-Level Mitigation Measures</p> <p>MM-HAZ-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects related to the routine transport, use or disposal of hazardous materials that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the provisions of the Hazardous Waste Control Act, the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program, the Hazardous Waste Source Reduction and Management Review Act of 1989, the California Vehicle Code, and other applicable laws and regulations, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Where the construction or operation of projects involves the transport of hazardous material, provide a written plan of proposed routes of travel demonstrating use of roadways designated for the transport of such materials. • Where the construction or operation of projects involves the transport of hazardous materials, avoid transport of such materials within one-quarter mile of schools, when school is in session, wherever feasible. • Where it is not feasible to avoid transport of hazardous materials, within one-quarter mile of schools on local streets, provide notification of the anticipated schedule of transport of such materials. • Specify the need for interim storage and disposal of hazardous materials to be undertaken consistent with applicable federal, state, and local statutes and regulations in the plans and specifications for transportation improvement project. • Submit a Hazardous Materials Business/Operations Plan for review and approval by the appropriate local agency. Once approved, keep the plan on file with the Lead Agency (or other appropriate government agency) and update, as applicable. The purpose of the Hazardous Materials Business/Operations Plan is to ensure that employees are adequately trained to handle the materials and provides information to the local fire protection agency should emergency response be required. The Hazardous Materials Business/Operations Plan should include the following: <ul style="list-style-type: none"> o The types of hazardous materials or chemicals stored and/or used on-site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids. o The location of such hazardous materials. o An emergency response plan including employee training in formation. o A plan that describes the manner in which these materials are handled, transported and disposed. • Specify the appropriate procedures for interim storage and disposal of hazardous materials, anticipated to be required in support of operations and maintenance activities, in conformance with applicable federal, state, and local statutes and regulations, in the Operations Manual for projects. • Follow manufacturer’s recommendations on use, storage, and disposal of chemical products used in construction. • Avoid overtopping construction equipment fuel gas tanks. • During routine maintenance of construction equipment, properly contain and remove grease and oils. • Properly dispose of discarded containers of fuels and other chemicals. 	<p>Less than Significant</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>HAZ-2: Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.</p>	<p>SCAG Mitigation Measures MM-HAZ-1(a)(1) through MM-HAZ-1(a)(4). Project-Level Mitigation Measures MM-HAZ-1(b).</p>	<p>Significant and Unavoidable</p>
<p>HAZ-3: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.</p>	<p>SCAG Mitigation Measures MM-HAZ-1(a)(1) through MM-HAZ-1(a)(4). Project-Level Mitigation Measures MM-HAZ-1(b).</p>	<p>Significant and Unavoidable</p>
<p>HAZ-4: Potential to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.</p>	<p>SCAG Mitigation Measures MM-HAZ-1(a)(1) through MM-HAZ-1(a)(4). Project-Level Mitigation Measures MM-HAZ-4(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects related to a project placed on a hazardous materials site, that are in the jurisdiction and responsibility of regulatory agencies, other public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the provisions of the Government Code Section 65962.5, Occupational Safety and Health Code of 197; the Response Conservation, and Recovery Act; the Comprehensive Environmental Response, Compensation, and Liability Act; the Hazardous Materials Release and Clean-up Act, and the Uniform Building Code, and County and City building standards, and all applicable Federal, state, and local laws and regulations governing hazardous waste sites, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency.</p> <ul style="list-style-type: none"> • Complete a Phase I Environmental Site Assessment, including a review and consideration of data from all known databases of contaminated sites, during the process of planning, environmental clearance, and construction for projects. • Where warranted due to the known presence of contaminated materials, submit to the appropriate agency responsible for hazardous materials/wastes oversight a Phase II Environmental Site Assessment report if warranted by a Phase I report for the project site. The reports should make recommendations for remedial action, if appropriate, and be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer. • Implement the recommendations provided in the Phase II Environmental Site Assessment report, where such a report was determined to be necessary for the construction or operation of the project, for remedial action. • Submit a copy of all applicable documentation required by local, state, and federal environmental regulatory agencies, including but not limited to: permit applications, Phase I and II Environmental Site Assessments, human health and ecological risk assessments, remedial action plans, risk management plans, soil management plans, and groundwater management plans. • Conduct soil sampling and chemical analyses of samples, consistent with the protocols established by the U.S. EPA to determine the extent of potential contamination beneath all underground storage tanks (USTs), elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition or construction activities would potentially affect a particular development or building. • Consult with the appropriate local, state, and federal environmental regulatory agencies to ensure sufficient minimization of risk to human health and environmental resources, both during and after construction, posed by soil contamination, groundwater contamination, or other surface hazards including, but not limited to, underground storage tanks, fuel distribution lines, waste pits and sumps. • Obtain and submit written evidence of approval for any remedial action if required by a local, state, or federal environmental regulatory agency. 	<p>Less than Significant</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
	<ul style="list-style-type: none"> • Cease work if soil, groundwater, or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums, or other hazardous materials or wastes are encountered), in the vicinity of the suspect material. Secure the area as necessary and take all appropriate measures to protect human health and the environment, including but not limited to: notification of regulatory agencies and identification of the nature and extent of contamination. Stop work in the areas affected until the measures have been implemented consistent with the guidance of the appropriate regulatory oversight authority. • Use best management practices (BMPs) regarding potential soil and groundwater hazards. • Soil generated by construction activities should be stockpiled on-site in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Complete sampling and handling and transport procedures for reuse or disposal, in accordance with applicable local, state and federal laws and policies. • Groundwater pumped from the subsurface should be contained on-site in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies. Utilize engineering controls, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building. • Prior to issuance of any demolition, grading, or building permit, submit for review and approval by the Lead Agency (or other appropriate government agency) written verification that the appropriate federal, state and/or local oversight authorities, including but not limited to the Regional Water Quality Control Board (RWQCB), have granted all required clearances and confirmed that the all applicable standards, regulations, and conditions have been met for previous contamination at the site. • Develop, train, and implement appropriate worker awareness and protective measures to assure that worker and public exposure is minimized to an acceptable level and to prevent any further environmental contamination as a result of construction. • If asbestos-containing materials (ACM) are found to be present in building materials to be removed, submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health and Safety Code Section 25915-25919.7; and other local regulations. • Where projects include the demolitions or modification of buildings constructed prior to 1968, complete an assessment for the potential presence or lack thereof of ACM, lead-based paint, and any other building materials or stored materials classified as hazardous waste by state or federal law. • Where the remediation of lead-based paint has been determined to be required, provide specifications to the appropriate agency, signed by a certified Lead Supervisor. Project Monitor, or Project Designer for the stabilization and/or removal of the identified lead paint in accordance with all applicable laws and regulations, including but not necessarily limited to: California Occupational Safety and Health Administration's (Cal OSHA's) Construction Lead Standard, Title 8 California Code of Regulations (CCR) Section 1532.1 and Department of Health Services (DHS) Regulation 17 CCR Sections 35001-36100, as may be amended. If other materials classified as hazardous waste by state or federal law are present, the project sponsor should submit written confirmation to the appropriate local agency that all state and federal laws and regulations should be followed when profiling, handling, treating, transporting, and/or disposing of such materials. • Where a project site is determined to contain materials classified as hazardous waste by state or federal law are present, submit written confirmation to appropriate local agency that all state and federal laws and regulations should be followed when profiling, handling, treating, transporting, and/or disposing of such materials. 	Less than Significant
<p>HAZ-5: Potential for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.</p>	<p>SCAG Mitigation Measures MM-TRA-5(a). Project-Level Mitigation Measures MM-TRA-5(b).</p>	Less than Significant
<p>HAZ-6: Potential for a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.</p>	<p>No mitigation required.</p>	Less than Significant
<p>HAZ-7: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.</p>	<p>No mitigation required.</p>	Less than Significant

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>HAZ-8: Potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.</p>	<p>SCAG Mitigation Measures</p> <p>MM-HAZ-8(a): SCAG shall facilitate minimizing future impacts from wildland fires through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, GIS applications, and direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online Training materials. Resource agencies, such as the U.S. Geology Survey, shall be consulted during this update process.</p> <p>Project-Level Mitigation Measures</p> <p>MM-HAZ-8(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects from the potential exposure of people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands; that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with local general plans, specific plans, and regulations provided by County and City fire departments, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Adhere to fire code requirements, including ignition-resistant construction with exterior walls of noncombustible or ignition resistant material from the surface of the ground to the roof system. Other fire-resistant measures would be applied to eaves, vents, windows, and doors to avoid any gaps that would allow intrusion by flame or embers. • Adhere to the Multi-Jurisdictional Hazards Mitigation Plan, as well as local general plans, contains policies and programs aimed at reducing the risk of wildland fires through land use compatibility, training, sustainable development, brush management, and public outreach. • Encourage the use of fire-resistant vegetation native to Southern California and/or to the local microclimate (e.g., vegetation that has high moisture content, low growth habits, ignition-resistant foliage, or evergreen growth), eliminate brush and chaparral, and discourage the use of fire-promoting species especially non-native, invasive species (e.g., pampas grass, fennel, mustard, or the giant reed) in the immediate vicinity of development in areas with high fire threat. • Encourage natural revegetation or seeding with local, native species after a fire and discourage reseeding of non-native, invasive species to promote healthy, natural ecosystem regrowth. Native vegetation is more likely to have deep root systems that prevent slope failure and erosion of burned areas than shallow-rooted non-natives. • Submit a fire safety plan (including phasing) to the Lead Agency and local fire agency for their review and approval. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. The local fire protection agency may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase. • Utilize Fire-wise Land Management by encouraging the use of fire-resistant vegetation and the elimination of brush and chaparral in the immediate vicinity of development in areas with high fire threat. • Promote Fire Management Planning that would help reduce fire threats in the region as part of the Compass Blueprint process and other ongoing regional planning efforts. • Encourage the use of fire-resistant materials when constructing projects in areas with high fire threat. 	<p>Significant and Unavoidable</p>
<p>Hydrology and Water Quality</p> <p>HYD-1: Potential to violate any water quality standards or waste discharge requirements.</p>	<p>SCAG Mitigation Measures</p> <p>MM-HYD-1(a): SCAG shall continue to work with local jurisdictions and water quality agencies, and other means, to encourage regional-scale planning for improved water quality management and pollution prevention. Future impacts to water quality shall be avoided to the extent practical and feasible through cooperative planning, information sharing, and comprehensive pollution control measure development within the SCAG region. This cooperative planning shall occur as part of current and existing coordination, an integral part of SCAG's ongoing regional planning efforts.</p> <p>Project-Level Mitigation Measures</p> <p>MM-HYD-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the potential impacts on water quality on related waste discharge requirements that are within the jurisdiction and authority of the Regional Water Quality Control Boards and other regulatory agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with all applicable laws, regulations, and health and safety standards set forth by regulatory agencies responsible for regulating and enforcing water quality and waste discharge requirements in a manner that conforms with applicable water quality standards and/or waste discharge requirements, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p>	<p>Less than Significant</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>HYD-2: Potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the</p>	<ul style="list-style-type: none"> • Complete, and have approved, a Stormwater Pollution Prevention Plan (SWPPP) prior to initiation of construction. • Implement Best Management Practices to reduce the peak stormwater runoff from the project site to the maximum extent practicable. • Comply with the Caltrans storm water discharge permit as applicable; and identify and implement Best Management Practices to manage site erosion, wash water runoff, and spill control. • Complete, and have approved, a Standard Urban Stormwater Management Plan, prior to occupancy of residential or commercial structures. • Ensure adequate capacity of the surrounding stormwater system to support stormwater runoff from new or rehabilitated structures or buildings. • Prior to construction within an area subject to Section 404 of the Clean Water Act, obtain all required permit approvals and certifications for construction within the vicinity of a watercourse: <ul style="list-style-type: none"> ○ U.S. Army Corps of Engineers (Corps): Section 404. Permit approval from the Corps should be obtained for the placement of dredge or fill material in Waters of the U.S., if any, within the interior of the project site, pursuant to Section 404 of the Federal Clean Water Act. ○ Regional Water Quality Control Board (RWQCB): Section 401 Water Quality Certification. Certification that the project will not violate state water quality standards is required before the Corps can issue a 404 permit, above. ○ California Department of Fish and Wildlife (CDFW): Section 1602 Lake and Streambed Alteration Agreement. Work that will alter the bed or bank of a stream requires authorization from CDFW. • Where feasible, restore or expand riparian areas such that there is no net loss of impervious surface as a result of the project. • Install structural water quality control features, such as drainage channels, detention basins, oil and grease traps, filter systems, and vegetated buffers to prevent pollution of adjacent water resources by polluted runoff where required by applicable urban storm water runoff discharge permits, on new facilities. • Provide structural storm water runoff treatment consistent with the applicable urban storm water runoff permit where Caltrans is the operator; the statewide permit applies. • Provide operational best management practices for street cleaning, litter control, and catch basin cleaning are implemented to prevent water quality degradation in compliance with applicable storm water runoff discharge permits; and ensure treatment controls are in place as early as possible, such as during the acquisition process for rights-of-way, not just later during the facilities design and construction phase. • Comply with applicable municipal separate storm sewer system discharge permits as well as Caltrans' storm water discharge permit including long-term sediment control and drainage of roadway runoff • Incorporate as appropriate treatment and control features such as detention basins, infiltration strips, and porous paving, other features to control surface runoff and facilitate groundwater recharge into the design of new transportation projects early on in the process to ensure that adequate acreage and elevation contours are provided during the right-of-way acquisition process. • Design projects to maintain volume of runoff, where any downstream receiving water body has not been designed and maintained to accommodate the increase in flow velocity, rate, and volume without impacting the water's beneficial uses. Pre-project flow velocities, rates, and volumes must not be exceeded. This applies not only to increases in storm water runoff from the project site, but also to hydrologic changes induced by flood plain encroachment. Projects should not cause or contribute to conditions that degrade the physical integrity or ecological function of any downstream receiving waters. • Provide culverts and facilities that do not increase the flow velocity, rate, or volume and/or acquiring sufficient storm drain easements that accommodate an appropriately vegetated earthen drainage channel. • Upgrade stormwater drainage facilities to accommodate any increased runoff volumes. These upgrades may include the construction of detention basins or structures that will delay peak flows and reduce flow velocities, including expansion and restoration of wetlands and riparian buffer areas. System designs shall be completed to eliminate increases in peak flow rates from current levels. • Encourage Low Impact Development (LID) and incorporation of natural spaces that reduce, treat, infiltrate and manage stormwater runoff flows in all new developments, where practical and feasible. <p>SCAG Mitigation Measures</p> <p>MM-HYD-2(a): SCAG shall build from existing efforts including those at the sub-regional and local level and shall continue to work with local jurisdictions and water agencies, to encourage regional-scale planning for improved stormwater management and groundwater recharge, including consideration of alternative recharge technologies and practices. Future adverse impacts may be avoided through cooperative planning, information sharing, and comprehensive implementation efforts within the SCAG region.</p>	<p>Significant and Unavoidable</p>

**TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).</p>	<p>Project-Level Mitigation Measures</p> <p>MM-HYD-2(b): Consistent with the provisions of the Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the potential impacts to groundwater resources that are within the jurisdiction and authority of the State Water Resources Control Board, Regional Water Quality Control Boards, Water Districts, and other groundwater management agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with applicable laws, regulations, and health and safety standards set forth by federal, state, regional, and local authorities that regulate groundwater management, consistent with the provisions of the Groundwater Management Act and implementing regulations, including recharge in a manner that conforms with federal, state, regional, and local standards for sustainable management of groundwater basins, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • For projects requiring continual dewatering facilities, implement monitoring systems and long-term administrative procedures to ensure proper water management that prevents degrading of surface water and minimizes, to the greatest extent possible, adverse impacts on groundwater for the life of the project. Construction designs shall comply with appropriate building codes and standard practices including the Uniform Building Code. • Maximize, where practical and feasible, permeable surface area in existing urbanized areas to protect water quality, reduce flooding, allow for groundwater recharge, and preserve wildlife habitat. Minimize to the greatest extent possible, new impervious surfaces, including the use of in-lieu fees and off-site mitigation. • Avoid designs that require continual dewatering where feasible. • Avoid construction and siting on groundwater recharge areas, to prevent conversion of those areas to impervious surface. • Reduce hardscape to the extent feasible to facilitate groundwater recharge as appropriate. 	
<p>HYD-3: Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site.</p>	<p>SCAG Mitigation Measures</p> <p>MM-HYD-3(a): SCAG shall build from existing efforts including those at the sub-regional and local level and shall continue to work with local jurisdictions to encourage regional-scale planning for maintaining and/or improving existing drainage patterns. Future adverse impacts may be avoided through cooperative planning, information sharing, and comprehensive implementation efforts within the SCAG region.</p> <p>Project-Level Mitigation Measures</p> <p>MM-HYD-1(b).</p>	<p>Less than Significant</p>
<p>HYD-4: Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site.</p>	<p>SCAG Mitigation Measures</p> <p>MM-HYD-3(a)</p> <p>Project-Level Mitigation Measures</p> <p>MM-HYD-1(b).</p>	<p>Significant and Unavoidable</p>
<p>HYD-5: Potential to substantially create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or providing substantial additional sources of polluted runoff.</p>	<p>SCAG Mitigation Measures</p> <p>MM-HYD-2(a) and MM-HYD-3(a)</p> <p>Project-Level Mitigation Measures</p> <p>MM-HYD-1(b)</p>	<p>Significant and Unavoidable</p>

TABLE ES.4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>HYD-6: Potential to otherwise substantially degrade water quality.</p>	<p>SCAG Mitigation Measures MM-HYD-3(a) Project-Level Mitigation Measures MM-HYD-1(b)</p>	<p>Significant and Unavoidable</p>
<p>HYD-7: Potential to place housing within a 100-year flood hazard area as mapped on a federal flood hazard boundary or flood insurance rate map or other flood hazard delineation map.</p>	<p>No mitigation required.</p>	<p>No impact</p>
<p>HYD-8: Potential to place within a 100-year flood hazard area structures that would impede or redirect flood flows.</p>	<p>SCAG Mitigation Measures MM-HYD-8(a): SCAG shall continue to work with local jurisdictions and water quality agencies to encourage flood protection and prevent development in flood hazard areas that do not have appropriate protections. This shall be accomplished through cooperation and information sharing regarding specific alignments and rights-of-way planning for RTP projects, and regional program development as part of SCAG's ongoing regional planning efforts. These include but are not limited to web-based planning tools and sustainability programs for local government such as CA LOTS, and other GIS tools and data services. Such services would consist of an inventory of areas located near a 100-year flood hazard zone and hazard areas that would potentially be affected by a failure of a levee or dam, and or inundation by seiche, tsunami, or mudflow. Project-Level Mitigation Measures MM-HYD-8(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the potential impacts of locating structures that would impede or redirect flood flows in a 100-year flood hazard area that are within the jurisdiction and authority of the Flood Control District, County Public Works Departments, local agencies, regulatory agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with all federal, state, and local floodplain regulations, consistent with the provisions of the National Flood Insurance Program, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Comply with Executive Order 11988 on Floodplain Management, which requires avoidance of incompatible floodplain development, restoration and preservation of the natural and beneficial floodplain values, and maintenance of consistency with the standards and criteria of the National Flood Insurance Program. • Ensure that all roadbeds for new highway and rail facilities be elevated at least one foot above the 100-year base flood elevation. Since alluvial fan flooding is not often identified on FEMA flood maps, the risk of alluvial fan flooding should be evaluated and projects should be sited to avoid alluvial fan flooding. Delineation of floodplains and alluvial fan boundaries should attempt to account for future hydrologic changes caused by global climate change. 	<p>Significant and Unavoidable</p>
<p>HYD-9: Potential to expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.</p>	<p>SCAG Mitigation Measures MM-HYD-8(a) Project-Level Mitigation Measures MM-HYD-8(b)</p>	<p>Significant and Unavoidable</p>
<p>HYD-10: Potential for inundation by seiche, tsunami, or mudflow.</p>	<p>SCAG Mitigation Measures MM-HYD-8(a)</p>	<p>Significant and Unavoidable</p>

**TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>Land Use and Planning</p> <p>LU-1: Potential to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.</p>	<p>Project-Level Mitigation Measures</p> <p>MM-HYD-8(b).</p> <p>SCAG Mitigation Measures</p> <p>MM-LU-1(a)(1): SCAG shall encourage cities and counties in the region to provide SCAG with electronic versions of their most recent general plan (and associated environmental document) and any updates as they are produced.</p> <p>MM-LU-1(a)(2): SCAG shall continue to provide targeted technical services such as GIS and data support for cities and counties to update their general plans at least every ten years, as recommended by the Governor's Office of Planning and Research.</p> <p>MM-LU-1(a)(3): SCAG shall work with its member cities and counties to encourage that transportation projects and growth are consistent with the RTP/SCS.</p> <p>MM-LU-1(a)(4): SCAG shall coordinate with member cities and counties to encourage that general plans consider and reflect as appropriate RTP/SCS policies and strategies. SCAG will work to encourage consistency between general plans and RTP/SCS policies.</p> <p>MM-LU-1(a)(5): SCAG shall provide technical assistance and regional leadership to encourage implementation of the RTP/SCS goals and strategies that integrate growth and land use planning with the existing and planned transportation network.</p> <p>MM-LU-1(a)(6): SCAG shall provide planning services to local jurisdictions through sustainability planning programs including the Sustainability Program, and the Green Region initiative, and "Toolbox Tuesday" workshops. These projects will provide assistance to local jurisdictions to:</p> <ul style="list-style-type: none"> • Update General Plans to address sustainable communities strategies to better integrate land use and transportation planning. • Develop specific plans, zoning overlays and other planning tools to enable and stimulate desired land use changes that are consistent with the future land development pattern in the 2016 RTP/SCS • Complete the economic analysis and community involvement efforts that will ensure that the planned changes are market feasible and responsible to stakeholder concerns. • Visualize potential changes, through innovative graphics and mapping technology to inform the dialogue about growth, development and transportation at the local and regional level. <p>MM-LU-1(a)(7): SCAG shall continue with a public relations strategy that emphasizes the benefits and implications of implementing sustainable growth strategies and builds a sense of common interests among Southern California communities.</p> <p>MM-LU-1(a)(8): SCAG shall continue to use its Intergovernmental Review Process to provide comments to lead agencies on regionally significant projects, that may be considered for determining consistency with the RTP/SCS.</p> <p>Project-Level Mitigation Measures</p> <p>MM-LU-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects regarding the potential to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project that are within the jurisdiction and responsibility of local jurisdictions and Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the goals and policies established within the applicable adopted county and city general plans within the SCAG region to avoid conflicts with zoning and ordinance codes, general plans, land use plan, policy, or regulation of an agency with jurisdiction over the project, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Where an inconsistency with the adopted general plan is identified at the proposed project location, determine if the environmental, social, economic, and engineering benefits of the project warrant a variance from adopted zoning or an amendment to the general plan. 	<p>Significant and Unavoidable</p>

**TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>LU-2: Potential to physically divide an established community.</p>	<p>MM-LU-2(b): SCAG shall consult with Lead Agencies such as county and city planning departments to facilitate minimizing impacts to the physical division of an established community. This shall be accomplished through cooperation and information sharing regarding specific alignments and rights-of-way planning for Plan projects, and regional program development as part of SCAG's ongoing regional planning efforts. These include but are not limited to web-based planning tools and sustainability programs for local government such as:</p> <ul style="list-style-type: none"> • CA LOTS, and other GIS tools and data services, including but not limited to: <ul style="list-style-type: none"> ○ Map Gallery. ○ GIS library and GIS applications. • Direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online training materials. • Sustainability Planning Grant (formerly known as Compass Blueprint Grant Program). • Green Region initiative. • Assistance with economic analysis and community involvement efforts that will ensure that the planned changes are market feasible and responsible to stakeholder concerns. • Assistance with visualization services, through innovative graphics and mapping technology to inform the dialogue about growth, development, and transportation at the local and regional level. • Planning services for General Plan updates to assist with implementing sustainable communities strategies that integrate land use and transportation planning. <p>Project-Level Mitigation Measures</p> <p>MM-LU-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects related to the physical division of an established community in a project area within the jurisdiction and responsibility of local jurisdictions and Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the goals and policies established within the applicable adopted county and city general plans within the SCAG region to avoid the creation of barriers that physically divide such communities, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Consider alignments within or adjacent to existing public rights-of-way. • Consider designs to include sections above- or below-grade to maintain viable vehicular, cycling, and pedestrian connections between portions of communities where existing connections are disrupted by the transportation project. • Wherever feasible incorporate direct crossings, overcrossings, or undercrossings at regular intervals for multiple modes of travel (e.g., pedestrians, bicyclists, vehicles). • Consider realigning roadway or interchange improvements to avoid the affected area of residential communities or cohesive neighborhoods. • Where it has been determined that it is infeasible to avoid creating a barrier in an established community, consider other measures to reduce impacts, including but not limited to: <ul style="list-style-type: none"> ○ Alignment shifts to minimize the area affected. ○ Reduction of the proposed right-of-way take to minimize the overall area of impact. ○ Provisions for bicycle, pedestrian, and vehicle access across improved roadways. • Design new transportation facilities that consider access to existing community facilities. Identify and consider during the design phase of the project, community amenities and facilities in the design of the project. • Design roadway improvements that minimize barriers to pedestrians and bicyclists. Determine during the design phase, pedestrian and bicycle routes that permit connections to nearby community facilities. <p>SCAG Mitigation Measures</p> <p>See MM-BIO-1(a)(1) and MM-BIO-1(a)(2).</p> <p>Project-Level Mitigation Measures</p> <p>See MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-BIO-4(b), MM-BIO-5(b), and MM-BIO-6(b).</p>	<p>Significant and Unavoidable</p>
<p>LU-3: Potential to conflict with any applicable habitat conservation plan or natural community conservation plan.</p>	<p>SCAG Mitigation Measures</p> <p>See MM-BIO-1(a)(1) and MM-BIO-1(a)(2).</p> <p>Project-Level Mitigation Measures</p> <p>See MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-BIO-4(b), MM-BIO-5(b), and MM-BIO-6(b).</p>	<p>Less than Significant</p>

**TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>Mineral Resources</p> <p>MIN-1: Potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.</p>	<p>SCAG Mitigation Measures</p> <p>MM-MIN-1(a)(1): SCAG shall coordinate with the Department of Conservation, California Geological Survey to maintain a database of (1) available mineral resources in the SCAG region including permitted and unpermitted aggregate resources and (2) the anticipated 50-year demand for aggregate and other mineral resources. Based on the results of this survey, SCAG shall work with local agencies on strategies to address anticipated demand, including identifying future sites that may seek permitting and working with industry experts to identify ways to encourage and increase recycling to reduce the demand for aggregate.</p> <p>MM-MIN-1(a)(2): SCAG shall facilitate, encourage, and coordinate with local jurisdictions to review, identify, and update aggregate and mineral resources in their jurisdictions through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government, including CA Lots, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as Compass Blueprint's Toolbox Tuesday Training series and sharing of associated online training materials. Resource agencies, such as the California Department of Conservation and the U.S. Geology Survey shall be consulted during this update process. Using the above tools, SCAG shall assist local jurisdictions with developing long range plans and strategies to meet projected demand and ensure that transportation projects and associated development do not preclude the ability to recover known aggregate resources that would be of value to the region and the residents of the state.</p> <p>Project-Level Mitigation Measures</p> <p>MM-MIN-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on the loss of availability of a known mineral resource that would be of value to the region and the residents of the state or a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan that are within the jurisdiction and responsibility of the California Department of Conservation, and/or Lead Agencies.</p> <p>Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with SMARA, California Department of Conservation regulations, local general plans, specific plans, and other laws and regulation governing mineral or aggregate resources, as applicable and feasible. Such measures may include the following, other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Provide for the efficient use of known aggregate and mineral resources or locally important mineral resource recovery sites, by ensuring that the consumptive use of aggregate resources is minimized and that access to recoverable sources of aggregate is not precluded, as a result of construction, operation and maintenance of projects. • Where avoidance is infeasible, minimize impacts to the efficient and effective use of recoverable sources of aggregate through measures that have been identified in county and city general plans, or other comparable measures: <ul style="list-style-type: none"> ○ Recycle and reuse building materials, particularly aggregate materials, resulting from demolition, particularly aggregate resources, to the maximum extent practicable. ○ Identify and use building materials, particularly aggregate materials, resulting from demolition at other construction sites in the SCAG region, or within a reasonable hauling distance of the project site. ○ Design transportation network improvements in a manner (such as buffer zones or the use of screening) that does not preclude adjacent or nearby extraction of known mineral and aggregate resources following completion of the improvement and during long-term operations. ○ Avoid or reduce impacts on known aggregate and mineral resources and mineral resource recovery sites through the evaluation and selection of project sites and design features (e.g., buffers) that minimize impacts on land suitable for aggregate and mineral resource extraction by maintaining portions of MRZ-2 areas in open space or other general plan land use categories and zoning that allow for mining of mineral resources. 	<p>Significant and Unavoidable</p>
<p>MIN-2: Potential to result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.</p>	<p>SCAG Mitigation Measures</p> <p>MM-MIN-1(a)(1) and MM-MIN-1(a)(2).</p> <p>Project-Level Mitigation Measures</p> <p>MM-MIN-1(b).</p>	<p>Significant and Unavoidable</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>Noise</p> <p>NOISE-1. Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.</p>	<p>SCAG Mitigation Measures</p> <p>MM-NOISE-1(a): SCAG shall coordinate with member agencies as part of SCAG's outreach and technical assistance to local governments under Toolbox Tuesday Training series to encourage projects involving residential and commercial land uses to be developed in areas that are normally acceptable or conditionally acceptable, consistent with the Governor's Office of Planning and Research Noise Element Guidelines.</p> <p>Project-Level Mitigation Measures</p> <p>MM-NOISE-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects of noise impacts that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure consistency with the Federal Noise Control Act, California Government Code Section 65302, the Governor's Office of Planning and Research Noise Element Guidelines, and the noise ordinances and general plan noise elements for the counties or cities where projects are undertaken, Federal Highway Administration and Caltrans guidance documents and other health and safety standards set forth by federal, state, and local authorities that regulate noise levels, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Install temporary noise barriers during construction. • Include permanent noise barriers and sound-attenuating features as part of the project design. • Schedule construction activities consistent with the allowable hours pursuant to applicable general plan noise element or noise ordinance. Where construction activities are authorized outside the limits established by the noise element of the general plan or noise ordinance; notify affected sensitive noise receptors and all parties who will experience noise levels in excess of the allowable limits for the specified land use, of the level of exceedance and duration of exceedance; and provide a list of protective measures that can be undertaken by the individual, including temporary relocation or use of hearing protective devices. • Limit speed and/or hours of operation of rail and transit systems during the selected periods of time to reduce duration and frequency of conflict with adopted limits on noise levels. Post procedures and phone numbers at the construction site for notifying the Lead Agency staff, local Police Department, and construction contractor (during regular construction hours and off-hours), along with permitted construction days and hours, complaint procedures, and who to notify in the event of a problem. • Notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of anticipated times when noise levels are expected to exceed limits established in the noise element of the general plan or noise ordinance. • Hold a preconstruction meeting with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed. • Designate an on-site construction complaint and enforcement manager for the project. • Ensure that construction equipment are properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps). All intake and exhaust ports on power equipment shall be muffled or shielded. • Ensure that impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction are hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust can and should be used. External jackets on the tools themselves can and should be used, if such jackets are commercially available and this could achieve a reduction of 5 dBA. Quieter procedures can and should be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures. • Ensure that construction equipment are not idle for an extended time in the vicinity of noise-sensitive receptors. • Locate fixed/stationary equipment (such as generators, compressors, rock crushers, and cement mixers) as far as possible from noise-sensitive receptors. • Locate new roadway lanes, roadways, rail lines, transit-related passenger station and related facilities, park-and-ride lots, and other new noise-generating facilities away from sensitive receptors to the maximum extent feasible. • Where feasible, eliminate noise-sensitive receptors by acquiring freeway and rail rights-of-way. • Use noise barriers to protect sensitive receptors from excessive noise levels during construction. • Construct sound-reducing barriers between noise sources and noise-sensitive receptors to minimize exposure to excessive noise during operation of transportation improvement projects, including but not limited to earth-berms or sound walls. • Where feasible, design projects so that they are depressed below the grade of the existing noise-sensitive receptor, creating an effective barrier between the roadway and sensitive receptors. 	<p>Significant and Unavoidable</p>

**TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>NOISE-2. Result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.</p>	<ul style="list-style-type: none"> • Where feasible, improve the acoustical insulation of dwelling units where setbacks and sound barriers do not provide sufficient noise reduction. • Monitor the effectiveness of noise reduction measures by taking noise measurements and installing adaptive mitigation measures to achieve the standards for ambient noise levels established by the noise element of the general plan or noise ordinance. <p>SCAG Mitigation Measures</p> <p>MM-NOISE-1(a). Project-Level Mitigation Measures</p> <p>MM-NOISE-1(b). MM-NOISE-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects of vibration impacts that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the Federal Transportation Authority and Caltrans guidance documents, county or city transportation commission, noise and vibration ordinances and general plan noise elements for the counties and cities where projects are undertaken and other health and safety regulations set forth by federal state, and local authorities that regulate vibration levels, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the potential vibration impacts to the structural integrity of the adjacent buildings within 50 feet of pile driving locations. • For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the threshold levels of vibration and cracking that could damage adjacent historic or other structure, and design means and construction methods to not exceed the thresholds. • For projects where pile driving would be necessary for construction due to geological conditions, utilize quiet pile driving techniques such as predrilling the piles to the maximum feasible depth, where feasible. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground where pile driving noise can be shielded more effectively by a noise barrier/curtain. • For projects where pile driving would be necessary for construction due to geological conditions, utilize quiet pile driving techniques such as the use of more than one pile driver to shorten the total pile driving duration. 	<p>Significant and Unavoidable</p>
<p>NOISE-3. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.</p>	<p>SCAG Mitigation Measures</p> <p>See MM-NOISE-1(a). Project-Level Mitigation Measures</p> <p>MM-NOISE-1(b).</p>	<p>Significant and Unavoidable</p>
<p>NOISE-4. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.</p>	<p>SCAG Mitigation Measures</p> <p>MM-NOISE-1(a). Project-Level Mitigation Measures</p> <p>MM-NOISE-1(b).</p>	<p>Significant and Unavoidable</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>NOISE-5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in the exposure of people residing or working in the project area to excessive noise levels.</p>	<p>No mitigation required.</p>	<p>Less than Significant</p>
<p>NOISE-6. For a project within the vicinity of a private airstrip, result in the exposure of people residing or working in the project area to excessive noise levels.</p>	<p>No mitigation required.</p>	<p>Less than Significant</p>
<p>Population, Housing, and Employment PHE-1: Potential to induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).</p>	<p>SCAG Mitigation Measures SCAG has no control over the amount of growth the region would experience during the implementation of the 2016 RTP/SCS. The regional growth and land use change forecasted in the 2016 RTP/SCS would be implemented by local jurisdictions through local plans and individual development projects. The 2016 RTP/SCS has been developed to accommodate forecasted regional growth, and failing to do so would be inconsistent with the applicable federal and state requirements for RTPs. In addition, precluding growth would conflict with the requirements to provide sufficient housing for the region's population contained in SB 375. As discussed above, Government Code Section 65080(b)(2)(B)(ii) requires that the RTP/SCS must accommodate all the population of the region, including all economic segments of the population, over the course of the planning period of the regional transportation plan. In order to avoid impacts from inducing substantial population growth in an area either directly or indirectly, SCAG shall implement the following mitigation measures: MM-LU-1(a)(1) through MM-LU-1(a)(8). MM-PHE-1(a)(1): SCAG shall work with local agencies to encourage and assist in implementation of growth strategies to create an urban form designed to focus development in HQTAs in accordance with the policies, strategies, and investments contained in the 2016 RTP/SCS, enhancing mobility and reducing land consumption. MM-PHE-1(a)(2): SCAG's Sustainability Program shall be used to coordinate and provide information and resources to local agencies relating to changes in land use to accommodate future population growth while maintaining the quality of life in the region. Project-Level Implementation Measures MM-LU-1(b).</p>	<p>Significant and Unavoidable</p>
<p>PHE-2: Potential to displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere.</p>	<p>SCAG Mitigation Measures MM-PHE-2(a)(1): SCAG's Sustainability Program shall be used to build consensus in the region relating to changes in land use to accommodate future population growth while maintaining the quality of life in the region. MM-PHE-2(a)(2): SCAG shall work with neighboring planning agencies and MPOs to ensure that plans and strategies can accommodate future population growth beyond SCAG's borders. Project-Level Implementation Measures MM-PHE-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects related to displacement that are within the jurisdiction and responsibility of Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to minimize the displacement of existing housing and people and to ensure compliance with local jurisdiction's housing elements of their general plans, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p>	<p>Significant and Unavoidable</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>PHE-3: Potential to displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.</p>	<ul style="list-style-type: none"> • Evaluate alternate route alignments and transportation facilities that minimize the displacement of homes and businesses. Use an iterative design and impact analysis where impacts to homes or businesses are involved to minimize the potential of impacts on housing and displacement of people. • Prioritize the use existing ROWs, wherever feasible. • Develop a construction schedule that minimizes potential neighborhood deterioration from protracted waiting periods between right-of-way acquisition and construction. <p>SCAG Mitigation Measures</p> <p>MM-PHE-2(a)(1) and MM-PHE-2(a)(2).</p> <p>Project-Level Implementation Measures</p> <p>MM-PHE-2(b).</p>	<p>Significant and Unavoidable</p>
<p>Public Services</p> <p>PS-1: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection and emergency response services.</p>	<p>SCAG Mitigation Measures</p> <p>MM-PS-1(a)(1): SCAG shall facilitate minimizing future impacts to fire protection and emergency response services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts to promote Fire Management and Emergency Response Planning such as Toolbox Tuesday Training series and sharing of associated online Training materials. Lead Agencies, such as county and city planning departments, shall be consulted during this update process.</p> <p>MM-PS-1(a)(2): SCAG shall utilize its strengths and organization to assist planners, first responders, and recovery teams in a supporting role, in three key areas, before a major emergency and during the recovery period:</p> <ul style="list-style-type: none"> • Provide a policy forum to help develop regional consensus and education on security policies and emergency responses. • Assist in expediting the planning and programming of transportation infrastructure repairs from major disasters. • Encourage integration of transportation security measures into transportation projects early in the project development process by leveraging SCAG's relevant plans, programs, and processes, including regional ITS architecture. SCAG also participated in the development of the draft Southern California Catastrophic Earthquake Preparedness Plan.²⁰ <p>MM-PS-1(a)(3): SCAG shall facilitate minimizing future impacts to fire protection services through information sharing regarding Fire-wise Land Management (data regarding fire-resistant vegetation, fire-resistant materials, locations where development is potentially hazardous in regard to wildfire, and management of brush and other fire risks in the immediate vicinity of development in areas with high fire threat) with county and city planning departments.</p> <p>Project-Level Mitigation Measures</p> <p>Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b).</p> <p>MM-PS-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects from the need for new or physically altered governmental facilities in order to maintain acceptable response times for fire protection and emergency response services that are within the jurisdiction and responsibility of fire departments, law enforcement agencies, and local jurisdictions. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures consistent with the Community Facilities Act of 1982, the goals and policies established within the applicable adopted county and city general plans and the performance objectives established in the adopted county and city general plans, to provide sufficient structures and buildings to accommodate fire and emergency response, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency, taking into account project and site-specific considerations as applicable and feasible:</p>	<p>Less than Significant</p>

²⁰ California Emergency Management Agency, 2010. Southern California Catastrophic Earthquake Response Plan. Available at: [http://www.caloes.ca.gov/PlanningPreparednessSite/Documents/SoCalCatastrophicConops\(Public\)2010.pdf](http://www.caloes.ca.gov/PlanningPreparednessSite/Documents/SoCalCatastrophicConops(Public)2010.pdf)

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>PS-2: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for public protective security services.</p>	<ul style="list-style-type: none"> Where the project has the potential to generate the need for expanded emergency response services which exceed the capacity of existing facilities, provide for the construction of new facilities directly as an element of the project or through dedicated fair share contributions toward infrastructure improvements. During project-level review of government facilities projects, require implementation of Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AES-5(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-BIO-4(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b) to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities, through the imposition of conditions required to be followed to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of new or expanded public service facilities. <p>SCAG Mitigation Measures See MM-PS-1(a)(2).</p> <p>MM-PS-2(a)(1): SCAG shall facilitate minimizing future impacts to public protective security services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts to promote public protective security services planning such as Toolbox Tuesday Training series and sharing of associated online training materials. Lead Agencies, such as county and city planning departments, shall be consulted during this update process.</p> <p>MM-PS-2(a)(2): SCAG shall help to enhance the region's ability to deter and respond to acts of terrorism, human-caused or natural disasters through regionally cooperative and collaborative strategies. SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies.</p> <p>MM-PS-2(a)(3): SCAG shall help to enhance the region's ability to deter and respond to terrorist incidents, human-caused or natural disasters by strengthening relationship and coordination with transportation. This will be accomplished by the following:</p> <ul style="list-style-type: none"> SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies. SCAG shall encourage all SCAG elected officials are educated in NIMS. SCAG shall work with partner agencies, federal, state and local jurisdictions to improve communications and interoperability and to find opportunities to leverage and effectively utilize transportation and public safety/security resources in support of this effort. <p>MM-PS-2(a)(4): SCAG shall encourage and provide a forum for local jurisdictions to develop mutual aid agreements for essential government services during any incident recovery.</p> <p>Project-Level Mitigation Measures</p> <p>Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b).</p> <p>MM-PS-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects from the need for new or physically altered governmental facilities in order to maintain acceptable service ratios for police protection services that are within the jurisdiction and responsibility of law enforcement agencies and local jurisdictions. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures consistent with the Community Facilities Act of 1982, the goals and policies established within the applicable adopted county and city general plans and the standards established in the safety elements of county and city general plans to maintain police response performance objectives, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency, taking in to account project and site-specific considerations as applicable and feasible, including:</p> <ul style="list-style-type: none"> Coordinate with public security agencies to ensure that there are adequate governmental facilities to maintain acceptable service ratios, response times or other performance objectives for public protective security services and that any required additional construction of buildings is incorporated in to the project description. Where current levels of services at the project site are found to be inadequate, provide fair share contributions towards infrastructure improvements and/or personnel. 	<p>Less than Significant</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>PS-3: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools.</p>	<p>During project-level review of government facilities projects, require implementation of Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-BIO-4(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), and MM-USS-6(b) to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities, through the imposition of conditions required to be followed to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of new or expanded public service facilities.</p> <p>SCAG Mitigation Measures</p> <p>MM-PS-3(a): SCAG shall facilitate minimizing future impacts to school services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts to promote school planning, such as Toolbox Tuesday Training series and sharing of associated online Training materials. Lead Agencies, such as county and city planning departments, shall be consulted during this update process.</p> <p>Project-Level Mitigation Measures</p> <p>Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b).</p> <p>MM-PS-3(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects from the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives that are within the jurisdiction and responsibility of school districts and local jurisdictions. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures consistent with Community Facilities Act of 1982, the California Education Code, and the goals and policies established within the applicable adopted county and city general plans to ensure that the appropriate school district fees are paid in accordance with state law, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency, taking in to account project and site-specific considerations as applicable and feasible:</p> <ul style="list-style-type: none"> Where construction or expansion of school facilities is required to meet public school service ratios, require school district fees, as applicable. During project-level review of government facilities projects, require implementation of Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), and MM-USS-6(b) to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities, through the imposition of conditions required to be followed to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of new or expanded public service facilities. 	<p>Less than Significant</p>
<p>Recreation</p> <p>REC-1. Potential to increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.</p>	<p>SCAG Mitigation Measures</p> <p>MM-REC-1(a)(1): SCAG shall facilitate reducing future impacts as a result of increased use of existing neighborhood and regional parks or other facilities from population growth through cooperation with member agencies, information sharing, and program development in order to ensure consistency with planning for expansion of and new neighborhood parks within or in nearby accessible locations to HQTAs in funding opportunities and programs administered by SCAG. Lead Agencies, such as county and city planning departments, shall be consulted during this process.</p> <p>MM-REC-1(a)(2): SCAG shall work with local jurisdictions to facilitate planning freeway caps, which are decks built over freeway trenches to create new public spaces, by continuing to provide technical assistance and planning support through its Sustainability Program for freeway cap planning projects and other adaptive urban park planning activities. SCAG shall make past documentation on freeway cap plans available on SCAG's Sustainability Program website to serve as examples for future freeway cap planning projects and activities.</p> <p>Project-Level Mitigation Measures</p> <p>MM-REC-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on the</p>	<p>Significant and Unavoidable</p>

**TABLE ES.4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>REC-2. Potential to include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.</p>	<p>integrity of recreation facilities, particularly neighborhood parks in the vicinity of HQTAs, that are within the jurisdiction and responsibility of other public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures capable of avoiding or reducing significant impacts on the use of existing neighborhood and regional parks or other recreational facilities to ensure compliance with county and city general plans and the Quimby Act, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Prior to the issuance of permits, where projects require the construction or expansion of recreational facilities or the payment of equivalent Quimby fees, consider increasing the accessibility to natural areas and lands for outdoor recreation from the proposed project area, in coordination with local and regional open space planning and/or responsible management agencies. • Prior to the issuance of permits, where projects require the construction or expansion of recreational facilities or the payment of equivalent Quimby fees, encourage patterns of urban development and land use which reduce costs on infrastructure and make better use of existing facilities, using strategies such as: <ul style="list-style-type: none"> ○ Increasing the accessibility to natural areas for outdoor recreation ○ Promoting infill development and redevelopment to revitalize existing communities ○ Utilizing “green” development techniques ○ Promoting water-efficient land use and development ○ Encouraging multiple uses ○ Including trail systems and trail segments in General Plan recreation standards • Prior to the issuance of permits, where construction and operation of projects would require the acquisition or development of protected open space or recreation lands, demonstrate that existing neighborhood parks should be expanded or new neighborhood parks developed such that there is no net decrease in acres of neighborhood park area available per capita in the HQTA. • Where construction or expansion of recreational facilities is included in the project or required to meet public park service ratios, require implementation of Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AES-5(b), MM-AES-6(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-GEO-2(b), MM-HYD-1(b), MM-HYD-2(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b) to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities, through the imposition of conditions required to be followed to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of new or expanded public service facilities. 	<p>Significant and Unavoidable</p>
<p>Transportation, Traffic, and Safety</p> <p>TRA-1: Potential to conflict with the established measures of effectiveness for the performance of the circulation system, by increasing the daily VMT, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways.</p>	<p>SCAG Mitigation Measures</p> <p>MM-REC-2(a): SCAG shall facilitate reducing future impacts as a result of the construction or expansion of recreational facilities which might have an adverse physical effect on the environment through cooperation with member agencies, information sharing, and program development in order to ensure consistency with planning for construction and expansion of parks to minimize adverse physical effects on the environment in funding opportunities and programs administered by SCAG. Lead Agencies, such as county and city planning departments, shall be consulted during this update process.</p> <p>Project-Level Mitigation Measures</p> <p>See MM-REC-1(b).</p>	<p>Significant and Unavoidable</p>
	<p>SCAG Mitigation Measures</p> <p>MM-TRA-1(a)(1): SCAG shall facilitate minimizing VMT and related vehicular delay by minimizing impacts to circulation and access, improve mobility, and encourage transit and Active Transportation by conducting and participating in workshops (i.e., Mobility 21 workshop and Regional Transportation Workgroups) and web-based planning tools for local governments, forums with policy makers, and County Transportation Planning Agencies, member cities, and state partners during consultation on development and implementation of the Plan.</p> <p>MM-TRA-1(a)(2): SCAG shall establish transportation infrastructure practices that identify and prioritize the design, retrofit, hardening, and stabilization of critical transportation infrastructure to prevent failure, to minimize loss of life and property, injuries, and avoid long term economic disruption.</p> <p>MM-TRA-1(a)(3): SCAG shall identify further reduction in VMT, and fuel consumption that could be obtained through land-use strategies, additional car-sharing programs with linkage to public</p>	<p>Significant and Unavoidable</p>

**TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>pedestrian and bicycle paths, and mass transit.</p>	<p>transportation, additional bicycle sharing and parking programs, and implementation of a universal employee transit access pass (TAP) program.</p> <p>MM-TRA-1(a)(4) SCAG shall help ensure the rapid repair of transportation infrastructure in the event of an emergency. This will be accomplished by SCAG, in cooperation with local and State agencies, identifying critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities. In addition, SCAG shall establish transportation infrastructure practices that promote and enhance security.</p> <p>MM-TRA-1(a)(5): SCAG shall provide the means for collaboration in planning, communication, and information sharing before, during, or after a regional emergency. This will be accomplished by the following:</p> <ul style="list-style-type: none"> • SCAG shall develop and incorporate strategies and actions pertaining to response and prevention of security incidents and events as part of the on-going regional planning activities. • SCAG shall offer a regional repository of GIS data for use by local agencies in emergency planning, and response, in a standardized format. • SCAG shall enter into mutual aid agreements with other MPOs (as feasible) to provide this data, in coordination with the California OES in the event that an event disrupts SCAG's ability to function. <p>MM-TRA-1(a)(6): SCAG shall continue to analyze and develop potential implementation strategies for a regional, market-based system to price or charge for auto trips during peak hours.</p> <p>MM-TRA-1(a)(7): SCAG shall develop a vanpool program for employees for commute trips</p> <p>MM-TRA-1(a)(8): SCAG shall encourage new developments to incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation.</p> <p>Project-Level Mitigation Measures</p> <p>MM-TRA-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the potential for conflicts with the established measures of effectiveness for the performance of the circulation system that are within the jurisdiction and responsibility of Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the adopted Congestion Management Plan, and other adopted local plans and policies, as applicable and feasible. Compliance can be achieved through adopting transportation mitigation measures as set forth below, or through other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Institute teleconferencing, telecommute and/or flexible work hour programs to reduce unnecessary employee transportation. • Create a ride-sharing program by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading for ride sharing vehicles, and providing a web site or message board for coordinating rides. • Provide a vanpool for employees. • Fund capital improvement projects to accommodate future traffic demand in the area. • Provide a Transportation Demand Management (TDM) plan containing strategies to reduce on-site parking demand and single occupancy vehicle travel. The TDM shall include strategies to increase bicycle, pedestrian, transit, and carpools/vanpool use, including: <ul style="list-style-type: none"> ○ Inclusion of additional bicycle parking, shower, and locker facilities that exceed the requirement ○ Construction of bike lanes per the prevailing Bicycle Master Plan (or other similar document) ○ Signage and striping onsite to encourage bike safety ○ Installation of pedestrian safety elements (such as cross walk striping, curb ramps, countdown signals, bulb outs, etc.) to encourage convenient crossing at arterials ○ Installation of amenities such as lighting, street trees, trash and any applicable streetscape plan. ○ Direct transit sales or subsidized transit passes ○ Guaranteed ride home program ○ Pre-tax commuter benefits (checks) ○ On-site car-sharing program (such as City Car Share, Zip Car, etc.) ○ On-site carpooling program 	

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
	<ul style="list-style-type: none"> ○ Distribution of information concerning alternative transportation options ○ Parking spaces sold/leased separately ○ Parking management strategies; including attendant/valet parking and shared parking spaces. ● Promote ride sharing programs e.g., by designating a certain percentage of parking spaces for high-occupancy vehicles, providing larger parking spaces to accommodate vans used for ride-sharing, and designating adequate passenger loading and unloading and waiting areas. ● Encourage bicycling to transit facilities by providing additional bicycle parking, locker facilities, and bike lane access to transit facilities when feasible. ● Encourage the use of public transit systems by enhancing safety and cleanliness on vehicles and in and around stations, providing shuttle service to public transit, offering public transit incentives and providing public education and publicity about public transportation services. ● Encourage bicycling and walking by incorporating bicycle lanes into street systems in regional transportation plans, new subdivisions, and large developments, creating bicycle lanes and walking paths directed to the location of schools and other logical points of destination and provide adequate bicycle parking, and encouraging commercial projects to include facilities on-site to encourage employees to bicycle or walk to work. ● Build or fund a major transit stop within or near transit development. ● Work with the school districts to improve pedestrian and bike access to schools and to restore or expand school bus service using lower-emitting vehicles. ● Provide information on alternative transportation options for consumers, residents, tenants and employees to reduce transportation-related emissions. ● Educate consumers, residents, tenants and the public about options for reducing motor vehicle-related greenhouse gas emissions. Include information on trip reduction; trip linking; vehicle performance and efficiency (e.g., keeping tires inflated); and low or zero-emission vehicles. ● Purchase, or create incentives for purchasing, low or zero-emission vehicles. ● Create local "light vehicle" networks, such as neighborhood electric vehicle systems. ● Enforce and follow limits idling time for commercial vehicles, including delivery and construction vehicles. ● Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles. ● Reduce VMT-related emissions by encouraging the use of public transit through adoption of new development standards that would require improvements to the transit system and infrastructure, increase safety and accessibility, and provide other incentives. ● Project Selection: <ul style="list-style-type: none"> ○ Give priority to transportation projects that would contribute to a reduction in vehicle miles traveled per capita, while maintaining economic vitality and sustainability. ○ Separate sidewalks whenever possible, on both sides of all new street improvement projects, except where there are severe topographic or natural resource constraints. ● Public Involvement: <ul style="list-style-type: none"> ○ Carry out a comprehensive public involvement and input process that provides information about transportation issues, projects, and processes to community members and other stakeholders, especially to those traditionally underserved by transportation services. ● Transit and Multimodal Impact Fees: <ul style="list-style-type: none"> ○ Assess transit and multimodal impact fees on new developments to fund public transportation infrastructure, bicycle infrastructure, pedestrian infrastructure and other multimodal accommodations. ○ Implement traffic and roadway management strategies to improve mobility and efficiency, and reduce associated emissions. ● System Monitoring: <ul style="list-style-type: none"> ○ Monitor traffic and congestion to determine when and where new transportation facilities are needed in order to increase access and efficiency. ● Arterial Traffic Management: 	

**TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
	<ul style="list-style-type: none"> ○ Modify arterial roadways to allow more efficient bus operation, including bus lanes and signal priority/preemption where necessary. ● Signal Synchronization: <ul style="list-style-type: none"> ○ Expand signal timing programs where emissions reduction benefits can be demonstrated, including maintenance of the synchronization system, and will coordinate with adjoining jurisdictions as needed to optimize transit operation while maintaining a free flow of traffic. ● HOV Lanes: <ul style="list-style-type: none"> ○ Encourage the construction of high-occupancy vehicle (HOV) lanes or similar mechanisms whenever necessary to relieve congestion and reduce emissions. ● Delivery Schedules: <ul style="list-style-type: none"> ○ Establish ordinances or land use permit conditions limiting the hours when deliveries can be made to off-peak hours in high traffic areas. ○ Implement and supporting trip reduction programs. ○ Support bicycle use as a mode of transportation by enhancing infrastructure to accommodate bicycles and riders, and providing incentives. ● Establish standards for new development and redevelopment projects to support bicycle use, including amending the Development Code to include standards for safe pedestrian and bicyclist accommodations, and require new development and redevelopment projects to include bicycle facilities, as appropriate with the new land use as follows: <ul style="list-style-type: none"> ● Bicycle and Pedestrian Trails: <ul style="list-style-type: none"> ○ Establish a network of multi-use trails to facilitate safe and direct off-street bicycle and pedestrian travel, and will provide bike racks along these trails at secure, lighted locations. ● Bicycle Safety Program: <ul style="list-style-type: none"> ○ Develop and implement a bicycle safety educational program to teach drivers and riders the laws, riding protocols, routes, safety tips, and emergency maneuvers. ● Bicycle and Pedestrian Project Funding: Pursue and provide enhanced funding for bicycle and pedestrian facilities and access projects. ● Bicycle Parking: <ul style="list-style-type: none"> ○ Adopt bicycle parking standards that ensure bicycle parking sufficient to accommodate 5 to 10 percent of projected use at all public and commercial facilities, and at a rate of at least one per residential unit in multiple-family developments (suggestion: check language with League of American Bicyclists). ● Adopt a comprehensive parking policy to discourage private vehicle use and encourage the use of alternative transportation by incorporating the following: <ul style="list-style-type: none"> ○ Reduce the available parking spaces for private vehicles while increasing parking spaces for shared vehicles, bicycles, and other alternative modes of transportation; ○ Eliminate or reduce minimum parking requirements for new buildings; ○ “Unbundle” parking (require that parking is paid for separately and is not included in the base rent for residential and commercial space); ○ Use parking pricing to discourage private vehicle use, especially at peak times; ○ Create parking benefit districts, which invest meter revenues in pedestrian infrastructure and other public amenities; ○ Establish performance pricing of street parking, so that it is expensive enough to promote frequent turnover and keep .15 percent of spaces empty at all times; ○ Encourage shared parking programs in mixed-use and transit-oriented development areas. ● Establish policies and programs to reduce onsite parking demand and promote ride-sharing and public transit at large events, including: <ul style="list-style-type: none"> ○ Establish policies and programs to reduce onsite parking demand and promote ride-sharing and public transit at large events, including: 	

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>TRA-2: Potential to conflict with an applicable congestion management program, including, but not limited to, VMT and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways.</p>	<ul style="list-style-type: none"> o Promote the use of peripheral parking by increasing on-site parking rates and offering reduced rates for peripheral parking; o Encourage special event center operators to advertise and offer discounted transit passes with event tickets; o Encourage special event center operators to advertise and offer discount parking incentives to carpooling patrons, with four or more persons per vehicle for on-site parking; o Promote the use of bicycles by providing space for the operation of valet bicycle parking service. <ul style="list-style-type: none"> • Parking “Cash-out” Program: <ul style="list-style-type: none"> o Require new office developments with more than 50 employees to offer a Parking “Cash-out” Program to discourage private vehicle use. • Pedestrian and Bicycle Promotion: <ul style="list-style-type: none"> o Work with local community groups and downtown business associations to organize and publicize walking tours and bicycle events, and to encourage pedestrian and bicycle modes of transportation. • Fleet Replacement: <ul style="list-style-type: none"> o Establish a replacement policy and schedule to replace fleet vehicles and equipment with the most fuel efficient vehicles practical, including gasoline hybrid and alternative fuel or electric models. 	<p>Significant and Unavoidable</p>
<p>TRA-2: Potential to conflict with an applicable congestion management program, including, but not limited to, VMT and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways.</p>	<p>SCAG Mitigation Measures</p> <p>See MM-TRA-1(a) through TRA-1(a)(8).</p> <p>MM-TRA-2(a)(1): SCAG shall facilitate minimizing impacts related to traffic congestion by complying with County Congestion Management Plans and via ongoing regional planning efforts, workshops, and web-based planning tools with County Congestion Management Agencies, member agencies, and state partners during consultation on development and maintenance of the Plan. Congestion relief efforts shall be in accordance with the approach outlined in the SCAG Congestion Management Appendix of the 2016 RTP/SCS.</p> <p>MM-TRA-2(a)(2): SCAG shall facilitate the remote use of ITS technologies that enhance transportation security, improve surveillance, monitor and distress notification systems and to assist in the rapid evacuation of disaster areas. SCAG shall facilitate minimizing impacts related to traffic congestion by facilitating regional efforts and coordinate discussion and collaboration among public agencies related to Intelligent Transportation Systems, as described in the Transportation Security and Safety Appendix of the 2016 RTP/SCS.</p> <p>Project-Level Mitigation</p> <p>MM-TRA--2(b). Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures, capable of avoiding conflict with an applicable congestion management program that are within the jurisdictions of the lead agencies, including, but not limited to, VMT, VHD and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the adopted Congestion Management Plan, and other adopted local plans and policies, as applicable and feasible. Compliance can be achieved through adopting transportation mitigation measures as set forth below, or through other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Encourage a comprehensive parking policy that prioritizes system management, increase rideshare, and telecommute opportunities, including investment in non-motorized transportation and discouragement against private vehicle use, and encouragement to maximize the use of alternative transportation: <ul style="list-style-type: none"> • Advocate for a regional, market-based system to price or charge for auto trips during peak hours. • Ensure that new developments incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation. • Coordinate controlled intersections so that traffic passes more efficiently through congested areas. Where traffic signals or streetlights are installed, require the use of Light-Emitting 	<p>Significant and Unavoidable</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
	<p>Diode (LED) technology.</p> <ul style="list-style-type: none"> • Encourage the use of car-sharing programs such as ZipCar. Accommodations for such programs include providing parking spaces for the car-share vehicles at convenient locations accessible by public transportation. • Reduce VHDs, especially daily heavy-duty truck vehicle hours of delay, through goods movement capacity enhancements, system management, increasing rideshare and work-at-home opportunities to reduce demand on the transportation system, investments in non-motorized transportation, maximizing the benefits of the land use-transportation connection and key transportation investments targeted to reduce heavy-duty truck delay. • Determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of this project and other nearby projects that could be simultaneously under construction. Develop a construction management plan that include at least the following items and requirements: <ul style="list-style-type: none"> ○ A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. ○ Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur. ○ Location of construction staging areas for materials, equipment, and vehicles at an approved location. ○ A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. The manager shall determine the cause of the complaints and shall take prompt action to correct the problem. The Lead Agency shall be informed who the Manager is prior to the issuance of the first permit. ○ Provision for accommodation of pedestrian flow. ○ As necessary, provision for parking management and spaces for all construction workers to ensure that construction workers do not park in on street spaces. ○ Any damage to the street caused by heavy equipment, or as a result of this construction, shall be repaired, at the project sponsor's expense, within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to issuance of a final inspection of the building permit. All damage that is a threat to public health or safety shall be repaired immediately. The street shall be restored to its condition prior to the new construction as established by the Lead Agency (or other appropriate government agency) and/or photo documentation, at the sponsor's expense, before the issuance of a Certificate of Occupancy. ○ Any heavy equipment brought to the construction site shall be transported by truck, where feasible. ○ No materials or equipment shall be stored on the traveled roadway at any time. ○ Prior to construction, a portable toilet facility and a debris box shall be installed on the site, and properly maintained through project completion. ○ All equipment shall be equipped with mufflers. ○ Prior to the end of each work-day during construction, the contractor or contractors shall pick up and properly dispose of all litter resulting from or related to the project, whether located on the property, within the public rights-of-way, or properties of adjacent or nearby neighbors. ○ Promote "least polluting" ways to connect people and goods to their destinations. • Create an interconnected transportation system that allows a shift in travel from private passenger vehicles to alternative modes, including public transit, ride sharing, car sharing, bicycling and walking, by incorporating the following: <ul style="list-style-type: none"> ○ Ensure transportation centers are multi-modal to allow transportation modes to intersect; ○ Provide adequate and affordable public transportation choices, including expanded bus routes and service, as well as other transit choices such as shuttles, light rail, and rail; ○ To the extent feasible, extend service and hours of operation to underserved arterials and population centers or destinations such as colleges; ○ Focus transit resources on high-volume corridors and high-boarding destinations such as colleges, employment centers and regional destinations; ○ Coordinate schedules and routes across service lines with neighboring transit authorities; ○ Support programs to provide "station cars" for short trips to and from transit nodes (e.g., neighborhood electric vehicles); ○ Study the feasibility of providing free transit to areas with residential densities of 15 dwelling units per acre or more, including options such as removing service from less dense, underutilized areas to do so; ○ Employ transit-preferential measures, such as signal priority and bypass lanes. Where compatible with adjacent land use designations, right-of-way acquisition or parking removal may occur to accommodate transit-preferential measures or improve access to transit. The use of access management shall be considered where needed to reduce conflicts between transit vehicles and other vehicles; ○ Provide safe and convenient access for pedestrians and bicyclists to, across, and along major transit priority streets; ○ Use park-and-ride facilities to access transit stations only at ends of regional transit ways or where adequate feeder bus service is not feasible. 	

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SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
	<ul style="list-style-type: none"> • Upgrade and maintain transit system infrastructure to enhance public use, including: <ul style="list-style-type: none"> ○ Ensure transit stops and bus lanes are safe, convenient, clean and efficient; ○ Ensure transit stops have clearly marked street-level designation, and are accessible; ○ Ensure transit stops are safe, sheltered, benches are clean, and lighting is adequate; ○ Place transit stations along transit corridors within mixed-use or transit-oriented development areas at intervals of three to four blocks, or no less than one-half mile. • Enhance customer service and system ease-of-use, including: <ul style="list-style-type: none"> ○ Develop a Regional Pass system to reduce the number of different passes and tickets required of system users; ○ Implement “Smart Bus” technology, using GPS and electronic displays at transit stops to provide customers with “real-time” arrival and departure time information (and to allow the system operator to respond more quickly and effectively to disruptions in service); ○ Investigate the feasibility of an on-line trip-planning program. • Prioritize transportation funding to support a shift from private passenger vehicles to transit and other modes of transportation, including: <ul style="list-style-type: none"> ○ Give funding preference to improvements in public transit over other new infrastructure for private automobile traffic; ○ Before funding transportation improvements that increase roadway capacity and VMT, evaluate the feasibility and effectiveness of funding projects that support alternative modes of transportation and reduce VMT, including transit, and bicycle and pedestrian access. • Promote ride-sharing programs, including: <ul style="list-style-type: none"> ○ Designate a certain percentage of parking spaces for ride-sharing vehicles; ○ Designate adequate passenger loading, unloading, and waiting areas for ride-sharing vehicles; ○ Provide a web site or message board for coordinating shared rides; ○ Encourage private, for-profit community car-sharing, including parking spaces for car share vehicles at convenient locations accessible by public transit; ○ Hire or designate a rideshare coordinator to develop and implement ridesharing programs. • Support voluntary, employer-based trip reduction programs, including: <ul style="list-style-type: none"> ○ Provide assistance to regional and local ridesharing organizations; ○ Advocate for legislation to maintain and expand incentives for employer ridesharing programs; ○ Require the development of Transportation Management Associations for large employers and commercial/ industrial complexes; ○ Provide public recognition of effective programs through awards, top ten lists, and other mechanisms. • Implement a “guaranteed ride home” program for those who commute by public transit, ride-sharing, or other modes of transportation, and encourage employers to subscribe to or support the program. <ul style="list-style-type: none"> ○ Encourage and utilize shuttles to serve neighborhoods, employment centers and major destinations. • Create a free or low-cost local area shuttle system that includes a fixed route to popular tourist destinations or shopping and business centers. <ul style="list-style-type: none"> ○ Work with existing shuttle service providers to coordinate their services. • Facilitate employment opportunities that minimize the need for private vehicle trips, including: <ul style="list-style-type: none"> ○ Amend zoning ordinances and the Development Code to include live/work sites and satellite work centers in appropriate locations; ○ Encourage telecommuting options with new and existing employers, through project review and incentives, as appropriate. • Enforce State idling laws for commercial vehicles, including delivery and construction vehicles. 	

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>TRA-3: Potential to result in a significant change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks.</p> <p>TRA-4: Potential to substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections), increased volumes or incompatible uses (e.g., farm equipment).</p> <p>TRA-5: Potential to result in inadequate emergency access.</p>	<ul style="list-style-type: none"> • Organize events and workshops to promote GHG-reducing activities. • Implement a Parking Management Program to discourage private vehicle use, including: <ul style="list-style-type: none"> ○ Encouraging carpools and vanpools with preferential parking and a reduced parking fee; ○ Institute a parking cash-out program; ○ Renegotiate employee contracts, where possible, to eliminate parking subsidies; ○ Install on-street parking meters with fee structures designed to discourage private vehicle use; ○ Establish a parking fee for all single-occupant vehicles. 	
<p>TRA-3: Potential to result in a significant change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks.</p>	<p>No mitigation required.</p>	<p>Less than Significant</p>
<p>TRA-4: Potential to substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections), increased volumes or incompatible uses (e.g., farm equipment).</p>	<p>No mitigation required.</p>	<p>Less than Significant</p>
<p>TRA-5: Potential to result in inadequate emergency access.</p>	<p>SCAG Mitigation Measures</p> <p>MM-TRA-5(a): SCAG shall facilitate minimizing impacts to emergency access through ongoing regional planning efforts to improve emergency access through design refinements, safety and security improvements, and collaborative planning with local, regional, and state partners such as Department of Transportation, Congestion Management Agencies, Fire Department, and other local enforcement agencies to minimize, reduce, and avoid impacts to regional transportation facilities and comply with the county and cities regional plan during development of the Regional Transportation Plan.</p> <p>Project-Level Mitigation Measures</p> <p>MM-TRA-5(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing impacts to emergency access that are in the jurisdiction and responsibility of fire departments, local enforcement agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider improving emergency access and ensuring compliance with the provisions of the county and city general plan, Emergency Evacuation Plan, and other regional and local plans establishing access during emergencies, as applicable and feasible. Compliance can be achieved through adopting transportation mitigation measures as set forth below, or through other comparable measures identified by the Lead Agency.</p> <ul style="list-style-type: none"> • Prior to construction, project implementation agencies can and should ensure that all necessary local and state road and railroad encroachment permits are obtained. The project implementation agency can and should also comply with all applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Traffic control plans can and should include the following requirements: <ul style="list-style-type: none"> ○ Identification of all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow. ○ Development of circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone. ○ Scheduling of truck trips outside of peak morning and evening commute hours. ○ Limiting of lane closures during peak hours to the extent possible. ○ Usage of haul routes minimizing truck traffic on local roadways to the extent possible. 	<p>Significant and Unavoidable</p>

TABLE ES.4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>TRA-6: Potential to result in conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.</p>	<ul style="list-style-type: none"> o Inclusion of detours for bicycles and pedestrians in all areas potentially affected by project construction. o Installation of traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones. o Development and implementation of access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, affected jurisdictions can and should be asked to identify detours for emergency vehicles, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures. o Storage of construction materials only in designated areas. o Coordination with local transit agencies for temporary relocation of routes or bus stops in work zones, as necessary. • Ensure the rapid repair of transportation infrastructure in the event of an emergency through cooperation among public agencies and by identifying critical infrastructure needs necessary for: <ul style="list-style-type: none"> a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities. • Enhance emergency preparedness awareness among public agencies and with the public at large. • Provision for collaboration in planning, communication, and information sharing before, during, or after a regional emergency through the following: <ul style="list-style-type: none"> o Incorporate strategies and actions pertaining to response and prevention of security incidents and events as part of the on-going regional planning activities. o Provide a regional repository of GIS data for use by local agencies in emergency planning, and response, in a standardized format. o Enter into mutual aid agreements with other local jurisdictions, in coordination with the California OES, in the event that an event disrupts the jurisdiction's ability to function. 	Less than Significant
<p>Utilities and Service Systems</p>	<p>No mitigation required.</p>	Less than Significant
<p>USS-1: Potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.</p>	<p>No mitigation required.</p>	Less than Significant
<p>USS-2: Potential to require or result in construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.</p>	<p>No mitigation required.</p>	Less than Significant
<p>USS-3: Require or result in construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.</p>	<p>SCAG Mitigation Measures See MM-HYD-5(a). Project-Level Mitigation Measures MM-USS-3(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on utilities and service systems, particularly for construction of storm water drainage facilities including new transportation and land use projects that are within the responsibility of local jurisdictions including the Riverside, San Bernardino, Los Angeles, Ventura, and Orange Counties Flood Control District, and County of Imperial. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures. These mitigation measures are within the responsibility of the Lead Agencies and Regional Water Quality Control Boards of (Regions 4, 6, 8, and 9) pursuant to the provisions of the National Flood Insurance Act, stormwater permitting requirements for stormwater discharges for new constructions, the flood control act, and Urban Waste Management Plan.</p>	Significant and Unavoidable

**TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Impact	Mitigation Measures	Significance after Mitigation
<p>USS-4: Have sufficient water supplies available to serve the project from existing entitlements and resources or will require new or expanded entitlements.</p>	<p>Such mitigation measures, or other comparable measures, capable of avoiding or reducing significant impacts on the use of existing storm water drainage facilities and can and should be adopted where Lead Agencies identify significant impacts on new storm water drainage facilities.</p> <p>See MM-HYD-5(b).</p> <p>SCAG Mitigation Measures</p> <p>MM-USS-4(a)(1): SCAG, in coordination with regional water agencies and other stakeholders, shall encourage the kind of regional coordination throughout California and the Colorado River Basin that develops and supports sustainable water supply management policies in accommodating growth. In particular, SCAG will coordinate with local water agencies to evaluate future water demands and establish the necessary supply and infrastructure to meet that demand, as documented in their Urban Water Management Plans.</p> <p>MM-USS-4(a)(2): SCAG, in coordination with regional water agencies and other stakeholders, shall facilitate information sharing about the management and status of the Sacramento River Delta, the Colorado River Basin, and other water supply source areas of importance to local water supply.</p> <p>MM-USS-4(a)(3): SCAG shall encourage regional water agencies, to the greatest extent feasible, to consider potential climate change and attendant impacts on available water supplies and reliability in the process of creating or modifying systems to manage water resources for both year-round use and ecosystem health. As the methodology and base data for such decisions is still developing, SCAG shall encourage public agencies to use the best available science in decision-making regarding future water supply and reliability.</p> <p>MM-USS-4(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on water supplies from existing entitlements requiring new or expanded services in the vicinity of HQTAs that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with EO B-29-15, provisions of the Porter-Cologne Water Quality Control Act, California Domestic Water Supply Permit requirements, and applicable County, City or other Local provisions. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Reduce exterior consumptive uses of water in public areas, and should promote reductions in private homes and businesses, by shifting to drought-tolerant native landscape plantings (xeriscaping), using weather-based irrigation systems, educating other public agencies about water use, and installing related water pricing incentives. • Promote the availability of drought-resistant landscaping options and provide information on where these can be purchased. Use of reclaimed water especially in median landscaping and hillside landscaping can and should be implemented where feasible. • Implement water conservation best practices such as low-flow toilets, water-efficient clothes washers, water system audits, and leak detection and repair. • Ensure that projects requiring continual dewatering facilities implement monitoring systems and long-term administrative procedures to ensure proper water management that prevents degrading of surface water and minimizes, to the greatest extent possible, adverse impacts on groundwater for the life of the project. Comply with appropriate building codes and standard practices including the Uniform Building Code. • Maximize, where practical and feasible, permeable surface area in existing urbanized areas to protect water quality, reduce flooding, allow for groundwater recharge, and preserve wildlife habitat. • Minimized new impervious surfaces to the greatest extent possible, including the use of in-lieu fees and off-site mitigation. • Avoid designs that require continual dewatering where feasible. • Where feasible, do not site transportation facilities in groundwater recharge areas, to prevent conversion of those areas to impervious surface. <p>No mitigation required.</p>	<p>Significant and Unavoidable</p>
<p>USS-5: Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's commitments.</p>	<p>SCAG Mitigation Measures</p> <p>MM-USS-6(a): During the planning, design, and project-level CEQA review process for individual development projects, SCAG shall facilitate waste management agencies and the appropriate local and</p>	<p>Less than Significant</p>
<p>USS-6: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste</p>	<p>SCAG Mitigation Measures</p> <p>MM-USS-6(a): During the planning, design, and project-level CEQA review process for individual development projects, SCAG shall facilitate waste management agencies and the appropriate local and</p>	<p>Significant and Unavoidable</p>

TABLE ES-4-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation Measures	Significance after Mitigation
<p>disposal needs.</p>	<p>regional jurisdictions shall develop measures to facilitate and encourage diversion of solid waste such as recycling and composting programs. This includes discouraging siting of new landfills unless all other waste reduction and prevention actions have been fully explored to minimize impacts to neighborhoods.</p> <p>Project-Level Mitigation Measures</p> <p>MM-US-6(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects to serve landfills with sufficient permitted capacity to accommodate solid waste disposal needs, in which 75 percent of the waste stream be recycled and waste reduction goal by 50 percent that are within the responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project that has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance pursuant to the provisions of the Solid Waste Diversion Goals and Integrated Waste Management Plan. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Encourage project sponsors to integrate green building measures into project design such as those identified in the U.S. Green Building Council's Leadership in Energy and Environmental Design, CALGreen (California Building Code Title 24), energy Star Homes, Green Point Rated Homes, and the California Green Builder Program. These measures could include the following: <ul style="list-style-type: none"> • Reuse and minimization of construction and demolition (C&D) debris and diversion of C&D waste from landfills to recycling facilities. • Inclusion of a waste management plan that promotes maximum C&D diversion. • Source reduction through (1) use of materials that are more durable and easier to repair and maintain, (2) design to generate less scrap material through dimensional planning, (3) increased recycled content, (4) use of reclaimed materials, and (5) use of structural materials in a dual role as finish material (e.g., stained concrete flooring, unfinished ceilings, etc.). • Reuse of existing structure and shell in renovation projects. • Design for deconstruction without compromising safety. • Design for flexibility through the use of moveable walls, raised floors, modular furniture, moveable task lighting and other reusable building components. • Development of indoor recycling program and space. • Discourage the siting of new landfills unless all other waste reduction and prevention actions have been fully explored. If landfill siting or expansion is necessary, site landfills with an adequate landfill-owned, undeveloped land buffer to minimize the potential adverse impacts of the landfill in neighboring communities. • Discourage exporting of locally generated waste outside of the SCAG region during the construction and implementation of a project. Encourage disposal within the county where the waste originates as much as possible. Green technologies for long-distance transport of waste (e.g., clean engines and clean locomotives or electric rail for waste-by-rail disposal systems) and consistency with SCAQMD and 2016 RTP/SCS policies can and should be required. • Encourage waste reduction goals and practices and look for opportunities for voluntary actions to exceed the 50 percent waste diversion target. • Encourage the development of local markets for waste prevention, reduction, and recycling practices by supporting recycled content and green procurement policies, as well as other waste prevention, reduction and recycling practices. • Develop ordinances that promote waste prevention and recycling activities such as: requiring waste prevention and recycling efforts at all large events and venues; implementing recycled content procurement programs; and developing opportunities to divert food waste away from landfills and toward food banks and composting facilities. • Develop alternative waste management strategies such as composting, recycling, and conversion technologies. • Develop and site composting, recycling, and conversion technology facilities that have minimum environmental and health impacts. • Require the reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard). • Integrate reuse and recycling into residential industrial, institutional and commercial projects. • Provide recycling opportunities for residents, the public, and tenant businesses. • Provide education and publicity about reducing waste and available recycling services. • Continue to adopt programs to comply with state solid waste diversion rate mandates and, where possible, encourage further recycling to exceed these rates. • Implement or expand city or county-wide recycling and composting programs for residents and businesses. This could include extending the types of recycling services offered (e.g., to include food and green waste recycling) and providing public education and publicity about recycling services. 	<p>Less than Significant</p>
<p>US-7: Potential to comply with federal, state, and local statutes and regulations related to solid waste.</p>	<p>No mitigation required.</p>	<p>Less than Significant</p>

ES.5 SUMMARY OF ALTERNATIVES

This PEIR evaluates a reasonable range of alternatives to the 2016 RTP/SCS that brackets the range of potential impacts that could occur under a spectrum of changes to individual components of the 2016 RTP/SCS. These alternatives are briefly described below. More detailed information about each of these alternatives is presented in **Section 4.0, Alternatives**, of this document

1. The **2016 RTP/SCS** provides land use and transportation recommendations to help achieve a coordinated balance of land uses and transportations such that vehicle trips and vehicle trip lengths are reduced and land is used efficiently and sustainably, thereby minimizing greenfield land, energy, and water consumption. The 2016 RTP/SCS contains transportation and land use strategies that encourage compact growth, increased jobs/housing balance and transit-oriented development, and improve land and transit integration in parts of the region where feasible. The 2016 RTP/SCS is described in the **Project Description (Section 2.0)**.
2. The **No Project Alternative** includes those transportation projects that are included in the first year of the previously conforming transportation plan and/or transportation improvement program (TIP), or have completed environmental review by December 2014. The No Project Alternative also includes exempt projects such as safety projects and certain mass transit projects, transportation control measures (“TCMs”) that are included in the approved State Implementation Plan, and project phases that were authorized by the Federal Highway Administration/Federal Transit Administration prior to expiration of SCAG’s conformity finding for the last 2012 RTP/SCS. These reasonably foreseeable projects fulfill the CEQA definition of the No Project Alternative (CEQA Guidelines § 15126.6 (e)).
3. The **2012 RTP/SCS Updated with Local Input Alternative** retains transportation investments and land use strategies of the adopted 2012 RTP/SCS, updated to reflect the most recent local input growth estimates in the region. This Alternative considers continued implementation of the adopted 2012 RTP/SCS and includes all of the modifications and projects in the adopted 2012 RTP/SCS, as last amended in September 2014. This Alternative does not include land use strategies included within the 2016 RTP/SCS.
4. The **Intensified Land Use Alternative** builds on the land use strategies in the 2016 RTP/SCS and goes further. This Alternative focuses on analyzing more intensified land use pattern aimed at further reducing vehicle miles traveled and greenhouse gas and criteria pollutant emissions to improve mobility, sustainability, and economy. It includes more mixed-use and infill development, increased densities in HQTAs, livable corridors, and neighborhood mobility areas, new technology innovations and enhancement, and/or additional transit and active transportation strategies than the 2016 RTP/SCS.

ES.6 AREAS OF CONTROVERSY

Among the areas of controversy is the choice between the proposed project, one of the two proposed action alternatives, and the no project alternative.

ES.7 ISSUES TO BE RESOLVED

Among the issues to be resolved is whether the proposed project, one of the two proposed action alternatives, or the no project alternative best addresses the areas of controversy while achieving attainment for the SCAG Region with the National Ambient Air Quality Standard (NAAQS), California Ambient Air Quality Standards, with the goals of the Sustainable Communities and Climate Protection Act of 2008 (also known Senate Bill 375), and managing emission of light-duty vehicles to support the California Air Resources Plan for accelerated achievement of the greenhouse gas reduction targets established in California Global Warming Solutions Act of 2006 (also known as Assembly Bill 32).

The proposed project and Alternative 2, the 2012 RTP/SCS Updated with Local Input Alternative, provide for expeditious attainment of the NAAQS.

As a result of the impact analysis, Alternative 3, the Intensified Land Use Alternative, is the environmentally superior alternative although Alternative 3 does not avoid any of the significant and unavoidable impacts of the proposed project and would require consideration of the same mitigation measures specified for the proposed project. However, Alternative 3, due to the intensified land use pattern, would have minor reductions for seven of the impacts (**Table ES.7-1, *Comparative Impacts between Alternatives and the Proposed Project***).

**TABLE ES.7-1
SUMMARY OF COMPARATIVE IMPACTS BETWEEN ALTERNATIVES AND THE PROPOSED
PROJECT**

Alternative	More Adverse Impacts	Similar Impacts	Less Adverse Impacts
Alternative 1: No Project	Agriculture/Forestry Air Quality Biological Resources Cultural Resources Energy Greenhouse Gas Emissions and Climate Change Hazards and Hazardous Materials Hydrology and Water Quality Transportation, Traffic, and Safety Utilities and Service Systems	Aesthetics Geology and Soils Population, Housing, and Employment Public Services	Land Use Mineral Resources Noise Recreation
Alternative 2: 2012 RTP/SCS Updated with Local Input Hybrid Alternative	Agriculture/Forestry Biological Resources Energy Greenhouse Gas Emissions and Climate Change Hazards and Hazardous Materials Hydrology and Water Quality Transportation, Traffic, and Safety Utilities and Service Systems	Aesthetics Air Quality Cultural Resources Geology and Soils Mineral Resources Population, Housing, and Employment Public Services	Land Use Noise Recreation
Alternative 3: Intensified Transportation Alternative	Land Use Noise Public Services Recreation Transportation, Traffic, and Safety	Aesthetics Air Quality Geology and Soils Mineral Resources Population, Housing, and Employment	Agriculture and Forestry Resources Biological Resources Cultural Resources Energy Greenhouse Gas Emissions and Climate Change Hazards and Hazardous Materials Hydrology and Water Quality Utilities and Service Systems

1.0 INTRODUCTION

The Southern California Association of Governments (SCAG) prepared this Program Environmental Impact Report (PEIR), pursuant to the California Environmental Quality Act (CEQA), for the proposed, 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Plan,” or “Project”). SCAG is a six-county region that includes the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, and 191 cities. SCAG is the Metropolitan Planning Organization (MPO) for the region, designated pursuant to Title 23, United States Code (USC) 134(d)(1), and has the primary responsibility, through its Regional Council, for consideration of the 2016 RTP/SCS for approval, and thus serves as the Lead Agency under CEQA. SCAG published a Notice of Preparation (NOP) for this PEIR, pursuant to Section 21080.4 and CEQA Guidelines Section 15082 and 15375 on March 9, 2015.¹ Based on the analysis undertaken in the 2012 PEIR for the 2012-2035 RTP/SCS (2012 RTP/SCS),² SCAG determined that it is appropriate to prepare a PEIR for the 2016 RTP/SCS.

The 2016 RTP/SCS is a long-range regional transportation plan that provides a vision for regional transportation investments, integrated with land use strategies, over a 20-year period. The 2016 RTP/SCS includes a land use and transportation strategy element that is shaped by the vision, goals, guiding policies, and performance measures and by the changes that the region has been facing since the adoption of the 2012 RTP/SCS. Other major components of the 2016 RTP/SCS include: a list of projects that identifies transportation projects; a description of programs and public participation process; a description of regional growth trends that identifies future needs for travel and goods movement; a financial plan that identifies the amount of funding that is reasonably expected to be available to build, operate, and maintain the region’s surface transportation system through the forecast horizon year of 2040; and a strategic plan that provides a vision for regional improvements beyond committed, available, or reasonably available funding sources. As part of the Draft RTP/SCS, SCAG has utilized a bottom-up local planning process to develop a policy growth forecast (PGF). Following the guiding principles approved by SCAG’s Community, Economic, and Human Development Committee, the PGF was developed to serve as the foundation for the region’s policy growth scenario and land use distribution patterns, which are incorporated as part of the SCS portion of the Plan.

Although not required to do so, local jurisdictions are encouraged by SCAG to consider the proposed actions and strategies provided in Chapter 4, Sustainable Communities Strategy, of the Plan including strategies addressing land use, the transportation network, Transportation Demand Management (TDM), Transportation Systems Management (TSM) and clean vehicle technology. More information about the 2016 RTP/SCS is set forth in subsections 2.3.4 and 2.3.5 of **Section 2.0, *Project Description***, of this PEIR.

This PEIR fulfills the requirements of CEQA. It is a programmatic document that provides a region-wide assessment of the potential significant environmental effects of implementing policies, strategies,

¹ Southern California Association of Governments. 9 March 2015. *Notice of Preparation of a Program Environmental Impact for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*. Available at: <http://scagrtpscsc.net/Pages/PEIR.aspx>

² Southern California Association of Governments. April 2012. *Certified 2012 PEIR*. Available at: <http://scagrtpscsc.net/Pages/CertifiedPEIR.aspx>

projects, and programs included in the 2016 RTP/SCS. As specified in Section 15168 of the State CEQA Guidelines, a PEIR “may be prepared on a series of actions that can be characterized as one large project and are related either: (1) geographically, (2) as logical parts of the chain of contemplated actions, (3) in connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.” A PEIR provides a regional consideration of cumulative effects, and includes land use policy alternatives and performance based mitigation measures based on performance standards that are capable of avoiding, reducing, and compensating for the significant impacts of the elements of the 2016 RTP/SCS to the maximum extent practicable. This PEIR programmatically analyzes the land use distribution patterns set forth in the SCS component of the Plan (as part of the Project analysis) as well as alternative land use distribution patterns (in Section 4.0, *Alternatives*).

Individual transportation projects are preliminarily identified in the 2016 RTP/SCS; however, this PEIR analyzes potential environmental impacts from a regional perspective and is programmatic in nature. As such, lead agencies for these individual projects will determine the level of environmental review required at the subsequent project-level evaluation of individual projects. This PEIR provides a first-tier, programmatic environmental analysis, for a long-range, regional-scale plan document that will support local agencies in the evaluation of subsequent projects, and facilitate avoidance, reduction, and minimization of direct and indirect impacts, growth-inducing impacts, and cumulative environmental impacts with respect to local projects. The project proponent seeking to construct and operate individual properties will need to identify the public agency who will have the primary discretionary land use decision with respect to second tier projects. Consistent with the provisions of Section 15050(a) of the State CEQA Guidelines, the determination of the appropriate second-tier level of environmental review will be determined by the lead agency with primary discretion and decision-making authority for subsequent projects being considered for approval that is subject to CEQA. Where a project involves a federal action, there may a federal lead agency under the National Environmental Policy Act (NEPA), or joint federal and state lead agency where the activity is both a project under CEQA and an action under NEPA. Project- and site-specific planning and implementation undertaken by each implementing agency will depend on a number of issues, including: policies, programs, and projects adopted at the local level; restrictions on federal, state and local transportation funds; the results of feasibility studies for particular corridors; and further environmental review of projects.

1.1 SCAG REGION AND AUTHORITY

SCAG is the federally designated MPO under Title 23, United States Code (USC) 134(d)(1), for the six-county region that includes the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, and 191 cities. To the north of the SCAG region are the counties of Kern and Inyo; to the east are the State of Nevada and State of Arizona; to the south is the U.S.-Mexico border; to the west is the county of San Diego; and to the northwest is the Pacific Ocean. The SCAG region also consists of 15 subregional entities that have been recognized by the Regional Council, SCAG’s governing body, as partners in the regional policy planning process. There are 16 federally recognized tribal sovereign nations located within the SCAG region.

SCAG is one of the 18 MPOs in the State of California. The total area of the SCAG region is approximately 38,000 square miles. The region includes the county with the largest land area in the nation, San Bernardino County, as well as the county with the highest population in the nation, Los

Angeles County. The SCAG region is home to approximately 19 million people, or 49 percent of California's population, representing the largest and most diverse region in the country.

In addition to the federal designation as an MPO, SCAG is designated under California state law as the Multicounty Designated Transportation Planning Agency and Council of Governments (COG) for the six-county region. Founded in 1965, SCAG is a Joint Powers Authority, established as a voluntary association of local governments and agencies.

SCAG serves as the regional forum for cooperative decision making by local government elected officials and its primary responsibilities in fulfillment of federal and state requirements include the development of the RTP/SCS; the Federal Transportation Improvement Program (FTIP); the annual Overall Work Program; and transportation-related portions of local air quality management plans. SCAG's other major functions include determining the regional transportation plans and programs are in conformity with state air quality plans; periodic preparation of a Regional Housing Needs Assessment (RHNA); and intergovernmental review of regionally significant projects.

The Regional Council is SCAG's governing body. It consists of 86 elected officials, representing cities, counties, county transportation commissions, transportation corridor agencies, tribal governments, and air districts in the region. The Regional Council has general authority to conduct the affairs of SCAG and directs the actions of the agency throughout the year. Additionally, the Regional Council implements the policy direction provided at the annual General Assembly of the membership, acts upon policy recommendations from SCAG's standing policy committees and external agencies, and appoints standing or ad-hoc subcommittees to study specific programs or issues.

Regional Cooperation and Subregions

SCAG places great importance on local input in the regional planning process. SCAG seeks feedback from local elected officials and their staff through the subregional organizations that have been recognized by the Regional Council as partners in the regional policy planning process. The subregional organizations represent various parts of the SCAG region that have identified themselves as having common interests and concerns. The subregions vary according to geographical size, number of local member jurisdictions, staffing, decision-making structure, and legal status.

SCAG provides opportunities to participate in regional planning through collaboration and participation in regional programs and dialogs. Responsible for regional policy direction and review, standing committees at SCAG include the Executive/Administration Committee, the Transportation Committee, the Community, Economic & Human Development Committee, the Energy & Environmental Committee, and Legislative/Communication & Membership Committee. In addition to the standing committees, there are various subcommittees, technical advisory committees, working groups, and task forces that report to the standing committees, while other groups are established on an ad hoc basis to assist with specific projects or address specific regional policy.

2016 Regional Transportation Plan/Sustainable Communities Strategy

Regional Transportation Plan and Federal Transportation Improvement Plan

SCAG is required to adopt and update a long-range RTP every four years, in accordance with federal and state transportation planning laws. The RTP is used to guide the development of the FTIP as well as other transportation programming documents and plans. The RTP outlines the region's goals and policies for meeting current and future mobility needs, providing a foundation for transportation decisions by local, regional, and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. The RTP identifies the region's transportation needs and issues; sets forth actions, programs, and a plan of projects to address the needs consistent with adopted regional policies and goals; and documents the financial resources needed to implement the RTP.

Transportation investments in the SCAG region that receive funding for which federal approval is required must be consistent with the RTP/SCS and must be included in SCAG's FTIP when funded. The FTIP covers six years and is updated biennially on an even-year cycle. It represents the immediate, near-term commitments of the RTP. SCAG does not implement individual projects in the RTP, as these projects will be implemented by local and state jurisdictions, and other agencies. In order to continue receiving funding for which federal approval is required, the SCAG region must have an RTP/SCS with an approved transportation conformity determination in accordance with federal air quality requirements, approved by June 2016. Subsections 2.3.4 and 2.3.5 of Section 2.0, *Project Description*, of this PEIR, provide additional detail on the 2016 RTP/SCS.

Moving Ahead for Progress in the 21st Century Act

Moving Ahead for Progress in the 21st Century Act (MAP-21; Public Law 112-141), enacted into law on July 6, 2012, sets forth a performance-based approach requiring the state and MPOs to set performance targets and track their progress in achieving those targets relative to past system performance. SCAG utilized a performance-based approach in preparing the 2016 RTP/SCS.

Further, MAP-21 continues to require, as under prior planning law, that "a long-range transportation plan shall include a discussion of the types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan" (23 USC § 134(i)(2)(B)). Consultation and public outreach activities have been undertaken in conjunction with the 2016 RTP/SCS and PEIR development processes, and will be undertaken to the maximum extent practicable and feasible. SCAG is coordinating efforts to comply with MAP-21 planning requirements with efforts undertaken through the CEQA process. As such, the RTP/SCS has placed emphasis on these planning requirements, including those that prescribe coordinated planning and consideration of environmental resources.

Section 65080 of the California Government Code

SCAG is also required to prepare an RTP pursuant to Section 65080 of the California Government Code. The state requirements largely mirror the federal requirements and require each transportation planning agency in urban areas to adopt and submit an updated RTP to the California Transportation Commission (CTC) and the California Department of Transportation (Caltrans) every four years. To ensure a degree of statewide consistency in the development of RTPs, the CTC under Government Code

Section 14522 prepared RTP Guidelines. The adopted guidelines include a requirement for program level performance measures, which include objective criteria that reflect the goals and objectives of the RTP. In addition, the initial years of the plan must be consistent with the FTIP.

Sustainable Communities and Climate Protection Act of 2008

State planning law further requires, pursuant to the Sustainable Communities and Climate Protection Act of 2008, Senate Bill (SB) 375 (Chapter 728, Statutes of 2008) that the RTP include an SCS component to reduce greenhouse gas (GHG) emissions from passenger vehicles (automobiles and light-duty trucks). SB 375 is part of California's overall strategy to reach GHG emissions reduction goals required by Assembly Bill (AB) 32, by promoting integrated transportation planning with the goal of creating more sustainable communities.

Pursuant to SB 375, the SCS prepared by SCAG is required to meet reduction targets for greenhouse gas (GHG) emissions by 8 percent per capita by 2020 and 13 percent per capita by 2035 compared to 2005, as set by the California Air Resources Board (CARB). According to Section 65080(b)(2)(B) of the California Government Code, the SCS must:

- Identify existing land use.
- Identify areas to accommodate long-term housing needs.
- Identify areas to accommodate an eight-year projection of regional housing needs.
- Identify transportation needs and the planned transportation network.
- Consider resource areas and farmland.
- Consider state housing goals and objectives.
- Set forth a forecasted growth and development pattern.
- Comply with federal law for developing an RTP.

The SCS outlines SCAG's plan for attaining the GHG emissions reductions targets set forth by the CARB, by integrating the transportation network and land use strategies with forecasted land use pattern that responds to projected growth, housing needs and changing demographics, and transportation demands.

In addition, SCAG is required to submit to CARB the SCS developed as part of the RTP for the purpose of determining whether the GHG emissions reduction targets have been met. Furthermore, the Act specifically states that the SCS developed as part of the RTP cannot dictate local General Plan policies. Rather, the Act is intended to provide a regional policy foundation that local government may build upon if they so choose and generally includes the quantitative growth projections from each city and county in the region going forward. Qualifying projects that meet criteria established by SB 375, and are consistent with the SCS are eligible for streamlined environmental review under CEQA.³

National Environmental Policy Act

Adoption of the 2016 RTP/SCS is solely at the discretion of SCAG's Regional Council and does not require approval by any Federal agency, therefore it not subject to NEPA (Public Law 91-190). However, SCAG

³ CEQA streamlining provisions are also available for eligible projects meeting the criteria established by Senate Bill 226, CEQA Guidelines Section 15183.3 (Streamlining for Infill Projects) and for eligible projects meeting the criteria established by Senate Bill 743 (Steinberg, 2013), Public Resources Code Section 21155.4 (Exemptions).

recognizes that lead agencies that pursue construction and operation of the transportation projects that are included in the 2016 RTP/SCS may seek federal funding; federal permits; federal approvals; or authorization to cross over lands administered by an agency of the federal government that would constitute a federal action, thus triggering the procedural provisions of NEPA. Therefore, SCAG has chosen to include a statement of purpose and need to enable proponents of individual projects included in the 2016 RTP/SCS to use this PEIR in full or in a part to serve as a functional equivalent environmental review for individual projects that may involve a subsequent federal action triggering the procedural provisions of NEPA. Activities that constitute a federal action, include but are not limited to use of federal funds, right-of-way permits on federal lands, federal leases, and discretionary permits issued by federal agencies.

Federal regulations (40 CFR §1502.13) require the preparation of a statement of purpose and need in conjunction with environmental documents prepared to meet the requirements of NEPA. Consistent with the protocols established in NEPA, this statement of Purpose and Need has been included to facilitate the use of this PEIR, as a functional equivalent to environmental review required pursuant to NEPA, to the extent that the proposed action is adequately characterized, analyzed, and sufficient mitigation measures have been considered to avoid or reduce the anticipated adverse direct, indirect and cumulative effects of the proposed federal action.

Existing and Proposed Revisions to the State CEQA Guidelines

Assembly Bill (AB) 52, *Native Americans: California Environmental Quality Act*, creates a new category of environmental resources that must be considered under CEQA: “tribal cultural resources.” AB 52 is applicable to a project for which an NOP is filed on or after July 1, 2015. The NOP for this PEIR was filed in March 2015, and is therefore not subject to the provisions of AB 52. However, this PEIR was prepared in recognition of the intent of AB 52. “Tribal cultural resources” are defined as either (1) “sites, features, places cultural landscapes, sacred places and objects with cultural value to a California Native American tribe” that are included in the state register of historical resources or a local register of historical resources, or that are determined to be eligible for inclusion in the state register; or (2) resources determined by the lead agency, in its discretion, to be significant based on the criteria for listing in the state register. Recognizing that tribes may have special expertise concerning tribal cultural resources, AB 52 requires lead agencies to provide notification to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project and provide consultation if requested. Mitigation measures may be agreed upon to avoid a significant effect on a tribal cultural resource.

SCAG has reviewed the preliminary discussion draft of changes to the State CEQA Guidelines.⁴ The process of characterization of existing conditions, evaluation of impacts, and consideration of mitigation measures and alternatives undertaken in this PEIR would not be affected by the preliminary discussion draft of proposed changes to the State CEQA Guidelines. At the time of preparation of this PEIR, the Governor’s Office of Planning and Research (OPR) had invited input from the public in response to a preliminary discussion draft of changes to the State CEQA Guidelines. During the summer of 2013, OPR published a Solicitation for Input seeking suggestions from stakeholders and the public into what

⁴ Office of Planning and Research. 11 August 2015. *Preliminary Discussion Draft: Proposed Updates to the CEQA Guidelines*. Available: http://opr.ca.gov/docs/Preliminary_Discussion_Draft_Package_of_Amendments_to_the_CEQA_Guidelines_Aug_11_2015.pdf

changes, if any, should be made to update the CEQA Guidelines. OPR received input from a broad range of interested stakeholders. OPR and the Natural Resources Agency also conducted a public workshop on July 29, 2013. OPR and the Natural Resources Agency conducted a public workshop on the preliminary discussion draft on October 6, 2015, and requested comments on the preliminary discussion draft of proposed changes to the State CEQA Guidelines by October 12, 2015.

Senate Bill (SB) 32, proposed *California Global Warming Solutions Act of 2006: Emission Limit*, as amended on September 10, 2015, would require CARB to approve a statewide GHG emissions limit that is equivalent to 40 percent below the 1990 level to be achieved by 2030. SB 32 did not pass the 2015–2016 regular state legislative session on September 11, 2015, but could be considered again in the 2016–2017 session as a two-year bill. Because SB 32 is still pending, it was not used as a significance threshold in the PEIR. It was considered in the analysis due to the potential for such legislation to be adopted prior to the preparation of Tier 2 environmental review for individual transportation improvement projects.

1.2 PURPOSE AND SCOPE OF THE ENVIRONMENTAL IMPACT REPORT

SCAG has prepared this PEIR to support the fulfillment of the six major goals of CEQA:

- To disclose to the decision-makers and the public significant environmental effects of the proposed activities.
- To identify ways to avoid or reduce environmental damage.
- To prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
- To disclose to the public reasons for agency approvals of projects with significant environmental effects.
- To foster interagency coordination in the review of projects.
- To enhance public participation in the planning process.

Although the PEIR neither controls nor anticipates the ultimate decision on the 2016 RTP/SCS, SCAG (and other agencies that rely on this PEIR) must consider the information in the PEIR and make findings concerning each potentially significant impact identified.

Programmatic Level of Analysis

The focus of the environmental analysis in the PEIR is on regional-scale and cumulative impacts of implementation of the Plan and the alternatives. The long-range planning horizon of more than 20 years necessitates that many of the projects included in the Plan (and the alternatives) are identified at the conceptual level. This document addresses environmental impacts to the level that they can be assessed without undue speculation (CEQA Guidelines § 15145). This PEIR acknowledges this uncertainty and incorporates these realities into the methodology to evaluate the environmental effects of the Plan, given its long term planning horizon.

The degree of specificity in an EIR corresponds to the degree of specificity of the underlying activity being evaluated (CEQA Guidelines §15146). Also, the adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project (CEQA Guidelines §§15151,

15204(a)). The activity being evaluated in this PEIR is the long-term RTP including the SCS. This PEIR strives to provide as much quantitative detail as feasible regarding the regional environmental impacts of the Plan. Not all impacts can be feasibly and/or accurately quantitatively analyzed at a regional level and/or up to the year 2040.

The geographic scope, consisting of over 38,000 square miles, and complexity represented by the diverse needs of six counties, 15 subregional areas, 191 cities, and 16 federally recognized tribes that comprise the SCAG region, that are addressed by the 2016 RTP/SCS, played an important role in determining the appropriate level of detail to include in this PEIR.

Potential significant environmental effects of the 2016 RTP/SCS were identified by employing multiple analytical methods, including spatial analysis, transportation, noise, land use and air quality modeling and other quantitative, ordinal, and qualitative techniques. Spatial analysis using geographic information systems (GIS) was employed to evaluate the potential effects of the major transportation projects on resource categories such as land use and biological and water resources. Transportation, noise, and air quality simulation models were used to estimate the transportation, noise, and air quality impacts. Transportation projects, anticipated growth distribution pattern, and policies and strategies of the 2016 RTP/SCS and alternatives were incorporated into the modeling analysis and the socioeconomic projections.

Limitations on the Scope of Analysis

For example, assessing the effects of global climate change impacts from regional GHG emissions is well beyond the scale of any other types of impacts considered under CEQA, such as regional conditions relating to air basins, streams or watersheds, or localized conditions such as cultural and biological resources. The global consequences of regional GHG emissions are also dependent on a wide range of factors such as the willingness of federal, state, regional and local governments in the United States and worldwide to adopt or implement meaningful measures to reduce their own GHG emissions; the development and deployment of technologies that reduce GHG emissions; and the many factors that affect the pricing and availability of fuels that result in GHG emissions such as war and taxes. On the other end of the CEQA analytical spectrum, many CEQA thresholds in most topical areas relate to localized environmental conditions and Plan impacts, such as:

- **Aesthetics** (e.g., degradation of existing visual character of the site and/or creation of new sources of light or glare that affect day or nighttime views)
- **Air quality** (e.g., localized air toxic pollutant effects from residential or other sensitive uses next to high utilization roadways such as transit corridors, and freeways)
- **Biological Resources** (e.g., conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance)
- **Cultural Resources** (e.g., change historic resources)
- **Geology and Soils** (e.g., exposing people or structures to seismic hazards)
- **Hazards and Hazardous Materials** (e.g., be located on a site with preexisting contamination conditions or within two miles from a public airport)
- **Hydrology and Water quality** (e.g., provide substantial additional sources of polluted runoff)
- **Land use** (e.g., conflict with adopted land use plans such as General Plans and zoning codes)

- **Noise** (e.g., cause a substantial permanent or even temporary increase in ambient noise above preexisting levels)
- **Population and Housing** (e.g., induce substantial population growth in an area, or displace substantial numbers of people and/or housing units)
- **Public Services** (e.g., cause a need for new or physically altered physical facilities to maintain acceptable service ratios for recreational parks, schools, and other public services)
- **Recreation** (e.g., result in an increase in the use of existing neighborhood and regional parks)
- **Transportation and Traffic** (e.g., conflict with applicable plans or standards for roadway effective performance metrics or conflict with a congestion management plan designed to achieve effective traffic flow)
- **Utilities and Service Systems** (e.g., require the construction of new wastewater and stormwater facilities)

These and other examples of CEQA thresholds are aimed at protecting the local environment in which projects occur. At the regional scale of the Plan and in this PEIR, it is not possible to identify with specificity any of these impacts. It is possible, however, to generally conclude that increasing density in developed or previously-developed urbanized areas within the region, above existing baseline levels would result in significant unavoidable adverse impacts under many of the foregoing thresholds. That is, when population and employment growth is held constant, many adverse environmental impacts will be significant and unavoidable for CEQA purposes regardless of whether the Plan or any of the alternatives is approved by SCAG.

1.3 BASELINE FOR DETERMINING SIGNIFICANCE AND THRESHOLDS OF SIGNIFICANCE

The PEIR must identify significant impacts that would be expected to result from implementation of the 2016 RTP/SCS. Significant impacts are defined as a “substantial or potentially substantial, adverse change in the environment” (Public Resources Code § 21068). Significant impacts must be determined by applying explicit significance criteria to compare the future Plan conditions to the existing environmental setting (CEQA Guidelines § 15126.2(a)). The existing setting is described in detail in each resource section of Section 3.0 of this document, and represents the most recent, reliable, and representative data to describe current regional conditions at the time of publication of the NOP for the PEIR, March 2015. In most instances, the most recent available data was for 2014. In some instances the most recently available data was 2012, in which case the 2012 data was projected to characterize 2014 conditions. Available data used to determine existing conditions will be specified in each resource section in Section 3.0 of this document.

CEQA gives the lead agency the responsibility to determine whether an adverse environmental effect identified in an EIR should be classified as “significant” or “less than significant” (CEQA Guidelines §15064(b)). Under Section 15064(b), “the significance of an activity may vary with the setting” and, as a result, an inflexible definition of what constitutes a significant effect is not always possible. The lead agency has discretion to set its own significance criteria, which requires the lead agency to make a policy judgment about how to distinguish impacts which are adverse, but significant, from impacts which are adverse, but not significant (*Eureka Citizens for Responsible Gov’t v. City of Eureka (2007) 147 Cal.App.4th 357*). A lead agency may select a standard of significance based on its judgment about an

appropriate standard of significance (*Sierra Club v. City of Orange (2008) 163 Cal.App.4th 523, 541*). The standards of significance used in an EIR may also rely upon policies adopted and implemented by the lead agency (*Mira Mar Mobile Community v. City of Oceanside (2004) 119 Cal.App.4th 477*). The criteria for determining significance are included in each resource section in Section 3.0 of this document.

1.4 CONSIDERATION OF EFFECTS OF REGIONAL POPULATION GROWTH AND PATTERN OF GROWTH

It is important to emphasize that the urbanization in the SCAG region will increase substantially by 2040, with or without implementation of the 2016 RTP/SCS. The CEQA required environmental baseline of current conditions means that the impact assessment for many of the resource categories is cumulative in nature. Therefore, it is important to provide a meaningful perspective on the effects of implementing the proposed Project. As required by CEQA, a direct comparison in each resource category that is analyzed in Section 3.0 of this document between the expected future conditions with the Plan and the baseline conditions. The comparative analysis of the expected future conditions with the project and if no Plan were adopted (the No Project Alternative) is included in in **Section 4.0, *Alternatives***, of this document.

Analysis of the growth distribution pattern (and alternate growth distribution pattern) includes an analysis of the anticipated land use development necessary to accommodate the policy forecasted growth. However, because locations, densities, orientation timing, and other site-sensitive factors related to development are not specified in the Plan, SCAG cannot reliably quantify the impacts from such anticipated development. SCAG can nevertheless programmatically analyze these impacts and provide mitigation measures to address them.

1.5 2016 RTP/SCS AND ALTERNATIVES TO THE 2016 RTP/SCS

When considering whether or not the range of alternatives to be evaluated in an EIR is adequate, several principles apply. The “discussion of alternatives need not be exhaustive,” and the requirement to discuss alternatives is “subject to a construction of reasonableness” (*Residents Ad Hoc Stadium Committee v. Board of Trustees (1979) 89 Cal.App.3d 274, 286*). “An EIR need not consider every conceivable alternative to a project” (CEQA Guidelines §15126.6(a)).

Under CEQA, perfection is not the standard governing a lead agency's proposed range of project alternatives. Rather, in preparing an EIR, a lead agency must make an objective, good faith effort to provide information permitting a reasonable choice of alternatives that would feasibly attain most of the basic objectives of the project, while avoiding or substantially lessening the project's significant adverse environmental impacts (*California Oak Foundation v. Regents of University of California (2010) 188 Cal.App. 4th 227, 275-276*).

The Plan and each alternative maintain a constant total for population, households, and jobs for the region in 2040. The year 2040 growth projections for each alternative differ only in the distribution of growth. The alternatives differ in terms of this distribution because the different transportation investments and land use strategies would be expected to support different regional distributions of population, households, and employment.

CEQA Guidelines (§15126.6(d)) require an EIR to include sufficient information about each alternative in order to allow meaningful evaluation, analysis, and comparison with the proposed project. They suggest the use of a matrix displaying each alternative’s significant environmental effects to summarize the comparison (see Section 4.0). When a large-scale program contains multiple, interrelated objectives, an alternative that does not meet all of those objectives may be excluded from detailed analysis (see *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal. 4th 1143, 1162–1168). An EIR must discuss alternatives to a project in its entirety, but is not required to discuss alternatives to each particular component of a project (see *California Oak Foundation v. Regents of University of California* (2010) 188 Cal.App. 4th 227, 276–277). CEQA does not require an EIR to consider multiple variations on the alternatives analyzed. “What is required is the production of information sufficient to permit a reasonable choice of alternatives so far as environmental aspects are concerned” (*Village Laguna of Laguna Beach, Inc. v. 21 Board of Supervisors of Orange County* (1982) 134 Cal.App.3d 1022).

1.6 MITIGATION MEASURES

General Description and Legal Requirements

CEQA requires that SCAG identify all feasible mitigation measures in the PEIR that will avoid or substantially lessen the significant environmental effects of the project. (Public Resource Code Sections 21002, 21081(a)(1); CEQA Guidelines Section 15126.4(a)). CEQA, however, does not require a lead agency to undertake identified mitigation measures, even if those measures are necessary to address a project’s significant environmental effects, if the agency finds that the measures “are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency” (Public Resource Code Section 21081(a)(2); *City of Marina v. Bd. of Trustees of the Calif. State Univ.* (2006) 39 Cal.4th 341, 366; see also *Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439). Under these circumstances, the lead agency may find that the measures “can and should” be implemented by the other agency or agencies said to have exclusive responsibility/jurisdiction over the measures (*City of Marina*, 39 Cal.4th at 366). As the CEQA Guidelines explain, the “finding in subsection (a)(2) shall not be made if the agency making the finding has concurrent jurisdiction with another agency to deal with identified feasible mitigation measures or alternatives” (CEQA Guidelines Section 15091(c)).

SB 375 specifically provides that nothing in a SCS supersedes the land use authority of cities and counties, and that cities and counties are not required to change their land use policies and regulations, including their general plans, to be consistent with the SCS or an alternative planning strategy (Government Code Section 65080(b)(2)(K)). Moreover, cities and counties have plenary authority to regulate land use through their police powers granted by the California Constitution, art. XI, §7, and under several statutes, including the local planning law (Government Code Sections 65100–65763), the zoning law (Government Code Sections 65800–65912), and the Subdivision Map Act (Government Code Sections 66410–66499.37). As such, SCAG has no concurrent authority/jurisdiction to implement mitigation related to land use plans and projects that implement the RTP/SCS. With respect to the transportation projects in the RTP/SCS, these projects are to be implemented by Caltrans, county transportation commissions, local transit agencies, and local governments (i.e., cities and counties), and not SCAG. SCAG also has no authority/jurisdiction to require these agencies to implement project-specific mitigation measures.

CEQA case law has also held that deferral of the specifics of mitigation is permissible where the lead agency commits itself to mitigation and, in the mitigation measure, either describes performance standards to be met in future mitigation or provides a menu of alternative mitigation measures to be selected from in the future (*California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal.App.4th 603 [the details of exactly how the required mitigation and its performance standards will be achieved can be deferred pending completion of a future study]; *Endangered Habitats League Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 793 [deferred mitigation acceptable when performance standards are included]; *Riverwatch v. County of San Diego* (1999) 76 Cal.App.4th 1428, 1448–1450 [a deferred approach may be appropriate where it is not reasonably practical or feasible to provide a more complete analysis before approval and the EIR otherwise provides adequate information of the project’s impacts]; *Sacramento Old City Assn. v. City Council of Sacramento, supra*, 229 Cal.App.3d at 1028–1029 [deferral of agency’s selection among several alternatives based on performance criteria was appropriate]).⁵

Since mitigation measures are an important component of any EIR, they are subject to the same rules regarding level of detail appropriate to the EIR being prepared. In this case, the PEIR addresses a large-scale region with a variety of projects spread over more than 20 years. As such, this PEIR identifies programmatic mitigation that SCAG would carry out on a regional scale and provides examples of measures for local agencies to consider, as applicable and feasible, in subsequent project-specific design, CEQA review, and decision-making processes. As authorized by the CEQA Guidelines and case law, the mitigation measures included in this PEIR are less detailed than those that would be part of a project EIR and the selection of detailed mitigation measures is properly deferred to future project-specific CEQA reviews.

Since SCAG has no authority to require specific mitigation measures at the project level, and lead or responsible agencies have the discretion to determine which mitigation measures are applicable and feasible based on the location-specific circumstances. Identification of the performance standards along with project-level mitigation measures fulfill SCAG’s responsibility, that may be considered (among others) for implementation by lead, responsible, or trustee agencies in the region as applicable and feasible. Use of the word “may” or “should” in measures that include legal requirements, or measures that are otherwise committed to, should not be construed to mean that compliance with legal requirements and/or existing commitments is optional.

The mitigation measures based on performance standards used in this PEIR recognize the limits of SCAG’s authority; distinguish between SCAG commitments and project-level responsibilities and authorities; optimize flexibility for project implementation; and facilitate CEQA streamlining and tiering where appropriate on a project-by-project basis determined by each lead agency.

This PEIR presents a region-wide assessment of existing conditions and potential impacts associated with implementation of the 2012-2035 RTP/SCS. As such, this PEIR identifies programmatic mitigation measures for which SCAG would be responsible on a regional scale. While the PEIR strives to provide as

⁵ Note that in litigation challenging SANDAG’s adoption of its 2050 Regional Transportation Plan/Sustainable Communities Strategy, the California Court of Appeal found that “[a]n EIR may not defer the formulation of mitigation measures to a future time, but mitigation measures may specify performance standards which would mitigate the project’s significant effects and may be accomplished in more than one specified way.” *Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2014) 231 Cal. App. 4th 1056, 1089. While this case has been appealed before the California Supreme Court, this issue is not under review.

much detail as possible in the mitigation measures, some flexibility must be maintained to present mitigation approaches for impacts occurring over a large geographic scope and caused by a wide variety of transportation and land use activities. CEQA case law provides that a first-tier EIR may contain generalized mitigation criteria (see, e.g., *Koster v. County of San Joaquin* (1996) 47 Cal.App.4th 29). In addition, in each resource area, the PEIR identifies mitigation measures which include performance standards which lead, responsible, or trustee agencies “can and should” comply with in assessing and mitigating project-specific impacts. SCAG then identifies project-level mitigation measures that may be required by lead agencies, to meet the specified performance standards. Lead agencies may also identify other comparable measures capable of achieving the specified performance standards.

In sum, this performance standards-based mitigation approach, using performance standards includes three components: (1) SCAG programmatic-level mitigation measures; (2) a “catch-all” mitigation measure for each of the CEQA resource categories which sets forth performance standards specified in existing statutes, regulations, adopted general plans, and agreements; and (3) project-level mitigation measures which are within responsibility, authority, and/or jurisdiction of project-implementing agency or other public agency serving as lead agency under CEQA in subsequent project- and site- specific design, CEQA review, and decision-making processes, to meet the performance standards for each of the CEQA resource categories.

In general, a “public agency” refers to any state or local agency, or other political subdivision. “Local agency” refers to any public agency other than a state agency that would undertake an activity and/or a public agency that would be lead agency for a private activity which must receive some discretionary approval (meaning that the public agency has the authority to deny the requested permit or approval for the private activity). “Project sponsor” is typically used to refer to an applicant (that could be public or private, an organization or an individual) that proposes a project. “Project implementing agency” is used to refer to a public agency responsible for implementing a project. In this document, project-implementing agencies are those that are responsible for carrying out (reviewing, approving, constructing, and/or operating) transportation projects included in the Project List appendix to the Draft 2016 RTP/SCS.

Transportation Project Mitigation

For individual transportation projects included in the 2016 RTP/SCS, SCAG has no authority to approve or implement such projects. Generally individual transportation projects in the 2016 RTP/SCS will be implemented by Caltrans, CTCs, local transit agencies, local governments or other public agencies. These agencies routinely implement the types of mitigation measures identified in this PEIR during project design, CEQA review, and/or project construction. The example measures directed at project sponsors and implementing agencies included in this PEIR are intended to be permissive and not mandatory. This PEIR has made a preliminary determination that it is feasible to meet performance standards set forth in the mitigation measures and that there are more than one specified way to accomplish the performance standards. However, local agencies retain the discretion to determine which mitigation measures are most applicable to each individual project and whether they are feasible under location-specific circumstances.

Land Use Planning and Development Project Mitigation

For land use plans and development projects, SCAG has no authority to adopt local land use plans or approve local land use projects that will implement the SCS. As described in the section above, SB 375 specifically provides that nothing in SB 375 supersedes the land use authority of cities and counties. In addition, cities and counties are not required to change their current or future land use plans and policies, including general plans, to be consistent with an RTP/SCS (Government Code §65080(b)(2)(K)). Generally, local governments are the lead agencies responsible for mitigation of the impacts of land use plans and development projects that implement the RTP/SCS, and SCAG has no concurrent authority to mitigate the impacts of land use plans and development projects. Local governments routinely implement the types of mitigation measures identified in this PEIR during project design, CEQA review, and/or project construction. This PEIR has made a preliminary determination it is feasible to meet performance standards set forth in the mitigation measures and that there are more than one specified way to accomplish the performance standards.

1.7 PUBLIC PARTICIPATION AND CONSULTATION FOR THE 2016 RTP/SCS

The 2016 RTP/SCS was developed with input from the public in accordance with the adopted Public Participation Plan. SCAG recognizes the need for early engagement during the development of the RTP/SCS. For members of the public, SCAG conducted public workshops between May and July 2015, with 23 open house events held across six counties.⁶ These events helped inform the public on the goals of the Plan, explore topics that would be included in the Plan, and gather input on the scenarios developed for the Plan as part of the scenario development and planning process. Four scenarios were developed to help facilitate discussion during the development of the Draft 2016 RTP/SCS and to evaluate how each scenarios would perform in terms of meeting the goals and guiding policies of the Plan and other performance metrics. SCAG also broadened its participation activities in the development of the 2016 RTP/SCS to engage a more extensive group of stakeholders in its planning and programming processes. By September 2015, SCAG has held five public workshops on environmental justice for the 2016 RTP/SCS.

The Draft 2016 RTP/SCS is planned for release by the Regional Council for a concurrent 60-day public comment and review period with the Draft PEIR for the Draft 2016 RTP/SCS. SCAG plans to engage in additional public participation activities during the 60-day public review and comment period on the Draft 2016 RTP/SCS and the Draft PEIR. The public review and comment period for both documents is expected to commence on December 4, 2015, and close on February 1, 2016. To help further inform local, state and federal agencies, and other interested agencies, organizations, and individuals ("Interested Parties") about the elements of the Draft 2016 RTP/SCS, SCAG has posted announcements and videos on its website, blog sites, and its social networking pages (Facebook, Twitter); prepared factsheets and other outreach materials in English, Spanish, Chinese, Korean and Vietnamese; and placed ads and public announcements in 12 newspapers, including the ethnic press.

⁶ Southern California Association of Governments. Accessed October 2015. *2016 RTP/SCS Open House Flyer in English*. Available at: http://scagrtpscsc.net/Documents/WorkshopFlyer_Letter_R17_ENGLISH.pdf

During the 60-day public review and comment period for the Draft 2016 RTP/SCS, SCAG will hold 14 public workshops within the region on the Plan. Although the informational workshops will be targeted towards public officials and agency representatives, they will be open to the public, and time will be allowed for public comment. SCAG will also conduct additional outreach activities, as appropriate, to the business community, ethnic groups, Native American tribes, and other stakeholders during the public review period. SCAG will use its videoconferencing technology to enable more people to participate in presentations and meetings, as applicable.

With the release of the Draft 2016 RTP/SCS, SCAG will make available the interactive RTP/SCS website that provides for easy navigation through the various sections of the Plan and allows visitors to submit comments through the online form. In addition to the online forum, SCAG will continue to accept public input through mailings, and at public workshops.

Comments received during the 60-day public review period of the Draft 2016 RTP/SCS will be considered and included along with SCAG's responses to comments in the Final 2016 RTP/SCS document.

1.8 PUBLIC PARTICIPATION AND CONSULTATION FOR THE PEIR

Pursuant to Public Resources Code Section § 21080.4 and CEQA Guidelines §§ 15082 and 15375, the NOP for the Draft 2016 RTP/SCS PEIR was released on March 9, 2015, and circulated for a 30-day comment period ending April 7, 2016. SCAG hosted two scoping meetings on March 17, 2015, and March 18, 2015. The meetings were convened in the SCAG's main office in Los Angeles, with videoconferencing available at SCAG regional offices in Imperial, Orange, Riverside, San Bernardino, and Ventura Counties. Videoconferencing was made available at two additional locations in the Cities of Palm Desert (Coachella Valley Association of Governments) and Palmdale. SCAG received over 20 letters of comment in response to the NOP. The scope and content of the Draft 2016 RTP/SCS PEIR were developed in light of the comments received in response to the NOP.

The NOP was sent to the State Clearinghouse on March 8, 2015; posted with the County Clerks for the six counties in the SCAG region; and distributed to various federal, state, regional and local government agencies, and other interested agencies, organizations, and individuals. The NOP was made available on SCAG's website at: <http://scagrtpscs.net/Pages/PEIR.aspx>. The NOP was published in 12 newspapers, including the *Los Angeles Times*, which has the greatest circulation in the SCAG region, and additional newspapers that address the large geographic reach and diverse population within the SCAG region:

- *Desert Sun*
- *Imperial Valley*
- *La Opinion*
- *Los Angeles Sentinel*
- *Los Angeles Times*
- *Nguoi Viet*
- *Press Enterprise*
- *San Bernardino County Sun*
- *The Korean Times*
- *The OC Register*
- *Ventura County Star*
- *World Journal (Chinese Daily News)*

The NOP was circulated primarily using electronic mail to over 2,700 interested parties, including 144 representatives of Native American tribes. The NOP was mailed directly to approximately 570 interested parties, including federal, state, regional and local agencies, organizations and major libraries in the region using the U.S. Postal Service certified mail service. The NOP was also posted at the following locations:

SCAG Main Office
818 West 7th Street, 12th Floor,
Los Angeles, CA 90017

SCAG Riverside County Regional Office
3403 10th Street, Suite 805
Riverside, CA 92501

SCAG Imperial County Regional Office
1405 N. Imperial Avenue, Suite 1
El Centro, CA 92243

SCAG San Bernardino County Regional Office
1170 West 3rd Street, Suite 140
San Bernardino, CA 92410

SCAG Orange County Regional Office
600 South Main Street, Suite 906
Orange, CA 92868

SCAG Ventura County Regional Office
950 County Square Drive, Suite 101
Ventura, CA 93003

The NOP provided notification of two public scoping meetings for interested parties to receive information on the 2016 RTP/SCS and the related CEQA process as well as providing an opportunity for the submittal of comments both by mail and electronically. **Appendix A** of the PEIR includes a copy of the NOP and written comments received in responses to the NOP.

The PEIR is not subject to the procedural provisions of AB 52 because the NOP was published prior to July 1, 2015, trigger date for compliance with AB 52. However, in recognition of the intent of AB 52, SCAG hosted two additional workshops to solicit input from representatives of the Native American community during preparation of the Draft 2016 RTP/SCS and Draft PEIR. The two workshops were held on October 14 and 19, 2015. The October 14 meeting was convened at the SCAG main office in Los Angeles, and made available through videoconferencing at the SCAG's regional offices in Imperial, Orange, Riverside, San Bernardino, and Ventura Counties. Videoconferencing was made available at two additional locations in the Cities of Palm Desert (Coachella Valley Association of Governments) and Palmdale. The second meeting on October 19, 2015, was convened at Office of the Coachella Valley Association of Governments.

Written comments on this Draft PEIR should be transmitted during the 60-day public review and comment period (by February 1, 2016, 5:00 p.m.) to the following address:

SCAG Main Office
Attn: Ms. Lijin Sun
818 West 7th Street, 12th Floor
Los Angeles, CA 90017

Comments may also be submitted electronically to 2016PEIR@scag.ca.gov.

In addition, comments received during the 60-day public review period of the Draft 2016 RTP/SCS PEIR will be considered. Formal written responses will be prepared and incorporated into the Final PEIR for the 2016 RTP/SCS to address written comments submitted on the Draft PEIR.

Written comments provided by the interested parties will be evaluated. Written responses will be prepared for comments received during the comment period. Upon completion of the evaluation, a Final PEIR will be prepared and provided to the SCAG Regional Council for consideration for certification of compliance with CEQA, and for review and consideration as part of the decision-making process undertaken by the Regional Council for the 2016 RTP/SCS.

1.9 CEQA STREAMLINING

Sustainability Communities and Climate Protection Act of 2008 (SB 375) (Steinberg, 2008)

The Sustainable Communities and Climate Protection Act of 2008 amends CEQA to add Chapter 4.2 Implementation of the Sustainable Communities Strategy, which allows a CEQA exemption for Sustainable Community Projects, as well as streamlined CEQA analysis for Transit Priority Projects (TPPs) and certain residential or mixed-use projects.

The purpose of the SCS is to develop strategies to meet the GHG emission reduction targets for the region, and qualifying projects that are consistent with the SCS will help meet this goal. Furthermore, because the potential impacts of the SCS are analyzed in this PEIR, the qualifying projects may take advantage of the CEQA streamlining provisions contained in SB 375. The intent of the CEQA streamlining provisions is not to undercut or circumvent CEQA requirements, but rather to reduce documentation and redundancy and to provide an incentive to support residential and transportation projects that are consistent with a larger effort to reduce GHG emissions.

The following is a summary of the CEQA streamlining provisions in SB 375. For the purpose of determining consistency for CEQA streamlining, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the 2016 RTP/SCS.

A Transit Priority Project (TPP) is eligible for four types of CEQA relief: (1) Sustainable Communities Project CEQA Exemption, (2) Sustainable Communities Environmental Assessment, (3) a streamlined EIR, or (4) traffic mitigation measures. Different types of CEQA relief are associated with different criteria that are to be met.

As a threshold matter, to qualify as a TPP, a project must be consistent with the general land use designation, density, building intensity and applicable policies in an SCS accepted by the State Air Resources Board. The TPP must also meet four standards:

- Be at least 50 percent residential use based on area.
- Contain at least 20 dwelling units/acre.
- Have a floor area ratio for the commercial portion of the project at 0.75, if the project contains between 26 percent and 50 percent nonresidential uses.

- Be within 0.5 mile of a major transit stop⁷ or high-quality transit corridor⁸ included in the RTP.

Sustainable Communities Project Exemption

The Sustainable Communities Project (SCP) Exemption is a TPP, which is consistent with the SCS and meets nine criteria for eligibility for use of the exemption:

- The project and approved projects can be served by utilities, and project will pay applicable in-lieu or development fees.
- Does not include wildlife habitat of significant value or protected species.
- Is not contaminated (site is not on Cortese list).
- Site is subject to preliminary endangerment assessment regarding potential exposure to health hazards from nearby activities. Any hazards are to be mitigated to less than significant.
- Would not significantly affect an historic resource.
- The site is not subject to wildland fire hazard, unusually high risk of fire/explosion from materials on adjacent properties, health hazard, seismic risk, landslide, or flood plain.
- The site is not located on developed open space.
- The project would be 15 percent more efficient than Title 24, and landscaping would use 25 percent less water than the regional average household.

In addition, the project must meet seven additional parameters related to size, siting, and protection of affordable housing:

- The site is not more than 8 acres.
- The project does not contain more than 200 units.
- The project does not result in the net loss of affordable housing.
- No single level building that exceeds 75,000 square feet.
- Applicable mitigation, performance standards, criteria from prior EIRs will be incorporated in to the TPP.
- The project would not conflict with nearby operating industrial use.
- The project is located within 0.5 mile of rail transit station or ferry terminal included in RTP, or within 0.25 mile of a high-quality transit corridor.

The project must provide at least one of three specified community benefits:

- At least 20 percent of the housing will be for moderate income or 10 percent rented to low income, or not less than 5 percent rented to very low income, and developer provides commitment to ensure continued availability to these income groups for the period.

⁷ Defined as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

⁸ Defined as a corridor with fixed route bus service with 15-minute service intervals during peak commute hours.

- Developer pays in-lieu fees pursuant to local ordinance to result in an equivalent number of units that would otherwise be required in a) above.
- Project provides public open space 5 acres/1,000 residents.

After a public hearing where a legislative body finds that a TPP meets all the requirements, a project can be declared to be an SCP and can be exempted from CEQA.

Sustainable Communities Environmental Assessment

A TPP that does not meet the Sustainable Communities Project Exemption may nevertheless qualify for a Sustainable Communities Environmental Assessment (SCEA) if the project incorporates all feasible mitigation measures, performance standards, or criteria set forth in prior applicable certified environmental impact reports (including the RTP/SCS PEIR) (Pub. Res. Code § 21155.2(b)). An SCEA is comparable to a negative declaration since the lead agency must find that all potentially significant impacts of a project have been identified, adequately analyzed, and mitigated to a level of insignificance. However, unlike a negative declaration, the SCEA need not consider the cumulative effects of the project that have been adequately addressed and mitigated in prior EIRs. Also, growth-inducing impacts are not required to be referenced, described or addressed. Additionally, project specific or cumulative impacts from cars and light duty truck trips on global warming or the regional transportation network need not be referenced, described or discussed.

The SCEA will be circulated for 30 days, comments will be considered, and then the SCEA may be approved after a public hearing provided impacts are mitigated. The SCEA will be reviewed under the substantial evidence standard, which means a court will uphold an agency's decision if there is substantial evidence in light of the whole record to support its action. This is different from the normal CEQA fair argument standard, which is less deferential and states that an EIR must be prepared when after examining the entire record, there is substantial evidence to support a fair argument that the project may have a significant effect on the environment. The substantial evidence standard makes it more difficult for a petitioner to challenge an SCEA.

Transit Priority Project Streamlined Environmental Impact Report

Instead of an SCEA, a lead agency may choose to perform a streamlined EIR. If, after conducting an Initial Study (IS), the lead agency determines that an EIR is required, it only need address potentially significant impacts. Where a cumulative effect has been adequately addressed and mitigated in a previous EIR (such as the 2016 RTP/SCS EIR), that cumulative effect shall not be treated as cumulatively considerable.

The EIR is not required to analyze off-site alternatives to the TPP or discuss a reduced residential density alternative to address the effects of car and light duty truck trips generated by the project. Furthermore, the EIR is not required to include an analysis of growth inducing impacts or any project specific or cumulative impacts from cars and light duty trucks trips generated by the project on global warming or the regional transportation network. The IS must identify any cumulative effects that have been adequately addressed and mitigated in prior applicable certified EIRs and these cumulative effects are not to be treated as cumulatively considerable in the EIR.

Traffic Mitigation Measures

After a public hearing a legislative body or local jurisdiction may adopt traffic mitigation measures that apply to TPPs (such measures must be updated as necessary every five years), including requirements for the installation of traffic control improvements, street or road improvements, and contributions to road improvement or transit funds, transit passes for future residents, or other measures that will avoid or mitigate traffic impacts of TPPs. If such measures are adopted by a local jurisdiction, no additional traffic mitigation are required for TPPs (measures addressing public health and bicycle safety may still be imposed).

Other CEQA Streamlining within SB 375

SB 375 also provides for general CEQA streamlining for residential and mixed-use residential projects as well as TPPs. Pursuant to Section 21159.28 of the Public Resources Code, projects that meet the following requirements can be subject to streamlined CEQA review:

- A residential or mixed-use residential project (or a TPP) consistent with the designation, density, building intensity, and applicable policies specified for the project area in an accepted SCS (a residential or mixed-use residential project is a project where at least 75 percent of the total building square footage of the project consists of residential use or a project that is a transit priority project).
- Incorporates the mitigation measures required by an applicable prior environmental document.

If a project meets these requirements, any exemptions, negative declarations, mitigated negative declarations, SCEA, EIR or addenda prepared for the projects shall not be required to reference describe, or discuss two areas that are normally required:

- Growth inducing impacts.
- Any project specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network.

CEQA Streamlining for Infill Projects (SB 226) (Simitian, 2011)

SB 226 (Simitian) was signed into law by Governor Jerry Brown on September 14, 2011, and provides CEQA streamlining review of infill development projects under CEQA. SB 226 authorizes limited CEQA review for qualifying urban infill projects that address statewide priorities for infill projects, subsequent to the adoption of the guidelines in 2012.

SB 226 defines “infill project” as a project that (a) consists of one or a combination of the following uses: residential, retail/commercial (where no more than one-half of the project area is used for parking), transit station, school and public office building; and (b) is located within an urban area, and is either on a site that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins (or is separated only by an improved public right-of-way from) parcels that are developed with qualified urban uses.

SB 226 allows limited CEQA review for certain infill projects through a process that resembles “tiering” of EIRs under CEQA. Tiering refers to environmental review of sequential actions, where general matters and environmental effects are examined in a broad EIR for a decision such as adoption of a policy, plan, program, or ordinance, and subsequent narrower or site-specific EIRs are prepared that incorporate by reference the prior EIR and concentrate on environmental effects that can be mitigated or that were not analyzed in the prior EIR. In such instances, the later narrow EIR “tiers” off the prior broad EIR.

SB 226 provides that if an EIR was certified for the enactment or amendment of a city or county general plan, community plan specific plan, or zoning code, CEQA review for approval of a qualifying SB 226 infill project is limited to (a) environmental effects that are specific to the project or project site and were not addressed as significant effects in the prior EIR, or (b) substantial new information showing that environmental effects will be more significant than described in the prior EIR. A lead agency's determination pursuant to new statutory provisions authorizing SB 226 limited CEQA review must be supported by substantial evidence.

Limited CEQA review under SB 226 is available for an infill project located within an MPO region if the project (a) is consistent with the general use designation, density, building intensity and applicable policies specified for the project area in the SCS, and (b) satisfies all applicable statewide performance standards contained in the Implementation Guidelines. However, SB 226 does not specify which agency is responsible for determining whether the project is consistent with relevant SCS policies. As stated above, SB 375 expressly states that an SCS does not regulate the use of land, and that nothing in an SCS shall be interpreted as superseding the exercise of the land use authority of cities and counties within the region (CA Gov't Code § 65080(b)(2)(K)). Moreover, SB 375 does not require consistency between the SCS and city or county general plan, community plan, specific plan, or local zoning ordinance. As such, for purpose of determining consistency for CEQA streamlining, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the 2016 RTP/SCS.

Environmental Quality: Transit Oriented Infill Project, Judicial Review Streamlining for Environmental Leadership Development Projects, and entertainment and sports center in the City of Sacramento (SB 743) (Steinberg, 2013)

SB 743 (Steinberg) was signed into law by Governor Jerry Brown on September 27, 2013, and provides opportunities for CEQA streamlining to facilitate transit-oriented development (TOD), which is to update the CEQA guidelines to include the vehicle miles traveled (VMT)–based transportation impact metric. Prior to SB 743, CEQA transportation impacts were assessed through “Level of Service” (LOS) analysis, which focused exclusively on motor vehicle delay. SB 743 seeks to encourage development of mixed-use, transit-oriented infill projects by: (1) establishing new CEQA exemptions for transit-oriented developments located in Transit Priority Areas that are consistent with an adopted Specific Plan; (2) eliminating the requirement to evaluate aesthetic and parking impacts in those targeted development areas; and (3) directing the OPR to develop an alternative metric to evaluate transportation-related impacts under CEQA.

OPR released a Preliminary Discussion Draft of recommendations for updating the CEQA Guidelines on August 6, 2014,⁹ which designates VMT as the alternative metric to replace LOS analysis. On May 1, 2015, OPR released a summary of feedbacks on Draft-VMT Guidelines.¹⁰

The initial implementation focus of the proposed modifications to the CEQA Guidelines being developed in response to SB 743 includes areas with excellent transit access, designated as Transit Priority Areas (TPAs). TPA refers to an area that is located within one-half mile of an existing or planned major transit stop. A “major transit stop” refers to a site containing an existing rail transit station or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. To qualify as a TPA, a planned major transit stop needs to be scheduled for completion within the planning horizon included in the adopted FTIP or RTP. A TPA is a subset of the High Quality Transit Areas (HQTAs) described in the 2012 RTP/SCS (which will be updated through the 2016 RTP/SCS), excluding the one-half-mile buffer area along the high-quality transit corridors (which are corridors with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours).

For infill development, including TOD, SB 743 provides a rationale for the development of a new metric to evaluate CEQA transportation impacts, as the previous LOS practice focused only on motor vehicle delay, which often penalized infill and active transportation projects. SB 743 established that the new transportation impact analysis methodology should appropriately balance the needs of congestion management with statewide goals related to transit-oriented mixed-use infill development, promotion of public health through active transportation, and reduction of GHG emissions. These principles complement the goals and policies of the SCAG 2012 RTP/SCS¹¹ and the 2016 RTP/SCS outlined in **Section 2.0, *Project Description***, of this PEIR.

While SB 743 did not include the substantive specifics of the new CEQA transportation impact analysis methodology, it directed the OPR to develop guidance for establishing an alternative metric for evaluating the transportation impact of projects located within TPAs to replace LOS analysis. The criteria provided by SB 743 for selecting an alternative methodology was that it must serve to promote reduction of GHG emissions, stimulate development of multimodal transportation networks, and encourage a diversity of land uses. OPR was also provided the option to extend application of the alternative metric for evaluating CEQA transportation impacts to locations outside of TPAs.

At the time of preparing this Draft PEIR (December 2015), OPR is preparing a Technical Advisory memorandum to provide advice and recommendations for implementing the VMT-based metric.

⁹ Governor’s Office of Planning and Research. 6 August 2014. *Preliminary Discussion Draft of Updates to the CEQA Guidelines Implementing Senate Bill 743 (Steinberg, 2013)*. Available at: http://opr.ca.gov/docs/Final_Preliminary_Discussion_Draft_of_Updates_Implementing_SB_743_080614.pdf

¹⁰ Governor’s Office of Planning and Research. 1 May 2015. *Summary of Feedback on Draft-VMT Guidelines (May 1, 2015)*. Available at: http://opr.ca.gov/s_sb743.php

¹¹ Southern California Association of Governments. Adopted April 2012. *The 2012-2035 RTP/SCS*. Available at: <http://scagrtpscsc.net/Pages/2012RTPSCS.aspx>

1.10 ORGANIZATION OF THE PEIR

This document is organized into seven sections, plus an Executive Summary.

Executive Summary: The Executive Summary contains an introduction, project summary, and a summary of the expected environmental impacts resulting from implementation of the 2016 RTP/SCS and the measures recommended to mitigate those impacts. The summary also includes a comparison of the expected environmental effects of each alternative to the 2016 RTP/SCS. The Executive Summary also includes areas of controversy, including issues raised by agencies and the public. The Executive Summary also includes issues to be resolved, including the choice among alternatives, and whether or how to mitigate the significant effects.

Section 1.0: Introduction. This section is composed of this introduction and the PEIR analytical approach. It describes the SCAG region and authority, purpose and scope of the PEIR; the characterization of baseline conditions; summary of the environmental review and public outreach process; provisions for CEQA for streamlining opportunities; consideration of the potential subsequent, currently unspecified, review pursuant to NEPA; acknowledgement of pending approved and potential changes to the regulatory framework that may affect environmental review at the second tier of analysis; and an overview of the contents of the PEIR.

Section 2.0: Project Description. Consistent with the provision of Section 15124 of the State CEQA Guidelines, this section provides the location and boundaries of the 2016 RTP/SCS; states the plan's objectives; contains a general description of the technical, economic, and environmental characteristics of the 2016 RTP/SCS; and includes a statement briefly describing the intended uses of the PEIR. Although federal environmental review is not required, a discussion of purpose and need for the 2016 RTP/SCS will be included along with the CEQA-required project objectives.

Section 3.0: Environmental Setting, Impacts and Mitigation Measures. This section identifies the environmental setting for the 2016 RTP/SCS and provides a programmatic analysis of the 2016 RTP/SCS for the region. The following resource categories are analyzed in this section: Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural Resources; Energy; Geology and Soils; Greenhouse Gas Emissions and Climate Change; Hazards and Hazardous Materials; Hydrology and Water Quality, Land Use and Planning; Mineral Resources; Noise; Population, Housing, and Employment; Public Services; Recreation; Transportation, Traffic, and Safety; and Utilities and Service Systems. For each of these resources categories, the analysis addresses: Regulatory Framework, Existing Conditions, Methodology, Thresholds of Significance, Impact Analysis, Cumulative Impacts, Mitigation Measures, and Level of Significance after Mitigation. As required by CEQA, the determination of impacts is based on a comparison of the future proposed Plan condition to the existing conditions (CEQA Guidelines § 15126(a)). This section includes figures that geographically depict spatial and quantitative data.

Section 4.0: Alternatives. This section describes a range of reasonable alternatives to the 2016 RTP/SCS, which would feasibly attain most of the basic objectives of the 2016 RTP/SCS but would avoid or substantially lessen any of the significant effects of the 2016 RTP/SCS at a programmatic and region-wide level. It includes a comparison of the 2016 RTP/SCS to the No Project Alternative, the 2012 RTP/SCS Updated with Local Input Alternative, and the Intensified Land Use Alternative. The Alternatives are evaluated and compared to the 2016 RTP/SCS for the resource categories evaluated for the Plan in Section 3.0.

Section 5.0: Long-Term Effects. This section identifies the significant unavoidable environmental effects, significant irreversible environmental effects, growth inducing impacts, and irreversible damage from environmental accidents of the 2016 RTP/SCS.

Section 6.0: Persons and Sources Consulted. This section lists the contributors to the preparation of this PEIR and the reference material used.

Section 7.0: Glossary. This section includes the acronyms used in the document.

Appendices. The Draft PEIR appendices include:

- Appendix A: Notice of Preparation and Comments on Notice of Preparation
- Appendix B: 2016 RTP/SCS Project List
- Appendix C: Air Quality and Greenhouse Gas Emissions and Climate Change Technical Report
- Appendix D: Health Risk Assessment Technical Report
- Appendix E: Biological Resources Technical Report
- Appendix F: Cultural Resources Technical Report

2.0 PROJECT DESCRIPTION

Consistent with the provisions of Section 15124 of the State California Environmental Quality Act (CEQA) Guidelines, this section provides information regarding the proposed, Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Plan,” or “Project”) needed for the evaluation and review of the environmental impacts. This section is organized in accordance with four areas of information recommended by the State CEQA Guidelines:

- The precise location and boundaries of the planning area for the 2016 RTP/SCS
- A statement of objectives sought by the 2016 RTP/SCS, including a clear written statement of objectives which should include the underlying purpose of the proposed 2016 RTP/SCS
- A general description of the 2016 RTP/SCS’ technical, economic, and environmental characteristics considering the principal engineers proposals if any and supporting public service facilities
- A statement briefly describing the intended uses of the Program Environmental Impact Report (PEIR)

In acknowledgement that a transportation project for which federal approval is required must be listed in the RTP/SCS and Federal Transportation Improvement Program (FTIP), a purpose and need statement has also been provided in this section.

This section also describes the relationship of this Program Environmental Impact Report (PEIR) for the 2016 RTP/SCS to the certified Final PEIR for the 2012-2035 RTP/SCS (2012 RTP/SCS).¹

2.1 PROJECT BACKGROUND

SCAG is a federally designated Metropolitan Planning Organization (MPO) under Title 23, United States Code (USC) 134(d)(1), for a six-county region that includes the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, and 191 cities (**Figure 2.1-1, SCAG Region**). The total area of the SCAG region is approximately 38,000 square miles. To the north of the SCAG region are the counties of Kern and Inyo; to the east is State of Nevada and State of Arizona; to the south is the U.S.-Mexico border; to the west is the county of San Diego; and to the northwest is the Pacific Ocean. The region includes the county with the largest land area in the nation, San Bernardino County; as well as the county with the highest population in the nation, Los Angeles County. The SCAG region is home to approximately 19 million people, or 48.4 percent of California’s population, representing the largest and most diverse region in the country. SCAG is one of 18 MPOs in the State of California. The SCAG region consists of 15 subregional entities that have been recognized by the Regional Council, SCAG’s governing body, as partners in the regional policy planning process (**Figure 2.1-2, SCAG Subregions**).

¹ Southern California Association of Governments. March 2012. *Final Program Environmental Impact Report for the 2012-2035 RTP/SCS*. Available at: <http://rtpscsc.scag.ca.gov/Documents/peir/2012/final/Final2012PEIR.pdf>

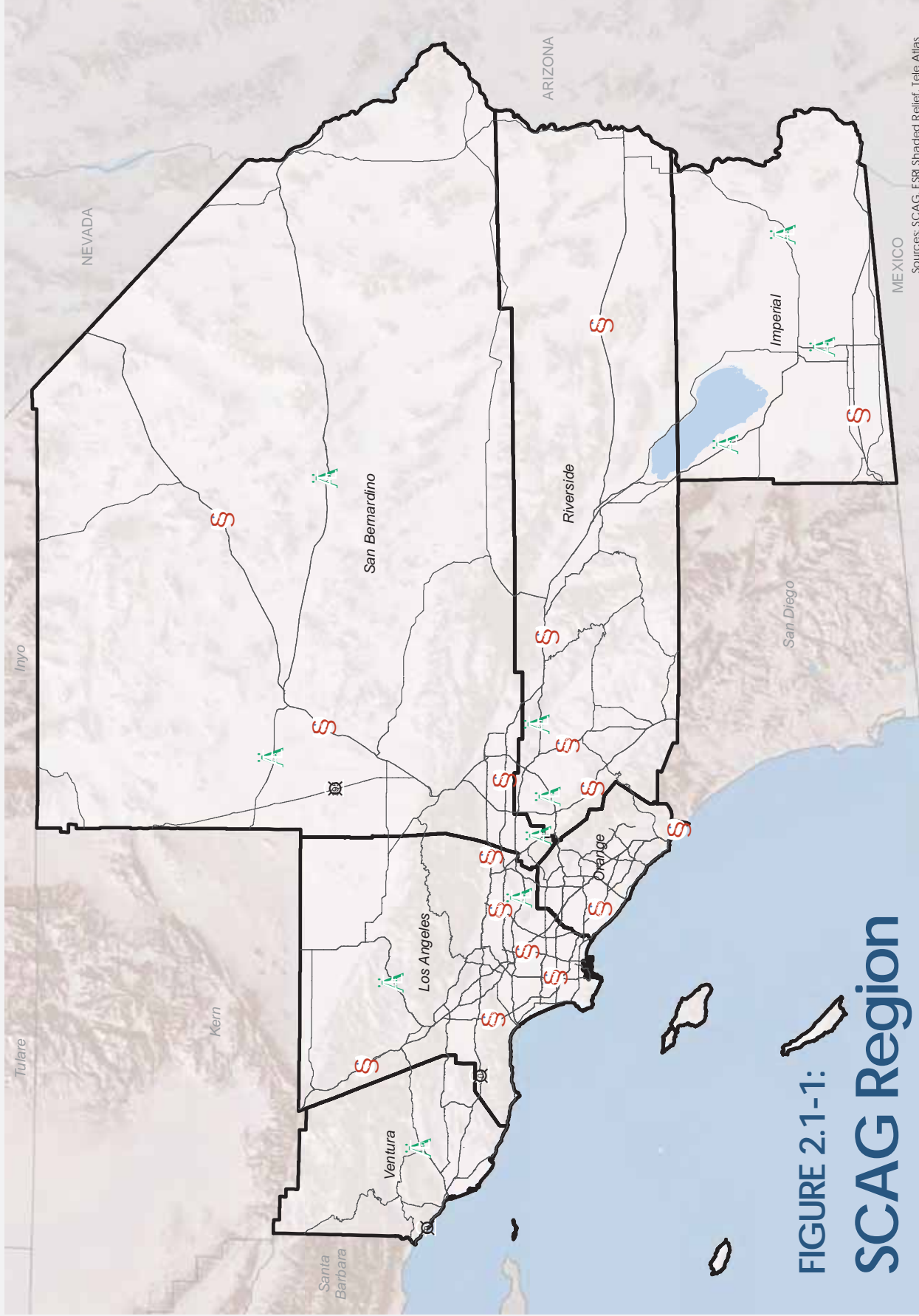


FIGURE 2.1-1:
SCAG Region

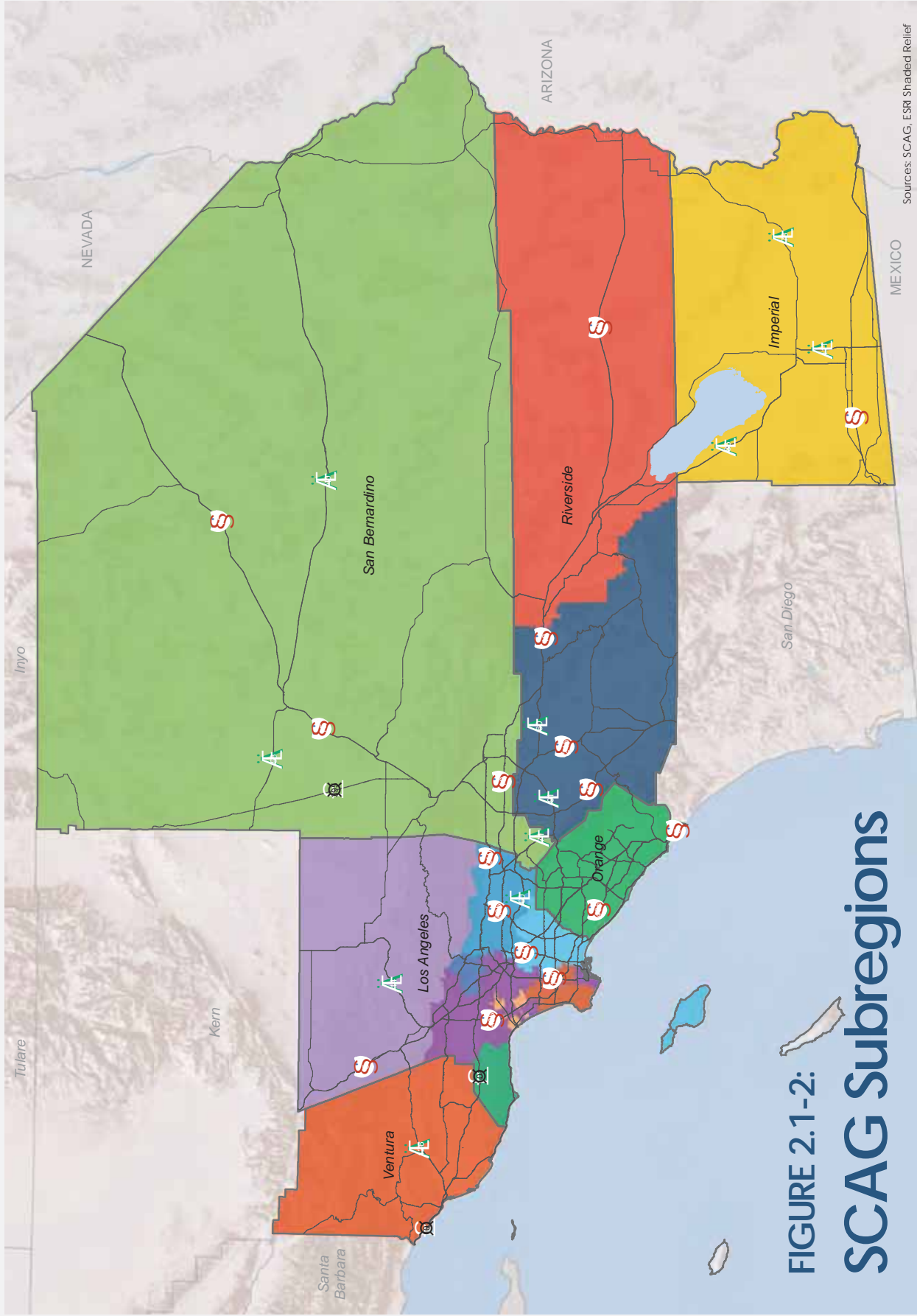


FIGURE 2.1-2: SCAG Subregions

<ul style="list-style-type: none"> Aroyo Verdugo Coachella Valley Association of Governments (CVAG) City of Los Angeles Gateway Cities Imperial Valley Association of Governments (IVAG) 	<ul style="list-style-type: none"> Las Virgenes North Los Angeles County Orange County San Bernardino Associated Governments (SANBAG) San Gabriel Valley Association of Cities 	<ul style="list-style-type: none"> South Bay Cities Association Ventura Council of Governments (VCOG) Western Riverside Council of Governments (WRCOG) Westside Cities
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Sources: SCAG, ESRI Shaded Relief

0 5 10 20 Miles

2.2 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

This section is intended to provide background information on the RTP/SCS that is updated by SCAG every four years in accordance with applicable federal and state laws.

The RTP is used to guide the development of the FTIP as well as other transportation programming documents and plans. The RTP outlines the region's goals and policies for meeting current and future mobility needs, providing a foundation for transportation decisions by local, regional, and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. The RTP identifies the region's transportation needs and issues, sets forth actions, programs, and a plan of projects to address the needs consistent with adopted regional policies and goals, and documents the financial resources needed to implement the RTP.

The RTP also provides for the development and integrated management and operation of transportation systems and facilities that function as an intermodal transportation network for the SCAG metropolitan planning area. The process for development of the RTP takes into account all modes of transportation and is accompanied by a "continuing, cooperative and comprehensive" (the 3 C's) planning approach which is also performance driven and outcome-based, consistent with provisions of Moving Ahead for Progress in the 21st Century Act (MAP-21).²

Transportation investments in the SCAG region that receive funding for which federal approval is required must be consistent with the RTP/SCS and must be included in SCAG's FTIP when funded. The FTIP covers six years and is updated biennially on an even-year cycle. It represents the immediate, near-term commitments of the RTP/SCS. SCAG does not implement individual projects included in the RTP/SCS, as these projects are implemented by local jurisdictions and other agencies. In order to continue receiving funding for which federal approval is required, the SCAG region must have a conforming RTP/SCS in place by June 2016.

The SCAG region encompasses 17 federally designated non-attainment and maintenance areas for air quality standards, pursuant to the federal Clean Air Act. The U.S. Department of Transportation (U.S. DOT), Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) under Section 176(c) of the Federal Clean Air Act [42 USC 7506(c)] require that for a non-attainment area, air quality conformity determinations on updated transportation plans and programs must be made every four years.

All RTP/SCS documents must conform to air quality requirements, as well as meet a number of other requirements, including specific requirements on the "horizon" year of RTPs that provide a vision for regional transportation investments for more than a 20-year period. In order to comply with those requirements, the 2016 RTP/SCS includes a horizon year of 2040.

² MAP-21, enacted into law on July 6, 2012 (after the adoption of the 2012 RTP/SCS by SCAG's Regional Council in April 2012), sets forth a performance-based approach requiring the State and MPOs to set performance targets and track their progress in achieving those targets relative to past system performance. While the federal rules governing performance targets are not yet enacted, SCAG utilizes a performance-based approach in preparing and developing the Draft 2016 RTP/SCS.

SCAG is also required to prepare an RTP pursuant to Section 65080 of the California Government Code. The state requirements largely mirror the federal requirements and require each transportation planning agency in urban areas to adopt and submit an updated RTP to the California Transportation Commission (CTC) and the California Department of Transportation (Caltrans) every four years. To ensure a degree of statewide consistency in the development of RTPs, the CTC, pursuant to Government Code Section 14522, adopted RTP Guidelines. The RTP Guidelines include a requirement for program-level performance measures, which include objective criteria that reflect the goals and objectives of the RTP. In addition, the initial years of the plan must be consistent with the FTIP.

State planning law further requires, pursuant to the Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375 or "SB 375"), that an MPO prepare and adopt an SCS that sets forth a forecasted regional development pattern which, when integrated with the transportation network, measures, and policies, will reduce greenhouse gas (GHG) emissions from automobiles and light duty trucks. SB 375 is part of California's overall strategy to reach GHG emissions reduction goals as set forth by Assembly Bill (AB) 32 and Executive Orders S-03-05 and B-30-15, by promoting integrated transportation and land use planning with the goal of creating more sustainable communities.

The SCS outlines certain land use growth strategies that provide for more integrated land use and transportation planning, and maximize transportation investments. According to Section 65080(b)(2)(B) of the California Government Code, the SCS must:

- Identify existing land use;
- Identify areas to accommodate long-term population growth;
- Identify areas to accommodate an eight-year projection of regional housing needs;
- Identify transportation needs and the planned transportation network,
- Consider resource areas and farmland;
- Consider state housing goals and objectives;
- Set forth a forecasted growth and development pattern; and
- Comply with federal law for developing an RTP.

In accordance with provisions of SB 375, the SCS developed as part of the RTP cannot dictate local General Plan policies. Rather, SB 375 is intended to provide a regional policy foundation that local government may build upon, if they so choose, and generally includes the quantitative, jurisdiction-level growth projections from each city and county in the region going forward. Additionally, SB 375 provides streamlined environmental review opportunities for eligible projects.³

Pursuant to federal and state planning laws, updates to the RTP/SCS must include a few requisite components. The RTP/SCS updates must include an identification of the transportation facilities (including major roadways, transit, multimodal and intermodal facilities, and intermodal connectors) that should function as an integrated metropolitan transportation network, giving emphasis to those facilities that serve important national and regional transportation functions. The RTP/SCS updates must also include a financial plan that demonstrates how the adopted transportation plan can be implemented, indicates resources from public and private sources that are reasonably expected to be

³ CEQA streamlining provisions are also available for eligible projects meeting the criteria established by Senate Bill 226 (Simitian, 2011), CEQA Guidelines Section 15183.3 (Streamlining for Infill Projects) and for eligible projects meeting the criteria established by Senate Bill 743 (Steinberg, 2013), Public Resources Code Section 21155.4 (Exemptions).

available to carry out the plan, and recommends any additional financing strategies for the needed projects and programs. Moreover, the RTP/SCS updates must include operational and maintenance strategies related to the existing transportation facilities. The RTP/SCS updates must include an economic impact analysis. Finally, under SB 375, the region's SCS as part of the RTP/SCS updates must identify existing and future land use patterns; consider statutory housing goals and objectives; identify areas to accommodate housing needs; consider resource areas and farmland; identify transportation needs and the planned transportation network; and set forth a future land use pattern to meet state greenhouse gas emission reduction targets.

2.3 PURPOSE AND NEED FOR ACTION

Federal regulations (40 Code of Federal Regulations [CFR] §1502.13) require the preparation of a statement of purpose and need in conjunction with environmental documents prepared to meet the requirements of the National Environmental Policy Act (NEPA). Consistent with the protocols established in NEPA, this statement of Purpose and Need has been included to facilitate the use of an EIR as a functional equivalent to environmental review required pursuant to NEPA, to the extent that the proposed action adequately characterized and analyzed anticipated adverse effects, and sufficient mitigation measures have been considered to avoid or reduce the anticipated adverse direct, indirect and cumulative effects of the proposed action. Although adoption of the 2016 RTP/SCS is not subject to NEPA, SCAG has chosen to include this statement of purpose and need to enable proponents of projects included in the 2016 RTP/SCS to discuss the purpose and need for their individual projects relative to the Plan.

The SCAG Regional Council has the responsibility for consideration of the 2016 RTP/SCS, with substantial input from its member jurisdictions, agencies, and stakeholders. This statement of Purpose and Need has been prepared to identify the underlying purpose for adopting the 2016 RTP/SCS. It was not prepared to be a comprehensive statement of need for each individual project included in the 2016 RTP/SCS. However, the 2016 RTP/SCS includes transportation improvements that may involve a federal action, such as the use of federal funds, right-of-way, permits and or leases at the time that project-level design is initiated; thus triggering the requirement for environmental review under NEPA, as set forth in 40 CFR Section 1502.13. Therefore, where determined appropriate by a Lead Agency asked to undertake a site or project-specific federal action, evaluated in this PEIR at the programmatic-level of detail, this statement of purpose and need may be incorporated by reference in site- or project-specific NEPA documents as provided in 40 CFR § 1502.21.

The purpose of the 2016 RTP/SCS is to provide a clear, long-term vision of the regional transportation goals, policies, objectives, strategies, and investments integrated with land use strategies for the SCAG region while at the same time providing strategies to meet greenhouse gas emissions reduction and air quality conformity requirements. The necessity for the 2016 RTP/SCS is driven by the need to plan for region's changing socioeconomic, transportation, financial, technological, and environmental conditions. Additionally, the 2016 RTP/SCS is necessary to plan for improvements to the aging regional transportation system, among others, to preserve its long-term viability in light of the projected population growth.

2.4 PROJECT DESCRIPTION

Similar to the 2012 RTP/SCS, last adopted by SCAG's Regional Council in April 2012 and subsequently amended in September 2014 (Amendment No. 2 to the 2012 RTP/SCS),⁴ the 2016 RTP/SCS is a long-range transportation plan that provides a vision for regional transportation investments, integrated with land use strategies, over a minimum 20-year period. The 2016 RTP/SCS contains regional transportation investments and integrated land use strategies. It includes investments and strategies to improve the regional transportation system (e.g. highways, transit, active transportation, etc.) and land use integration strategies. It also includes transportation financial strategies based on committed, available or reasonably available funding sources, thereby constituting the 2016 RTP/SCS as a "financially constrained Plan." As part of the constrained Plan, the 2016 RTP/SCS is intended to identify reasonably available sources of funding over the Plan period, and allocate these funds to transportation projects and programs that benefit the SCAG communities and residents. The 2016 RTP/SCS is designed to assure that, to the greatest extent possible, the money invested would have the best chance of achieving the objectives communities and residents care about.

The last chapter of the 2016 RTP/SCS also contains entitled "Looking Ahead," serves as a Strategic Plan and discusses which projects, programs, or initiatives the region should pursue in the coming decades. Unlike the constrained Plan, the Strategic Plan of the 2016 RTP/SCS presents a vision for regional improvements beyond committed, available, or reasonably available funding sources. It identifies additional projects that may require study and consensus building before the decision can be made as to whether to commit the funding to include these projects in a future RTP/SCS constrained plan. These are projects for which funding sources have not been identified, but the implementation of which would provide transportation, air quality, and health benefits to the region. The 2012 RTP/SCS also included a Strategic Plan, and it played a large role in informing the investments and strategies detailed in the financially constrained component of the 2016 RTP/SCS. Hence, the Strategic Plan included in the 2016 RTP/SCS is intended to play a similar role in informing future RTP/SCS updates.

This PEIR for the 2016 RTP/SCS does not analyze strategic projects because their lack of funding indicates that implementation is speculative at this point. If these projects become reasonably foreseeable, they will be included in the future RTP/SCS updates, and their impacts will be addressed in the PEIRs for future Plans.

2.4.1 Vision, Goals, Guiding Policies and Performance Measures

The 2016 RTP/SCS includes a vision, goals, guiding policies and performance measures developed through extensive outreach to the general public and stakeholders across the region. The 2016 RTP/SCS is intended to build upon the progress made since the 2012 RTP/SCS while recognizing the current conditions of land use and transportation throughout the region as well as developments and technologies since the adoption of the 2012 RTP/SCS. It is intended to respond to a changing region by meeting the challenges and creating conditions and infrastructure that motivate increased mobility and accessibility, expanded transportation options, broader economic growth, equitably distributed benefits, and sustainability.

⁴ Southern California Association of Governments. September 2014. Amendment No. 2 to 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy. Available at: <http://scagrtpscsc.net/Pages/2012RTPSCS.aspx>

Based upon extensive local collaboration, the 2016 RTP/SCS has a vision for achieving a range of quality of life outcomes. It envisions vibrant, livable communities that are healthy and safe, and which offer transportation options that provide timely access to schools, jobs, services, health care and other basic needs. It offers opportunities to communities for walking and bicycling, and offers residents improved access to parks, open space, natural lands, and recreational opportunities. Collectively, the 2016 RTP/SCS is intended to support and enhance opportunities for business, investment and employment, fueling a more prosperous economy. This vision recognizes the region’s tremendous diversity, and that one-size solutions are not practical or feasible.

The Plan’s goals are intended to help carry out vision for improved mobility, a strong economy and sustainability. The 2016 RTP/SCS goals remain unchanged from those adopted in the 2012 RTP/SCS as listed in Table 2.4.1-1, *2016 RTP/SCS Goals*.

**TABLE 2.4.1-1
2016 RTP/SCS GOALS**

Goal 1:	Align the plan investments and policies with improving regional economic development and competitiveness.
Goal 2:	Maximize mobility and accessibility for all people and goods in the region.
Goal 3:	Ensure travel safety and reliability for all people and goods in the region.
Goal 4:	Preserve and ensure a sustainable regional transportation system.
Goal 5:	Maximize the productivity of our transportation system.
Goal 6:	Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g. bicycling and walking).
Goal 7:	Actively encourage and create incentives for energy efficiency, where possible.
Goal 8:	Encourage land use and growth patterns that facilitate transit and active transportation.
Goal 9:	Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.

SOURCE:

Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 4.

The guiding policies for the 2016 RTP/SCS are intended to help focus future investments on the best-performing projects and strategies to preserve, maintain and optimize the performance of the existing transportation system. The 2016 RTP/SCS includes two additional guiding policies since the 2012 RTP/SCS (Table 2.4.1-2, *2016 RTP/SCS Guiding Policies*). The first addition (Guiding Policy 6) addresses emerging technologies and the potential for such technologies to lower the number of collisions, improve traveler information, reduce the demand for driving alone, and lessen congestion related to road incidents and other non-recurring circumstances (a car collision, for example). The second addition (Guiding Policy 7) recognizes the potential for transportation investments to improve both the efficiency of the transportation network and the environment.

**TABLE 2.4.1-2
DRAFT 2016 RTP/SCS GUIDING POLICIES**

Policy 1:	Transportation investments shall be based on SCAG’s adopted regional Performance Indicators
Policy 2:	Ensuring safety, adequate maintenance, and efficiency of operations on the existing multimodal transportation system should be the highest RTP/SCS priorities for any incremental funding in the region.
Policy 3:	RTP/SCS land use and growth strategies in the RTP/SCS will respect local input and advance smart growth initiatives.
Policy 4:	Transportation demand management (TDM) and active transportation will be focus areas, subject to Policy 1.
Policy 5:	High-Occupancy vehicle (HOV) gap closures that significantly increase transit and rideshare usage will be supported and encouraged, subject to Policy 1.
Policy 6 :	The RTP/SCS will support investments and strategies to reduce non-recurrent congestion and demand for single occupancy vehicle use, by leveraging advanced technologies.
Policy 7:	The RTP/SCS will encourage transportation investments that result in cleaner air, a better environment, a more efficient transportation system, and sustainable outcomes in the long run.
Policy 8:	Monitoring progress on all aspects of the Plan, including the timely implementation of projects, programs, and strategies, will be an important and integral component of the Plan.

SOURCE:

Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 4.

Performance measures are closely tied to the broader vision, goals and guiding policies to ensure that the implementation of the 2016 RTP/SCS moves the region closer to achieving these vision, goals and policies. The 2016 RTP/SCS uses a number of performance measures to help gauge progress, how well the region meets the federal air quality conformity requirements, the new federal requirements of MAP-21, and state requirements for reducing greenhouse gas emissions and planning for a more sustainable future. Like the 2012 RTP/SCS, performance measures continue to play a critical role in the development of the 2016 RTP/SCS. Performance measures included in the 2016 RTP/SCS are built upon and updated from those developed for the 2012 RTP/SCS to ensure that there is consistency when tracking and assessing the region’s performance and whether the region is progressing towards meeting and exceeding federal and state requirements. It is also intended to help quantify regional goals, estimate potential impacts of proposed investments, and evaluate progress over time. An extended discussion on Plan performance is covered in Chapter 8 entitled “Measuring Our Progress for the Future” of the 2016 RTP/SCS.

2.4.2 Changes since the 2012 RTP/SCS

The 2016 RTP/SCS integrates the transportation network and related strategies with a forecasted land use and regional growth pattern, and addresses changes the region has been facing since the adoption of the 2012 RTP/SCS. The 2016 RTP/SCS highlights a number of changing circumstances that have arisen in the region that have had an effect on the development of the Plan.⁵ They include the region’s

⁵ Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 1.

constant fluid and dynamic demographic and housing market; the passage of MAP-21; state legislation on transportation funding; the rapid advancement of new technologies such as real-time traveler information, on-demand shared mobility services enabled by smartphone applications or ridesourcing, car share and bike share; and the state's continuing emphasis on reducing greenhouse gas emissions, even after the passage of SB 375.⁶

The 2016 RTP/SCS was also developed recognizing the progress the region has made since the last Plan. Progress has been made in many planning areas, ranging from transit, passenger rail, highways, regional HOV and Express Lane network, active transportation, goods movement, sustainability planning implementation, affordable housing, and public health.⁷ The 2016 RTP/SCS includes integrated strategies for land use and transportation that build upon the region's progress to ensure the region grows in ways that enhance mobility, sustainability, economy, and quality of life over the coming decades.

The RTP/SCS is updated every four years to reflect the most currently available information and conditions in the region. Updates to the RTP/SCS describe a number of challenges and opportunities. The challenges and opportunities with respect to the 2016 RTP/SCS are described in Chapter 3 of the 2016 RTP/SCS document.⁸ The challenges and opportunities facing the SCAG region include:

- Economic challenges as a result of the Great Recession, which lasted from December 2007 through June 2009;
- An estimated increase in population growth (approximately 3.8 million residents), households (approximately 1.5 millions), and jobs (approximately 2.4 million) over the 2016 RTP/SCS planning horizon (2016-2040);⁹
- Changing demographics as a result of a slow population growth pattern, aging population, and Millennials that are expected to transform the character of the region over the next 25 years as people choose different places to live and more efficient way to get around;
- Maintenance and preservation for the region's aging transportation system (encompassing roads, bridges, bus and rail transit, and freight rail);
- Securing funding for financing a transportation system;
- How to move goods efficiently and environmentally in a huge and complex region;
- Affordable housing, gentrification and displacement while the region continues to build communities that are more compact and more transit-oriented;

⁶ On April 29, 2015, Governor Brown issued Executive Order B-30-15, which establishes a California GHG emissions reduction target of 40 percent (below 1990 levels) by 2030. This is also intended to ensure the achievement of 80 percent GHG emissions reduction (below 1990 level) by 2050 pursuant to Governor Schwarzenegger's Executive Order S-3-05 issued in 2005.

⁷ Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 2.

⁸ Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 3.

⁹ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

- How to develop integrated land use and transportation strategies that contribute to public health benefits for the large and diverse region;
- Climate change that will continue to transform the region's habitats and overall biodiversity and affect coastlines as sea levels rise and storm surges grow more destructive; and
- Rapid advancement and growth in technology and innovation such as smart phones and electric cars; advancements in software development such as real-time travel information; and new service paradigms such as ride sourcing (e.g. Lyft and Uber) and peer-to-peer car sharing.

Facing with these challenges, the 2016 RTP/SCS was developed with a particular emphasis on extensive regional collaboration, public outreach, and continued bottom-up planning process in order to reflect the region's needs, priorities, and desires, as well as meeting applicable federal and state requirements.

Major transportation projects considered in the 2016 RTP/SCS since the 2012 RTP/SCS was adopted include additional highway projects, high-occupancy vehicle (HOV) projects, mixed flow projects, rail projects, and toll projects (Figure 2.4.2-1, *Major Highway Projects*, Figure 2.4.2-2, *Major HOV Projects*, Figure 2.4.2-3, *Major Mixed Flow Projects*, Figure 2.4.2-4, *Major Rail Projects*, and Figure 2.4.2-5, *Major Toll Projects*).

2.4.3 Scenario Planning

The scenario planning process played a critical role in developing the 2016 RTP/SCS. To facilitate development of the Plan, SCAG generated four preliminary "sketch scenarios" for the region's future land use and transportation investments during the next 25 years.¹⁰ Using several relevant land use and transportation inputs, sketch scenarios explored a range of potential regional development patterns, and evaluated how the scenarios performed in terms of sustainability, mobility and other performance metrics. The purpose for developing sketch scenarios was to engage in a bottom-up planning process, and solicit input and feedback on the scenarios as part of the 2016 RTP/SCS development process.¹¹

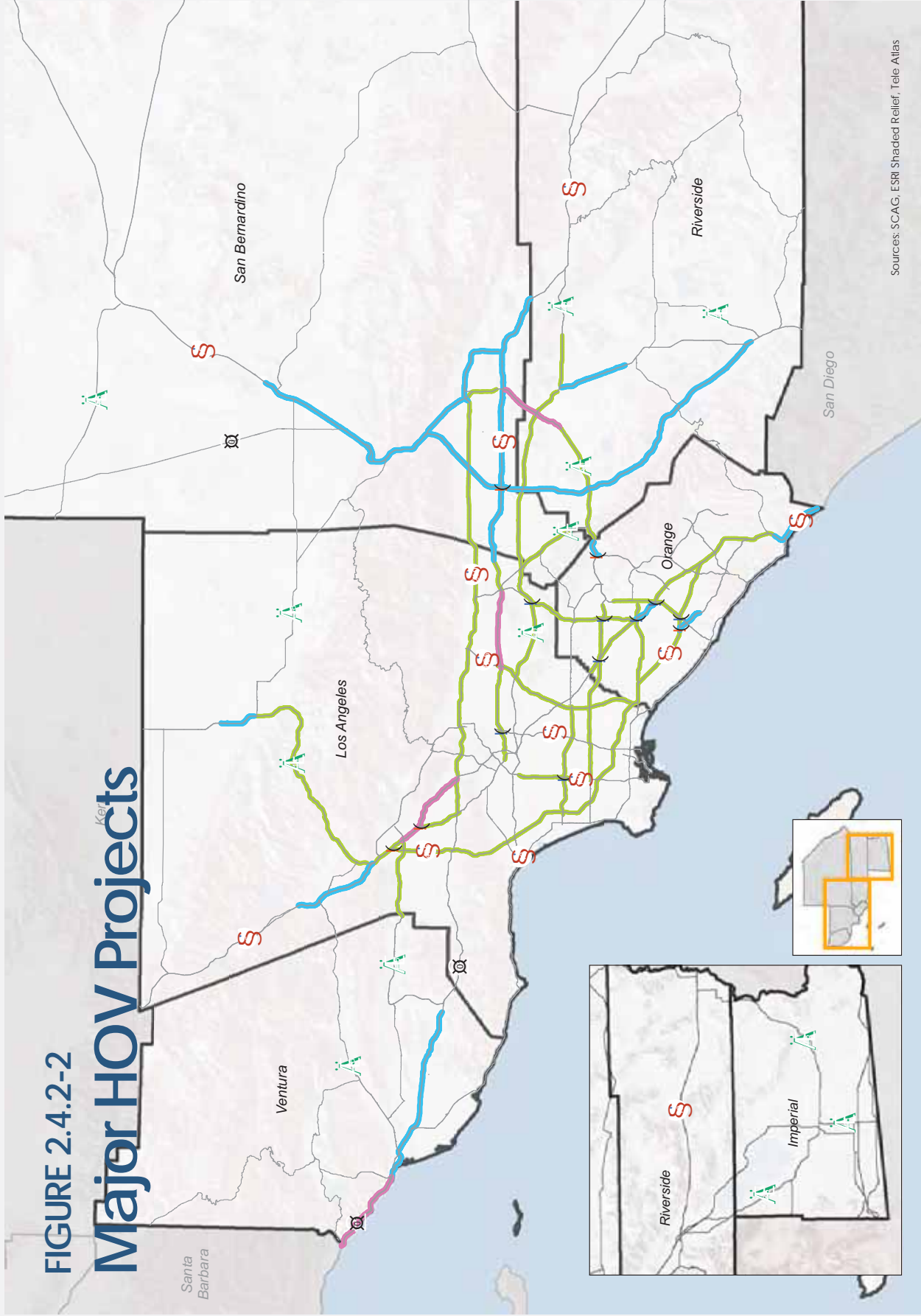
Based on feedback received on the sketch scenarios, a preliminary draft policy growth forecast (PGF) was developed. The PGF serves as the foundation for the regional policy growth scenario, which proposed for inclusion in the 2016 RTP/SCS. As part of the scenario planning development process and consistent with the bottom-up planning process, the preliminary draft PGF, including population, households and employment, was distributed for local technical review in summer 2015. All technical corrections made to the preliminary draft PGF during the technical review process were completed in fall 2015, and these technical corrections were incorporated and used to modify the preliminary draft PGF.¹²

¹⁰ Southern California Association of Governments. 13 March 2015. *Preliminary Scenario Planning Matrix*. Available at: http://www.scag.ca.gov/committees/CommitteeDocLibrary/oscwg031915_draftscenario.pdf

¹¹ Southern California Association of Governments. Accessed October 2015. *Workshop Materials. Station 6: The 4 Scenarios Posters*. Available at: <http://scagtrpccs.net/Pages/WorkshopMaterials.aspx>

¹² Southern California Association of Governments. 8 October 2015. *Staff Report: 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (Draft 2016 RTP/SCS) – Policy Growth Forecast (PGF) Guiding Principles and Framework*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/cehd100815fullagn.pdf>

FIGURE 2.4.2-2
Major HOV Projects



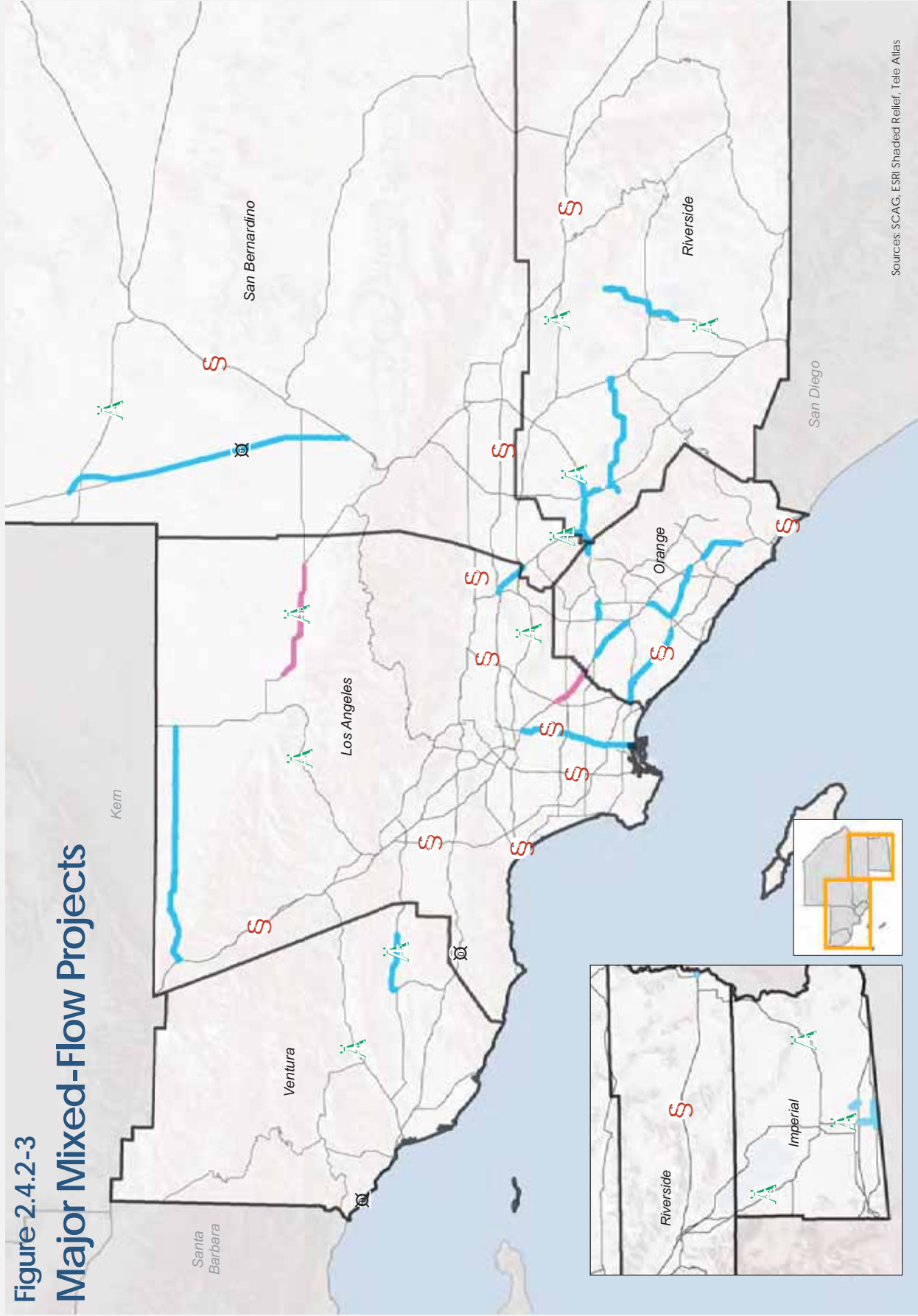
- (Base Year Connectors (2012)
- (Baseline Segments (2040)
- (Plan Segments (2040)

Sources: SCAG, ESRI Shaded Relief, Tele Atlas



Figure 2.4.2-3

Major Mixed-Flow Projects



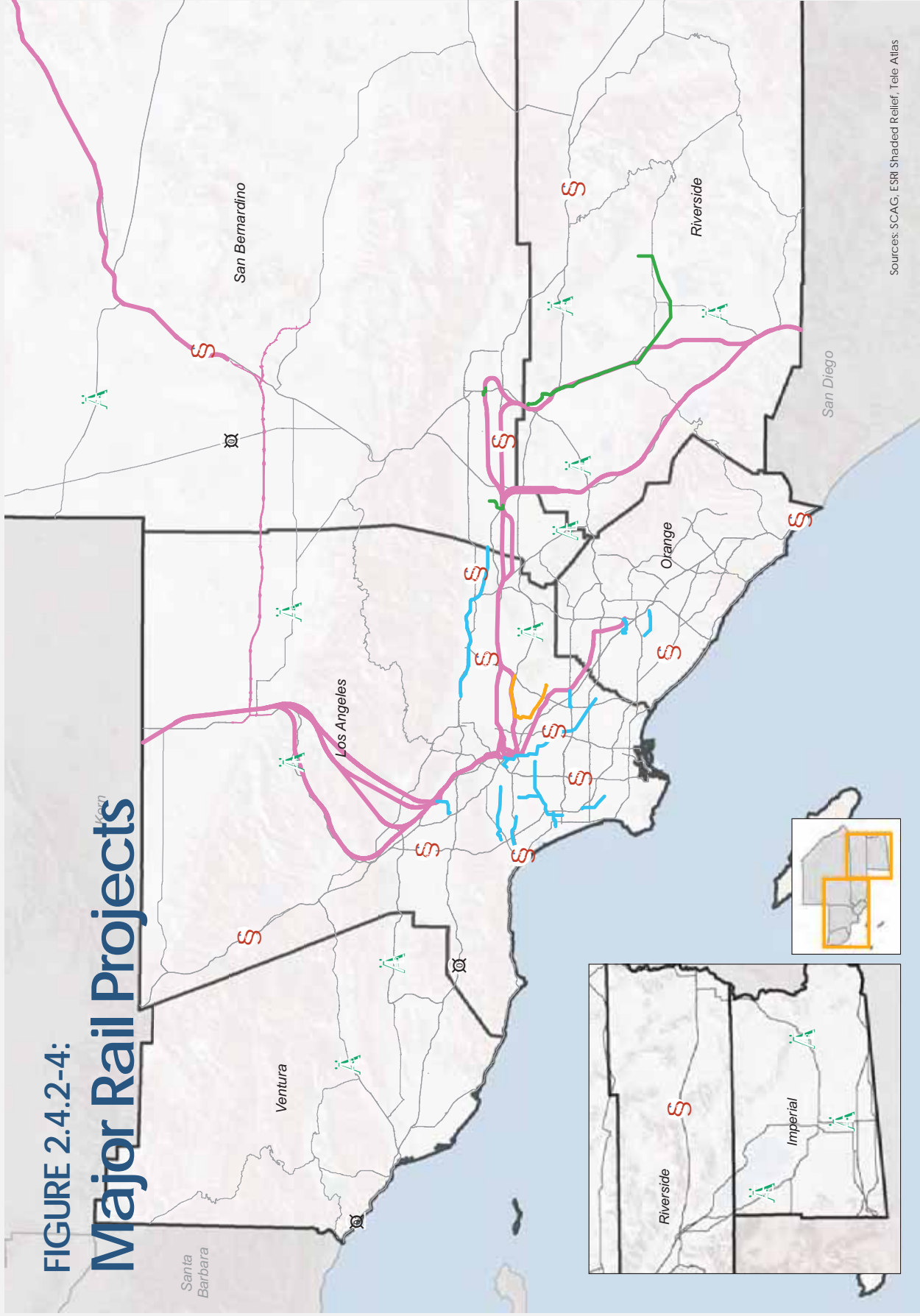
- Baseline (2040)
- Plan (2040)

0 3 6 12 Miles

Sources: SCAG, ESRI Shaded Relief, Tele Atlas

FIGURE 2.4.2-4:

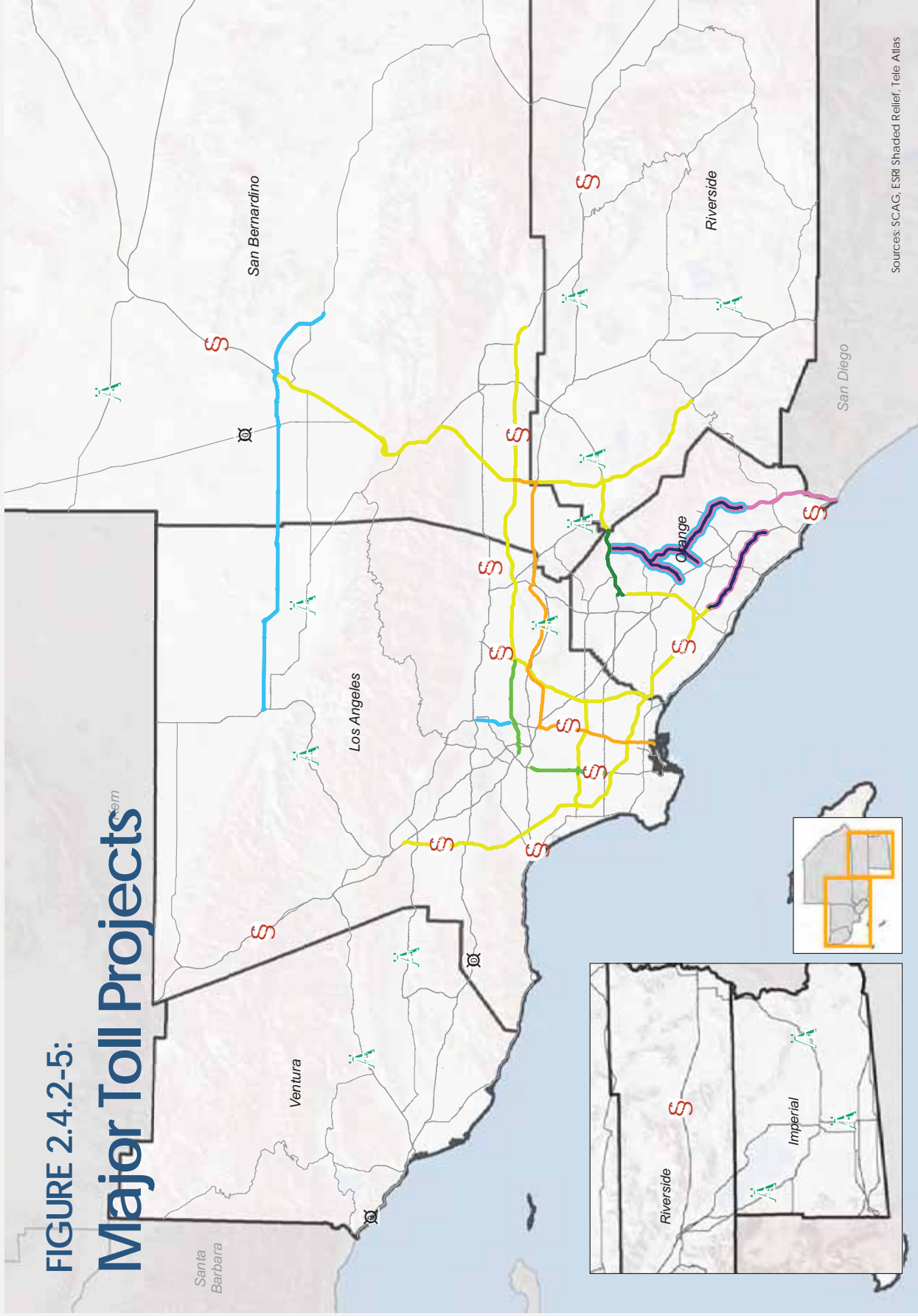
Major Rail Projects



- High Speed Rail (Plan 2040)
- Urban Rail (Plan 2040)
- Metrolink (Plan 2040)
- Urban Rail Alternative (Plan 2040)

FIGURE 2.4.2-5:

Major Toll Projects



Sources: SCAG, ESRI Shaded Relief, Tele Atlas



- Toll Lanes (Base Year 2012)
- Toll Lanes (Plan 2040)
- Toll Lanes (Baseline 2040)
- HOT Lanes (Base Year 2012)
- HOT Lanes (Plan 2040)
- HOT Lanes (Baseline 2040)
- Freight Corridors (Plan 2040)

The modified draft PGF at jurisdictional level is illustrated in **Table 2.4.3-1, Draft PGF at Jurisdictional Level for the 2016 RTP/SCS**.¹³ This modified version of the draft PGF serves as the basis for the technical modeling for the 2016 RTP/SCS, maintains local input-based jurisdictional growth totals with targeted growth in opportunity areas that are well served by transit and are conducive to successful mixed-use and higher density housing in the future (based on future transit investments and recent construction trends for similar developments).¹⁴

**TABLE 2.4.3-1
DRAFT PGF AT JURISDICTIONAL LEVEL FOR THE 2016 RTP/SCS**

City Name	Population 2012	Population 2040	Households 2012	Households 2040	Employment 2012	Employment 2040
Imperial County						
Brawley city	25,800	42,900	7,600	15,000	8,000	16,800
Calexico city	40,200	62,200	10,200	19,300	8,300	17,500
Calipatria city	7,600	9,600	1,000	1,600	1,300	2,200
El Centro city	44,100	61,000	13,100	19,900	20,300	43,800
Holtville city	6,100	8,000	1,800	2,500	1,000	2,000
Imperial city	15,800	25,400	4,600	8,800	3,400	9,500
Westmorland city	2,300	2,700	600	700	300	500
Unincorporated	37,700	70,300	10,400	24,700	16,400	32,300
Los Angeles County						
Agoura Hills city	20,500	22,700	7,300	8,200	12,500	15,300
Alhambra city	84,000	88,800	29,300	31,900	28,000	33,500
Arcadia city	56,700	65,900	19,600	22,900	28,900	34,400
Artesia city	16,600	18,000	4,500	5,000	5,000	5,800
Avalon city	3,800	5,100	1,500	2,100	2,500	3,000
Azusa city	47,100	55,000	12,800	15,600	16,600	20,600
Baldwin Park city	76,100	83,600	17,200	19,300	16,500	19,500
Bell city	35,700	36,900	8,900	9,200	12,400	13,700
Bellflower city	77,100	79,600	23,700	24,400	13,600	14,700
Bell Gardens city	42,300	44,000	9,700	10,100	9,400	10,500
Beverly Hills city	34,400	37,200	14,900	16,200	57,700	68,900
Bradbury city	1,100	1,200	400	400	100	200
Burbank city	103,300	118,700	42,500	48,400	106,800	145,000
Calabasas city	23,800	24,500	8,700	9,100	16,700	17,300
Carson city	92,000	107,900	25,300	30,800	58,500	69,700

¹³ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

¹⁴ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

**TABLE 2.4.3-1
DRAFT PGF AT JURISDICTIONAL LEVEL FOR THE 2016 RTP/SCS**

City Name	Population 2012	Population 2040	Households 2012	Households 2040	Employment 2012	Employment 2040
Cerritos city	49,300	50,900	15,500	16,000	30,400	33,700
Claremont city	35,500	39,400	11,700	13,200	17,400	19,700
Commerce city	12,900	13,500	3,400	3,600	44,600	49,100
Compton city	97,300	100,900	23,100	24,000	25,400	28,200
Covina city	48,200	51,600	15,900	17,200	25,300	29,500
Cudahy city	23,800	23,800	5,600	5,600	2,900	2,900
Culver City	39,100	40,700	16,800	17,500	44,100	53,000
Diamond Bar city	56,000	63,900	17,900	21,200	15,400	19,300
Downey city	112,500	121,700	33,900	37,300	47,500	53,000
Duarte city	21,500	24,300	7,000	8,200	10,100	11,900
El Monte city	114,200	137,200	27,800	34,700	28,000	35,700
El Segundo city	16,700	17,300	7,100	7,400	38,400	45,400
Gardena city	59,400	68,700	20,600	24,200	28,900	33,500
Glendale city	193,200	214,000	72,400	81,100	111,300	127,000
Glendora city	50,500	54,300	17,200	18,900	20,000	23,000
Hawaiian Gardens city	14,300	15,900	3,600	4,000	4,800	5,600
Hawthorne city	85,300	87,000	28,600	30,000	27,200	32,100
Hermosa Beach city	19,600	20,400	9,500	9,800	7,400	10,000
Hidden Hills city	1,900	2,000	600	600	300	300
Huntington Park city	58,500	67,400	14,600	17,400	15,600	18,600
Industry city	500	500	100	100	67,700	74,700
Inglewood city	110,900	129,000	36,600	43,300	31,100	37,400
Irwindale city	1,400	2,000	400	500	18,800	21,500
La Cañada Flintridge city	20,400	21,600	6,900	7,300	6,500	8,300
La Habra Heights city	5,400	6,200	1,800	1,900	200	400
Lakewood city	80,600	84,700	26,600	28,200	18,900	21,400
La Mirada city	48,800	52,100	14,700	15,800	17,400	20,200
Lancaster city	158,300	209,900	47,400	65,300	45,800	59,600
La Puente city	40,100	50,200	9,500	12,400	6,300	8,700
La Verne city	31,800	32,900	11,400	12,100	12,200	14,300
Lawndale city	33,000	33,900	9,700	10,100	6,700	8,200
Lomita city	20,500	21,200	8,100	8,400	4,600	5,400
Long Beach city	466,300	484,500	163,800	175,500	153,200	181,700
Los Angeles city	3,845,500	4,609,400	1,325,500	1,690,300	1,696,400	2,169,100
Lynwood city	70,300	76,100	14,700	16,200	9,200	10,900

**TABLE 2.4.3-1
DRAFT PGF AT JURISDICTIONAL LEVEL FOR THE 2016 RTP/SCS**

City Name	Population 2012	Population 2040	Households 2012	Households 2040	Employment 2012	Employment 2040
Malibu city	12,700	14,100	5,300	5,600	8,500	10,300
Manhattan Beach city	35,300	37,100	14,000	14,800	18,000	20,700
Maywood city	27,500	28,900	6,600	6,900	3,600	4,000
Monrovia city	36,800	40,300	13,800	15,300	19,700	23,300
Montebello city	63,000	67,300	19,100	21,000	27,500	30,800
Monterey Park city	61,300	65,000	20,200	21,500	32,500	36,500
Norwalk city	105,900	106,300	27,100	27,200	24,100	27,300
Palmdale city	154,200	201,500	43,100	59,300	29,300	40,300
Palos Verdes Estates city	13,600	13,900	5,100	5,200	2,300	2,900
Paramount city	54,500	58,000	13,900	14,800	19,600	22,300
Pasadena city	140,300	150,700	58,900	62,400	111,000	144,800
Pico Rivera city	63,400	69,100	16,600	18,400	18,900	22,400
Pomona city	150,500	190,400	38,600	51,100	55,100	67,200
Rancho Palos Verdes city	42,000	42,300	15,600	15,700	5,800	6,200
Redondo Beach city	67,200	74,400	29,000	33,000	24,000	29,800
Rolling Hills city	1,900	2,000	700	700	100	100
Rolling Hills Estates city	8,100	8,600	3,000	3,100	5,900	6,800
Rosemead city	54,300	60,800	14,300	16,400	13,700	16,200
San Dimas city	33,600	34,500	12,000	12,400	11,200	12,700
San Fernando city	23,900	26,900	6,000	7,000	10,900	12,700
San Gabriel city	40,100	46,900	12,600	15,300	14,100	16,800
San Marino city	13,200	13,300	4,300	4,400	3,600	4,200
Santa Clarita city	202,000	262,200	67,300	90,300	73,500	95,900
Santa Fe Springs city	16,600	21,700	4,800	6,500	54,600	62,000
Santa Monica city	90,700	103,400	47,100	53,900	89,600	103,700
Sierra Madre city	11,000	11,200	4,800	5,000	1,900	2,100
Signal Hill city	11,200	12,000	4,200	4,600	13,800	16,500
South El Monte city	20,300	22,500	4,600	5,200	15,700	17,800
South Gate city	94,700	111,800	23,200	28,300	20,400	24,000
South Pasadena city	25,800	27,100	10,500	11,100	9,300	10,500
Temple City city	35,900	40,600	11,600	13,500	6,900	8,400
Torrance city	146,500	159,800	56,100	62,000	102,300	117,600
Vernon city	100	300	0	100	43,200	46,100

**TABLE 2.4.3-1
DRAFT PGF AT JURISDICTIONAL LEVEL FOR THE 2016 RTP/SCS**

City Name	Population 2012	Population 2040	Households 2012	Households 2040	Employment 2012	Employment 2040
Walnut city	29,800	33,800	8,700	10,400	8,400	9,900
West Covina city	107,000	116,700	31,700	35,000	29,500	34,300
West Hollywood city	34,800	41,800	22,600	27,800	29,800	37,300
Westlake Village city	8,300	8,800	3,300	3,500	13,300	15,900
Whittier city	85,900	96,900	28,300	32,600	26,900	31,700
Unincorporated	1,040,700	1,273,700	292,700	392,400	222,900	288,400
Orange County						
Aliso Viejo city	49,300	51,000	18,500	19,400	18,900	20,900
Anaheim city	345,300	403,400	99,200	122,600	177,900	245,600
Brea city	41,100	50,600	14,500	18,100	46,700	53,700
Buena Park city	81,800	92,500	24,000	27,900	34,300	39,800
Costa Mesa city	111,200	116,400	40,000	42,500	84,400	93,200
Cypress city	48,500	49,700	15,700	16,300	22,100	27,700
Dana Point city	33,800	35,800	14,200	15,300	11,900	14,100
Fountain Valley city	56,000	59,300	18,700	19,900	30,400	34,900
Fullerton city	138,000	160,500	45,500	55,200	60,800	94,100
Garden Grove city	172,900	178,200	46,200	48,200	51,700	58,500
Huntington Beach city	193,200	207,100	74,900	81,200	75,800	87,000
Irvine city	227,100	327,300	81,800	123,400	224,400	320,000
Laguna Beach city	23,100	23,100	10,800	11,000	12,100	14,100
Laguna Hills city	30,600	31,500	10,400	10,900	18,500	19,400
Laguna Niguel city	63,900	72,000	24,300	27,700	18,300	22,100
Laguna Woods city	16,500	17,100	11,400	11,700	4,400	6,500
La Habra city	61,100	68,500	19,000	21,700	17,300	19,900
Lake Forest city	78,500	90,700	26,300	30,500	39,200	49,000
La Palma city	15,800	15,800	5,100	5,100	7,700	8,500
Los Alamitos city	11,600	12,100	4,100	4,200	14,200	15,600
Mission Viejo city	94,500	96,600	33,200	34,100	37,100	39,100
Newport Beach city	86,300	92,700	38,800	41,700	76,000	79,100
Orange city	138,500	153,000	43,600	49,300	94,100	105,500
Placentia city	51,500	58,400	16,600	18,900	19,000	23,500
Rancho Santa Margarita city	48,500	48,700	16,700	16,800	17,200	19,500
San Clemente city	64,400	68,000	24,000	25,300	24,800	29,500
San Juan Capistrano city	35,200	39,500	11,500	13,300	14,700	17,900

**TABLE 2.4.3-1
DRAFT PGF AT JURISDICTIONAL LEVEL FOR THE 2016 RTP/SCS**

City Name	Population 2012	Population 2040	Households 2012	Households 2040	Employment 2012	Employment 2040
Santa Ana city	329,200	343,100	73,300	78,000	154,800	166,000
Seal Beach city	24,400	24,800	13,000	13,300	11,000	12,300
Stanton city	38,700	41,600	10,700	11,800	7,200	8,500
Tustin city	77,300	83,000	25,600	27,900	37,600	66,400
Villa Park city	5,900	6,100	2,000	2,000	1,500	1,700
Westminster city	91,000	92,800	26,200	26,800	24,200	26,400
Yorba Linda city	66,200	70,500	21,900	23,400	15,600	17,700
Unincorporated	120,700	180,100	37,800	56,900	20,700	41,200
Riverside County						
Banning city	30,100	37,600	10,800	14,000	7,300	14,200
Beaumont city	39,400	80,600	12,400	27,200	5,900	18,000
Blythe city	20,000	24,600	4,500	6,200	3,700	6,600
Calimesa city	8,100	24,800	3,300	10,900	1,300	5,900
Canyon Lake city	10,700	11,300	3,900	4,100	1,200	2,700
Cathedral City city	52,200	68,100	17,100	26,000	10,800	21,200
Coachella city	42,400	146,300	9,200	40,100	8,500	34,400
Corona city	156,000	172,300	45,300	52,000	66,400	88,400
Desert Hot Springs city	27,800	58,900	9,100	21,900	3,700	12,900
Eastvale City	56,500	65,400	14,100	16,500	4,300	9,800
Hemet city	80,800	126,500	30,300	52,200	21,000	45,500
Indian Wells city	5,100	7,200	2,800	4,400	4,000	7,000
Indio city	78,800	123,300	23,800	39,300	16,000	36,800
Lake Elsinore city	54,100	111,400	15,200	35,000	11,800	31,700
La Quinta city	38,300	47,700	14,900	19,100	12,400	21,500
Menifee city	81,600	121,100	28,400	48,100	10,300	23,500
Moreno Valley city	197,600	256,600	51,800	73,000	31,400	83,200
Murrieta city	105,600	129,800	32,800	43,500	23,200	45,100
Norco city	26,900	32,100	7,000	9,200	13,200	25,700
Palm Desert city	49,800	61,700	23,400	31,400	36,900	53,600
Palm Springs city	45,600	56,900	22,900	31,300	26,300	45,800
Perris city	70,700	116,700	16,600	32,700	15,100	32,200
Rancho Mirage city	17,600	25,000	8,900	13,600	12,300	20,500
Riverside city	310,700	386,600	92,400	118,600	120,000	200,500
San Jacinto city	45,100	79,900	13,200	27,600	5,900	17,800
Temecula city	104,100	137,400	32,500	42,900	43,000	63,500
Wildomar city	33,000	56,200	10,100	18,100	5,000	13,500

**TABLE 2.4.3-1
DRAFT PGF AT JURISDICTIONAL LEVEL FOR THE 2016 RTP/SCS**

City Name	Population 2012	Population 2040	Households 2012	Households 2040	Employment 2012	Employment 2040
Jurupa Valley City	97,000	114,500	25,000	30,400	24,500	32,600
Unincorporated	359,500	487,500	112,700	159,200	71,300	160,200
San Bernardino County						
Adelanto city	31,100	70,000	7,900	18,100	3,900	7,800
Apple Valley town	70,200	100,600	23,700	34,800	15,400	27,600
Barstow city	23,100	35,100	8,100	12,900	8,100	16,800
Big Bear Lake city	5,100	6,900	2,200	3,000	3,800	5,400
Chino city	79,400	120,400	21,000	34,000	42,600	50,600
Chino Hills city	75,800	94,900	23,000	28,300	11,500	18,600
Colton city	52,800	69,100	15,000	20,800	16,800	29,200
Fontana city	200,200	280,900	49,600	74,000	47,000	70,800
Grand Terrace city	12,200	14,200	4,400	5,700	2,200	5,300
Hesperia city	91,100	129,100	26,400	39,100	14,900	28,300
Highland city	53,700	66,900	15,500	20,600	5,500	10,200
Loma Linda city	23,400	29,300	8,800	11,800	16,700	21,100
Montclair city	37,200	42,700	9,600	11,600	16,500	19,000
Needles city	4,900	7,000	1,900	2,800	2,200	3,800
Ontario city	166,300	258,600	45,100	75,300	103,300	175,400
Rancho Cucamonga city	170,100	204,300	55,400	73,100	69,900	104,600
Redlands city	69,600	85,500	24,800	32,400	31,700	53,400
Rialto city	100,800	112,000	25,400	31,500	21,100	30,500
San Bernardino city	211,900	257,400	59,300	77,100	88,900	128,900
Twentynine Palms city	25,900	37,300	8,300	11,400	4,300	8,500
Upland city	74,700	81,700	25,900	28,900	31,700	43,500
Victorville city	119,600	184,500	33,100	55,400	29,800	52,700
Yucaipa city	52,300	72,500	18,400	28,200	8,200	15,000
Yucca Valley town	21,000	26,300	8,300	12,200	6,100	10,000
Unincorporated	295,600	344,100	94,200	111,300	57,400	91,100
Ventura County						
Camarillo city	66,300	79,900	24,800	30,200	35,800	47,300
Fillmore city	18,800	21,800	5,200	6,300	3,000	5,300
Moorpark city	34,800	43,000	10,600	13,100	11,300	16,600
Ojai city	7,500	8,400	3,100	3,300	5,100	5,300
Oxnard city	200,100	237,300	50,100	60,100	58,100	79,200
Port Hueneme city	21,800	22,400	7,100	7,300	6,400	6,700
San Buenaventura (Ventura) city	106,700	125,300	40,700	48,400	60,700	66,000

**TABLE 2.4.3-1
DRAFT PGF AT JURISDICTIONAL LEVEL FOR THE 2016 RTP/SCS**

City Name	Population 2012	Population 2040	Households 2012	Households 2040	Employment 2012	Employment 2040
Santa Paula city	29,800	39,600	8,500	11,500	7,800	11,700
Simi Valley city	125,100	142,400	41,300	47,400	44,000	61,100
Thousand Oaks city	127,800	131,700	45,900	47,200	68,200	81,900
Unincorporated	96,700	113,600	32,100	37,500	31,800	38,700

NOTE:

Rounded to the nearest 100, may not add up to rounded county numbers due to separate rounding process.

SOURCE:

Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

To guide the development of PGF, a set of five guiding principles and framework were developed, reviewed and supported by SCAG’s CEHD Committee.¹⁵ Based on this support and consistent with the guiding principles and framework approved by the CEHD Committee, the 2016 RTP/SCS includes proposed land use strategies as discussed below.¹⁶

2.4.4 Land Use and Transportation Strategies

The 2016 RTP/SCS envisions future regional growth that is well coordinated with the transportation system improvements, as well as anticipates new transportation projects planned by the region’s CTCs and transit providers. It also incorporates best practices for increasing transportation choices; reducing dependence on personal automobiles; allowing future growth in walkable, mixed-use communities and in high-quality transit areas (HQTAs); and further improving air quality. As such, the 2016 RTP/SCS is dedicated to detailing recommended land use strategies and transportation investments.

The region’s transportation network and land uses must be well integrated to ensure that the region grows in ways that enhance mobility, sustainability, and quality of life. The 2016 RTP/SCS makes a concerted effort to integrate the two, so that the region can be developed into an even more sustainable region over the coming decades. Accordingly, the following overview of regional strategies for growth and land use set the context for a comprehensive review of the region’s transportation system.

Land Use Strategies

Built upon the success of the 2012 RTP/SCS, the 2016 RTP/SCS includes a set of regional land use strategies that are intended to increase transportation mode choice, guide future land development

¹⁵ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

¹⁶ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

patterns, and further improve air quality.¹⁷ These proposed land use strategies recognize a higher portion of new households and employment in areas well-served by transit, and reduce growth in high value habitat areas along with neighborhoods that are adjacent to highways. Like the 2012 RTP/SCS, the proposed land use strategies included in the 2016 RTP/SCS continue to focus new growth in HQTAs, existing suburban town centers, and more walkable, mixed-use communities. The 2016 RTP/SCS land use strategies also seek to balance the region's land use choices and transportation investments. Hence, the 2016 RTP/SCS includes coordinated land use strategies with the committed and projected transportation investments in the region that emphasize system preservation and enhancement, active transportation, and land use integration.

A set of foundational policies guide the development of the proposed land use strategies:

- Identify regional strategic areas for infill and investment;
- Structure the plan on a three-tiered system of centers development;¹⁸
- Develop "Complete Communities";
- Develop nodes on a corridor;
- Plan for additional housing and jobs near transit;
- Plan for changing demand in types of housing;
- Continue to protect stable, existing single-family areas;
- Ensure adequate access to open space and preservation of habitat; and
- Incorporate local input and feedback on future growth.

In support of the foundation policies and guiding principles, the 2016 RTP/SCS includes the six proposed land use strategies as follows.

High Quality Transit Areas (HQTA). An HQTA is an area within one-half mile of (1) a fixed guideway transit stop, or (2) bus transit corridors where buses pick up passengers every 15 minutes or less during peak commute hours. The 2016 RTP/SCS forecasted land use pattern reinforces the trend of focusing new housing and employment in the region's HQTAs (*Figure 2.4.4-1: High Quality Transit Areas throughout the SCAG Region in 2040*). A forecasted regional land use pattern has been developed exhibiting increased residential and employment growth in HQTAs, with corresponding reduced growth in areas lacking transit infrastructure. Regional investments in "First/Last Mile" strategies are expanded within HQTAs to increase transit ridership by making it quicker and easier to complete a transit trip. Investments include enhanced street crossings, connections, wayfinding, signage, station amenities, and bike parking.

Livable Corridors. "Livable Corridors" are arterial roadways where jurisdictions may plan for a combination of the following elements: high-quality bus frequency; higher density residential and employment at key intersections; and increased active transportation through dedicated bikeways. Most Livable Corridors would be located within HQTAs. The proposed Livable Corridor land-use

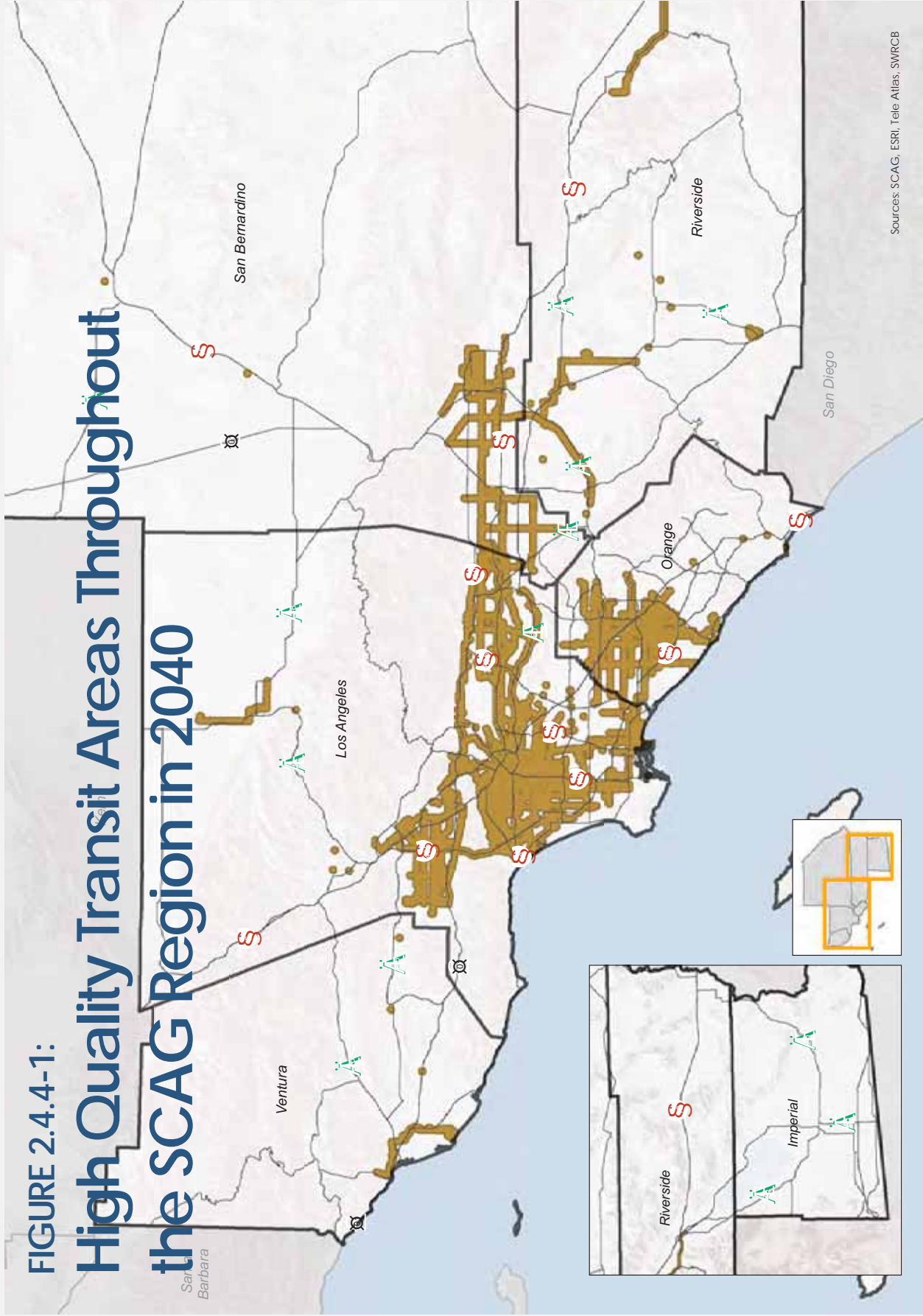
¹⁷ Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 5.

¹⁸ "Identify strategic centers based on a three-tiered system of existing, planned, and potential, relative to transportation infrastructure. This strategy more effectively integrates land use planning and transportation investment." A more detailed description of these strategies and policies can be found on pages 90-92 of SCAG's 2008 Regional Transportation Plan, which was adopted in May 2008.

FIGURE 2.4.4-1:

High Quality Transit Areas Throughout the SCAG Region in 2040

Santa Barbara



2040 HOTA

strategies include development of mixed use retail centers at key nodes along corridors, increasing neighborhood-oriented retail at more intersections, applying a “complete streets” approach to roadway improvements, and zoning that allows for the replacement of underperforming auto-oriented strip retail between nodes with higher density residential and employment. These strategies will allow more context sensitive density, improve retail performance, combat blight, and improve fiscal outcomes for local communities.

Neighborhood Mobility Area. Neighborhood Mobility Areas (NMA) represent the synthesis of various planning practices, and are applicable in a wide range of settings in the SCAG region. Proposed NMA strategies are intended to provide sustainable transportation options for residents of the region who lack convenient access to high-frequency transit options but have a high proportion of short-trips relating to the surrounding urban form. NMAs are conducive to active transportation and include a “complete streets” approach to roadway improvements to encourage replacing single- and multi-occupant automobile use with biking, walking, skateboarding, neighborhood electric vehicles and senior mobility devices. A complete streets approach ensures that transportation plans meet the needs of all users of the roadway system. These areas have high intersection density, low to moderate traffic speeds, and robust residential retail connections. NMAs are suburban in nature, but can support slightly higher density in targeted locations.

Zero-Emission Vehicles and Electric Vehicle Charging Stations. As technology has an important role in land use and transportation strategies, the 2016 RTP/SCS includes location-based land use strategies specifically on increasing the efficiency to Plug-in Hybrid Electric Vehicles (PHEV) in the region. These are electric vehicles that are powered by a gasoline engine when their battery is depleted. The 2016 RTP/SCS proposes a regional charging network that will increase the number of PHEV miles driven on electric power, in addition to supporting the growth of the PEV market generally. In many instances these chargers may double the electric range of PHEVs, reducing vehicle miles traveled that produce tail-pipe emissions.

Natural Lands Preservation. The 2016 RTP/SCS land use strategies propose to avoid growth in sensitive habitat areas, and redirect growth from high value habitat areas to existing urbanized areas. This proposed strategy recognizes that many natural land areas near the edge of existing urbanized areas do not have plans for conservation and are vulnerable to development pressure. Certain lands, such as riparian areas, have high per-acre habitat values and are host to some of the most diverse yet vulnerable species that play an important role in the overall ecosystem. Some cities and county transportation commissions have taken steps toward planning comprehensively for conserving natural lands and farmlands, while also meeting demands for growth. To support those and other comprehensive conservation planning efforts, SCAG studied regional scale habitat, developed a regional conservation framework, and assembled a natural resource database.^{19,20} The 2016 RTP/SCS proposed natural lands preservation strategies are built upon the conservation framework and complements an infill-based approach.

¹⁹ Southern California Association of Governments. 2 October 2014. *Item No. 8 Staff Report: Comprehensive Planning for Open Space Strategic Plan*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/eec100214fullagn.pdf>

²⁰ Southern California Association of Governments. Accessed 26 October 2015. *Sustainability Program: Open Space Links and Resources*. Available at: <http://sustain.scag.ca.gov/Pages/LinksResources.aspx>

Balancing Growth Distribution between 500 Feet of Freeways and HQTAs. The 2016 RTP/SCS recognizes guidance from the 2005 California Air Resources Board (ARB) air quality manual,²¹ which recommends limiting the siting of sensitive uses within five hundred (500) feet of freeways and urban roads carrying more than 100,000 vehicles per day. These areas within 500 feet of freeways and roads represent only approximately one-fifth of the HQTAs. While the Plan proposes to increase density in some areas of HQTAs, it proposes that growth remains stable within the 500-foot buffer areas of the freeways to reflect local input, thereby balancing the growth distribution.

Transportation Strategies

Like the proposed land use strategies, the 2016 RTP/SCS includes transportation investments that are built off the framework and strategies in the 2012 RTP/SCS. Specifically, the proposed transportation investments in the 2016 Plan recognize that the region can no longer afford to rely solely on expanding the transportation system to address the region’s many changes and challenges. There is a need to use a comprehensive planning approach for a transportation system that focuses on preservation, sustainability, and productivity, as well as strategic expansion. The proposed land use patterns as part of the 2016 RTP/SCS provide a strategic opportunity to build a smart transportation system that is responsive to the region’s changes and challenges. As such, the 2016 RTP/SCS includes proposed strategies for transportation investments, totaling approximately \$556 billion, in nine (9) areas: 1) system preservation and maintenance; 2) highway and arterials; 3) transportation demand management (TDM) and system manage (TSM); 4) transit; 5) passenger rail including High Speed Rail; 6) goods movement; 7) active transportation; 8) aviation and 9) debt service (Table 2.4.4-1, 2016 RTP/SCS: *Proposed Allocation of Transportation Investments [in Billions]*)

**TABLE 2.4.4-1
2016 RTP/SCS: PROPOSED ALLOCATION OF TRANSPORTATION INVESTMENTS
(IN BILLIONS)**

System Preservation	\$275
Highway and Arterials	\$55
TDM and TSM	\$16 (\$6.9 for TDM; and \$9.2 for TSM)
Transit	\$56
Passenger Rail and High Speed Rail	\$39
Goods Movement	\$75
Active Transportation	\$8
Other (Environmental Mitigation, Landscaping and Project Development Costs)	\$3
Aviation	Included in modal investments
Debt Service	\$31

NOTE: due to rounding, the total will not exactly match.

SOURCE:

Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 6

²¹ California Air Resources Board. April 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. Available at: <http://www.arb.ca.gov/ch/handbook.pdf>

System Preservation. The 2016 RTP/SCS proposes investing toward preserving the region’s existing transportation system, including the transit and passenger rail system, the state highway system, and regionally significant local streets and roads. The proposed allocation of the system preservation investment for the state highway system includes bridges; the allocation for transit includes funding to both preserve and operate the transit system; and the allocation for regionally significant local streets and roads includes bridges and active transportation safety improvements. To support the proposed allocation of system preservation investment, the 2016 RTP/SCS includes the following strategies:

- Protecting and preserving what we have first, supporting a “fix-it-first” principle;
- Considering the cycle costs beyond construction; and
- Continuing to work with stakeholders to identify and support new sustainable funding sources and/or increased funding levels for preservation and maintenance.

Highway and Arterials. The 2016 RTP/SCS proposes the following strategies to support the proposed allocation of investments to highway and arterials:

- Focusing on achieving maximum productivity through strategic investments in system management and demand management;
- Focusing on adding capacity primarily (but not exclusively) to:
 - Closing gaps in the system, and
 - Improving access where needed;
- Supporting policies and system improvements that will encourage the seamless operation of our roadway network from a user perspective;
- Increasing roadway capacity with consideration and incorporation of congestion management strategies, including demand management measures, operational improvements, transit, and ITS, where feasible;
- Focusing on addressing non-recurring congestion with new technology; and
- Supporting “complete street” opportunities developed from general plans.

Transportation Demand Management (TDM) and System Management (TSM). The 2016 RTP/SCS includes the proposed TDM strategies in three main areas of focus as follows:

- Reducing the number of drive-alone trips and overall VMT through ridesharing, which includes carpooling, vanpooling and supportive policies for shared ride services such as Uber and Lyft;
- Redistributing or eliminating vehicle trips from peak demand periods through incentives for telecommuting and alternative work schedules; and
- Reducing the number of drive-alone trips through use of other modes of travel such as transit, rail, bicycling, and walking.

In addition, the following proposed strategies expand and encourage the implementation of proposed TDM strategies to their fullest extent:

- Rideshare incentives and rideshare matching;
- Parking management and parking cash-out policies;
- Preferential parking or parking subsidies for carpoolers;
- Intelligent parking programs;

- Promotion and expansion of Guaranteed Ride Home programs;
- Incentives for telecommuting and flexible work schedules;
- Integrated mobility hubs and first/last mile strategies;
- Incentives for employees who bike and walk to work; and
- Investments in active transportation infrastructure.

Additionally, the 2016 RTP/SCS allocates investments towards TSM improvements that work in concert to optimize the performance of the transportation system. These include extensive advanced ramp metering, enhanced incident management, bottleneck removal to improve flow (e.g. auxiliary lanes), expansion and integration of the traffic signal synchronization network, data collection to monitor system performance, and other ITS improvements. Several key TSM strategies included in the 2016 RTP/SCS are as follows.

- Corridor System Management Plans to identify lower cost, higher benefit options to maximize efficiency and productivity along major highway corridors, including coordination with parallel arterial systems, transit and incident response management;
- Integrated Corridor Management in which all elements within a corridor are considered to evaluate opportunities that move people and goods in the most efficient manner while ensuring the greatest operational efficiencies are achieved;
- Arterial Signal Synchronization Projects to optimize traffic flow; and
- Dynamic Corridor Congestion Management to coordinate highway ramp metering with arterial signals, inform the traveling public of expected travel times to various destinations, and provide travel time comparisons with transit.

Transit. Continuing to expand the region's transit system and improve services is critical to realizing the Plan's vision and ultimately meeting the broad and diverse societal goals and objectives. Key points considered in developing the proposed transit strategies include:

- Significant investments in transit already committed locally (CTCs);
- Changing demographics and urban forms call for more travel choices, particularly transit;
- Transit can help relieve pressure and provide alternatives on some of our most congested corridors; and
- Additional transit will be necessary to ensure our pricing strategies work efficiently and equitably.

The 2016 RTP/SCS proposed transit strategies builds upon the significant investment in transit that has already committed locally, primarily based on local sales tax measures as reflected in the Plan. In addition to the current commitments, the Plan proposes extensive local bus, rapid bus, BRT and express service improvements. An expanded point-to-point express bus network will take advantage of the region's carpool and express lane network. New BRT service, limited-stop service, and increased local bus service along key corridors, in coordination with transit-oriented development and land use, will encourage greater use of transit for short local trips. Also included in the Plan's investment package are renewed commitments to asset management and maintaining a state of good repair.

Specifically, the 2016 RTP/SCS proposes the following transit strategies:

- Implement and expand transit priority strategies, including transit signal priority, queue jumpers and bus lanes;
- Implement regional and inter-county fare agreements and media to make transit more attractive and accessible;
- Increase bicycle carrying capacity on transit and rail vehicles to facilitate first/last mile connections;
- Expand and improve real-time passenger information systems to allow travelers to make more informed decisions and improve the overall travel experience; and
- Implement first/last mile strategies to extend the effective reach of transit.

Passenger Rail and High Speed Rail. In November 2008, California voters passed a historic bond measure (Proposition 1A) that, among other things, authorizes the state to raise \$9 billion in bond funds to build our first statewide high speed rail system. Phase I of this system, which will connect Los Angeles Union Station and Anaheim to the Central Valley and San Francisco Bay Area, is to be implemented during the RTP/SCS timeframe (i.e., by 2040) and presents an enormous opportunity for the state and our region. With the adoption of the 2012 RTP/SCS, the region and the California High Speed Rail Authority (CHSRA) committed to spending a combined \$1 billion in Proposition 1A and matching funds on early investments in the existing passenger rail system. This commitment was formalized in a Memorandum of Understanding (MOU)²² that identifies a candidate project list to improve the Metrolink system and the Los Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor, thereby providing immediate, near-term benefits to the region while laying the groundwork for future integration with High Speed Rail.

The Passenger Rail and High Speed Rail strategies proposed by the 2016 RTP/SCS maintain the commitments in the 2012 RTP/SCS and the High Speed Rail MOU that will improve rail speed, service and safety for Metrolink and the LOSSAN rail corridor, provide interconnectivity to the future High Speed Rail system, and provide an attractive alternative to driving alone. This includes the MOU capital projects to bring segments of the regional rail network up to the federally defined speed of 110 miles per hour or greater, and to implement a blended system of rail services. Additionally, the Plan includes the following proposed passenger rail strategies:

- Secure increased funding and dedicated funding sources;
- Support increased transit-oriented development and first/last mile strategies; and
- Implement cooperative fare agreements and media.

Goods Movement. Proposed strategies for goods movement as part of the 2016 RTP/SCS include a Regional Clean Freight Corridor System, a truck bottleneck relief strategy, a rail strategy, and a goods movement environment strategy. The Regional Clean Freight Corridor System is a system of truck-only lanes extending from the San Pedro Bay Ports to downtown Los Angeles along Interstate 710, connecting to the State Route 60 east-west segment, and finally reaching Interstate 15 in San Bernardino County. Such a system would be expected to address growing truck traffic and safety issues on core highways through the region and serve key goods movement industries.

²² Southern California Association of Governments. December 2015. *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy: Passenger Rail Appendix* (page 7).

The 2016 RTP/SCS includes a coordinated strategy to identify and mitigate the top-priority truck bottlenecks. The proposed truck bottleneck relief strategies begin with confirming bottlenecks that are previously identified in the past RTP/SCSs following by identifying new bottlenecks. An allocation of approximately \$5 billion is proposed toward goods movement bottleneck relief strategies. Examples of bottleneck relief strategies proposed by the Plan include ramp meterings; extending merging lanes; improving ramps and interchanges; improving capacity; and adding auxiliary lanes.

The region's extensive rail network offers shippers the ability to move large volumes of goods over long distances at lower costs, compared with other transportation options. As such, the 2016 RTP/SCS continues to incorporate the following rail strategies for goods movement:

- Additional mainline tracks for the BNSF San Bernardino and Cajon Subdivisions and the UPRR Alhambra and Mojave Subdivisions;
- Expansion/modernization of intermodal facilities;
- Highway-rail grade separations; and
- Port-area rail improvements, including on-dock rail enhancements

The 2016 RTP/SCS also includes goods movement environmental strategy. It focuses on a two-pronged approach for achieving an efficient, safe and economically sound freight system that also reduces environmental impacts. For the near term, the regional strategy supports the deployment of commercially available low-emission trucks and locomotives while centering on continued investments into improved system efficiencies. In the longer term, the strategy focuses on advancing technologies — taking critical steps now toward phased implementation of a zero-emission and near-zero-emission freight system. The plan to develop and deploy advanced technologies includes four phases of technology development and implementation, during which technology needs are defined, prototypes are tested and developed, and efforts are scaled up. This cycle of technology development is continuous, and it will renew itself as new innovations emerge and technologies continue to evolve.

Active Transportation. The 2016 RTP/SCS includes an Active Transportation Plan, which updates and expands upon the 2012 RTP/SCS. As such, the 2016 RTP/SCS proposes strategies to continue progress made in developing a regional bikeway network, assumes all local active transportation plans will be implemented, and dedicates resources to maintain and repair thousands of miles of dilapidated sidewalks. The 2016 RTP/SCS also considers new strategies and approaches beyond those proposed in 2012 Plan.

To maximize active transportation opportunities in the SCAG region, the proposed Active Transportation Plan included in the 2016 RTP/SCS contains eleven (11) strategies in four broad categories: regional trips, transit integration, short trips and education/ encouragement.

- **Regional-Trip Strategies:**
 - *Regional Greenway Network:* to include an approximately 2,298-mile network, based on local plans designed to increase walking and biking by creating separated bikeways designed to appeal to most potential bicyclists.
 - *Regional Bikeway Network (RBN):* to include an approximately 2,697-mile system of interconnected bicycle routes of regional significance, based on local plans. The RBN connects cities and counties and serves as a spine for local bikeway networks and the regional greenway network.

- *California Coastal Trail Access*: to provide established paths as part of the Regional Greenway Network and Regional Bikeway Network to access the California Coastal Trail.
- Transit Integration Strategies:
 - *First Mile/Last Mile*: to proposed bicyclist and pedestrian improvements at and around 224 rail or fixed-guideway bus stations.
 - *Livable Corridors*: to propose 16 corridors totaling approximately 670 miles for improvements separate from those areas in the First Mile/Last Mile strategy.
 - *Bike Share Services*: to call for 880 stations and 8,800 bicycles starting in Downtown Los Angeles and Pasadena, and then moving into other locations.
- Short-Trip Strategies:
 - *Sidewalk quality*: to call for approximately 10,500 miles of new and improved sidewalks through development projects or larger road construction and maintenance projects
 - *Local Bikeway Networks*: to propose approximately 7,200 miles of new local bikeways, which will serve as the foundation for the regional bikeway network and the regional greenway network.
 - *Neighborhood Mobility Areas*: to include polices to encourage replacing single and multi-occupant automobile use with biking, walking, skateboarding and neighborhood electric vehicles. Complete Streets strategies, such as traffic calming, bicycle priority streets (bicycle boulevards), and pedestrian connectivity are also proposed as the region's active transportation strategies to increase physical activity, and improve connectivity to the regional bikeway or greenway networks, local businesses and parks.
- Education and Encouragement:
 - *Safe Routes to School*: to propose an allocation of approximately \$280 million over the life of the 2016 RTP/SCS to be devoted to Safe Routes to School programs and projects.
 - *Safety and Encouragement Campaigns*: to propose the continued involvement in updating and conducting the Southern California Active Transportation Safety and Encouragement Campaign.²³

Aviation. With the region being one of the busiest and most diverse commercial aviation regions in the world, the 2016 RTP/SCS proposes strategies for airport ground access, including:

- Support the regionalization of air travel demand;
- Continue to support regional and inter-regional projects that facilitate airport ground access (e.g., High Speed Rail, High Desert Corridor);
- Support on-going local planning efforts by airport operators, CTCs, and local jurisdictions;
- Encourage development and use of transit access to the region's airports;
- Encourage use of modes with high average vehicle occupancy (AVO); and
- Discourage use of modes that require "deadhead" trips to/from airports

²³ Southern California Association of Governments. 11 September 2014. *Item No. 16 Staff Report: Funding Awarded to SCAG for the Southern California Active Transportation Safety and Encouragement Campaign*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/rc091114fullagn.pdf>

2.4.5 Transportation Funding

In accordance with federal fiscal constraint requirements, the 2016 RTP/SCS is a financially constrained Plan. The financial plan for the 2016 RTP/SCS identifies the amount of funding that is reasonably expected to be available to build, operate, and maintain the region's surface transportation system through the forecast horizon year of 2040.²⁴

The financial plan's forecast of core revenue totals approximately \$356 billion. Local sources, totaling approximately \$255 billion, comprise the largest share of core revenues at 71 percent, followed by state sources totaling \$64 billion (18 percent) and federal sources totaling \$38 billion (11 percent). Core revenues are existing transportation funding sources projected through 2040. The core revenue forecast does not include future increases in tax rates or adoptions of new tax measures.

The financial plan's forecast of expenditure needs totals approximately \$556 billion. Operating and maintenance (O&M) expenditures needed to achieve a state of good repair total \$275 billion (49 percent). O&M includes \$65 billion in state highway O&M, \$157 billion in transit O&M, \$16 billion in passenger rail O&M, and \$37 billion in regionally significant local streets and roads O&M. Capital project expenditures total \$251 billion (45 percent) and debt service totals \$31 billion (6 percent).²⁵

Similar to the amount of funding gap identified in the 2012 RTP/SCS, the 2016 RTP/SCS is expected to have an approximately \$200 billion difference between the expenditure forecast total (\$556 billion) and the core revenue forecast total (\$356 billion). As such, like the 2012 Plan, the 2016 Plan includes reasonable available new revenue sources including short-term adjustments to state and federal gas excise tax rates and long-term replacement of gas taxes with mileage-based user fees were included to fill the gap.

A set of key guiding principles were used to develop transportation funding strategies. They are as follows:^{26,27}

- Establish a user-based system that better reflects the true cost of transportation with firewall protection for transportation funds while ensuring an equitable distribution of costs and benefits;

²⁴ Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 6.

²⁵ Southern California Association of Governments. 3 September 2015. *Item No. 2 Staff Report: Draft 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Financial Strategies*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/tc090315fullagn.pdf>

²⁶ As part of the 2012 RTP/SCS, the Regional Council adopted a set of key guiding principles to lay the foundation for identifying reasonably available new revenues. SCAG's Transportation Committee at its September 3, 2015 meeting re-confirmed the use of these guiding principles and approved the proposed near-term transitional strategies and long-term initiatives for inclusion in the Draft 2016 RTP/SCS.

²⁷ Southern California Association of Governments. 11 September 2014. *Item No. 2 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy – Proposed Financial Strategies*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/tc090315fullagn.pdf>

- Promote national and state programs that include return to source guarantees while maintaining flexibility to reward regions that continue to commit substantial local resources;
- Leverage locally available funding with innovative financing tools (e.g., tax credits and expansion of Transportation Infrastructure Finance and Innovation Act (TIFIA)) to attract private capital and accelerate project delivery; and
- Promote funding strategies that strengthen federal commitment to the nation’s goods movement system, recognizing the pivotal role that our region plays in domestic and international trade.

Based on these guiding principles, the 2016 RTP/SCS includes both near-term transitional strategies and long-term initiatives to fill the approximately \$200-billion funding gap (Table 2.4.5-1, *Reasonably Available Revenue Sources and Innovative Funding Strategies: \$200 Billion [in Nominal Dollars]*).²⁸

**TABLE 2.4.5-1
REASONABLY AVAILABLE REVENUE SOURCES AND INNOVATIVE FUNDING STRATEGIES:
\$200 BILLION (IN NOMINAL DOLLARS)**

Revenue Sources	Amount (Billion)
State and Federal Gas Excise Tax Adjustment to Maintain Historical Purchasing Power	\$6.0
Mileage-Based User Fee (or equivalent fuel tax adjustment)	\$124.8 (est. increment only)
Highway Tolls (includes toll revenue bond proceeds)	\$23.5
Private Equity Participation	\$3.4
Freight Fee/National Freight Program	\$5.4
State Bond Proceeds, Cap-and-Trade Auction Proceeds & Other for California High-Speed Rail Program	\$34.0
Value Capture Strategies	\$1.2
Local Option Sales Tax (Ventura County)	\$2.1

SOURCE:

Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 4

²⁸ Southern California Association of Governments. 11 September 2014. *Item No. 2 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy – Proposed Financial Strategies*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/tc090315fullagn.pdf>

2.4.6 Plan Performance

The 2016 RTP/SCS uses a number of performance measures to gauge progress toward meeting the Plan's goals. Plan performance is shown by performance outcomes in seven (7) categories, and these performance outcomes are tied to the 2016 RTP/SCS goals (Table 2.4.6-1, *2016 RTP/SCS Goals and Performance Outcomes*). Within each category of performance outcome, there are performance measures (Table 2.4.6-2, *2016 RTP/SCS Performance Outcomes and Performance Measures*).²⁹ To determine how effective the Plan's land use and transportation strategies would be, Chapter of the 2016 RTP/SCS includes a "Plan" vs. "Baseline" analysis – essentially comparing what the region would look like with and without implementation of the Plan in 2040.³⁰

The majority of the performance measures in the 2016 RTP/SCS remain the same as those in the 2012 RTP/SCS. Recognizing that integrated land use and transportation strategies are expected to have impacts beyond those exclusively transportation-related, the health outcome was first introduced in the 2012 RTP/SCS. Continuing with this emphasis on health outcome, the 2016 RTP/SCS includes a number of new measures, including three health-related measures. These health-related measures are tied with the proposed transportation investments in transit, active transportation, more walkable communities, and land use strategies which focus new housing and employment in the region's HQTAs, livable corridors and neighborhood mobility areas.

²⁹ Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 8.

³⁰ Note that the Draft 2016 RTP/SCS baseline year is 2012 as required for RTP/SCSs. This PEIR properly uses 2015 at the time when the Notice of Preparation (NOP) is published as the existing conditions against which impacts are analyzed.

TABLE 2.4.6-1
2016 RTP/SCS GOALS AND PERFORMANCE OUTCOMES

2016 RTP/SCS Goals	Mobility/ Accessibility	Reliability	Location Efficiency	Productivity	Safety and Health	Economic Well-Being	Cost Effectiveness	System Sustainability	Environmental Quality
Align the plan investments and policies with improving regional economic development and competitiveness.						X			
Maximize mobility and accessibility for all people and goods in the region	X						X		
Ensure travel safety and reliability for all people and goods in the region		X			X				
Preserve and ensure a sustainable regional transportation system								X	X
Maximize the productivity of our transportation system	X			X					
Protect the environment and health for our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking)					X				X
Actively encourage and create incentives for energy efficiency, where possible									
Encourage land use and growth patterns that facilitate transit and non-motorized transportation									
Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies*			X						
			X						

NOTE:

*SCAG does not yet have an agreed-upon security performance measure. Therefore, it is not included in the table.

SOURCE:

Southern California Association of Governments. December 2015. Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy. Chapter 5; Chapter 8.

**TABLE 2.4.6-2: 2016 RTP/SCS PERFORMANCE OUTCOMES AND PERFORMANCE MEASURES
(*NEW PERFORMANCE MEASURES PROPOSED FOR THE 2016 RTP/SCS)**

Outcome	Performance Measures/Indicator(s)	Definition	Performance Target	Data Sources Used
Location Efficiency	Share of growth in High Quality Transit Areas (HQTAs)	Share of the region's growth in households and employment in HQTAs	Improvement over No Project Baseline	Census (including annual American Community Survey), Info USA
	Land consumption	Additional land needed for development that has not previously been developed or otherwise impacted, including agricultural land, forest land, desert land and other virgin sites	Improvement over No Project Baseline	Rapid Fire Model
	Vehicle Miles Traveled (VMT) per Capita*	VMT (for automobile and light-duty trucks) per capita	Improvement over No Project Baseline	Travel Demand Model
	Transit Mode Share*	Share of transit trips made throughout the region for work and non-work purposes	Improvement over No Project Baseline	Travel Demand Model
Mobility and Accessibility	Average distance for work and non-work trips	The average distance traveled for work or non-work trips separately	Improvement over No Project Baseline	Travel Demand Model
	Percent of work trips less than three miles	The share of total work trips which are fewer than three miles	Improvement over No Project Baseline	Travel Demand Model
	Work trip length distribution	The statistical distribution of work trip length in the region	Improvement over No Project Baseline	Travel Demand Model
	Person delay per capita	Delay per capita can be used as a supplemental measure to account for population growth impacts on delay	Improvement over No Project Baseline	Travel Demand Model
	Person delay by facility type (mixed flow, HOV, arterials)	Delay – excess travel time resulting from the difference between a reference speed and actual speed	Improvement over No Project Baseline	Travel Demand Model
	Truck delay by facility type (Highway, Arterials)	Delay – excess travel time resulting from the difference between a reference speed and actual speed	Improvement over No Project Baseline	Travel Demand Model
Safety and Health	Highway Non-Recurrent Delay*	The share of congestion that is considered to be atypical	Improvement over No Project Baseline	Travel Demand Model
	Travel time distribution for transit, SOV, HOV for work and non-work trips	Travel time distribution for transit, SOV, HOV for work and non-work trips	Improvement over No Project Baseline	Travel Demand Model
	Collision/accident rates by severity by mode	Accident rates per million vehicle miles by mode (all, bicycle/ pedestrian and fatality/killed)	Improvement over Base Year	CHP Accident Data Base, Travel Demand Model Mode Split Outputs
	Criteria pollutant emissions	CO, NO _x , PM2.5, PM10, and VOC.	Meet Transportation Conformity requirements	Travel Demand Model/ARB EMFAC Model
	Mode share for walking and biking*	Mode share of walking and biking for work and non-work trips	Improvement (increase) over No Project Baseline	Travel Demand Model
	Physical activity and weight-related disease*	Physical activity/weight related health issues and costs	Improvement (increase) over No Project Baseline	Scenario Planning Model
Environmental Quality	Respiratory/pollution-release disease*	Pollution-related respiratory disease incidence and cost	Improvement (increase) over No Project Baseline	Scenario Planning Model
	Criteria and greenhouse gas emissions	CO, NO _x , PM2.5, PM10, and VOC Per capita greenhouse gas emissions (CO2)	Meet Transportation Conformity requirements and SB375 GHG per capita emission reduction targets	Travel Demand Model/ARB EMFAC Model
Economic Well-Being	Additional jobs supported by improving competitiveness	Number of jobs added to the economy as a result of improved transportation conditions which make the region more competitive.	Improvement over No Project Baseline	Regional Economic Model REMI
	Additional jobs supported by transportation investment	Total number of jobs supported in the economy as a result of transportation expenditures.	Improvement over No Project Baseline	Regional Economic Model REMI
	Net contribution to Gross Regional Product	Gross Regional Product due to transportation investments and increased competitiveness	Improvement over No Project Baseline	Regional Economic Model REMI
Investment Effectiveness System Sustainability	Benefit/Cost Ratio	Ratio of monetized user and societal benefits to the agency transportation costs.	Greater than 1.0	California Benefit Cost Model
	Cost per capita to preserve multi-modal system to current and state of good repair conditions	Annual costs per capita required to preserve the multi-modal system to current conditions.	Improvement over Base Year	Estimated using SHOPP Plan and recent California Transportation Commission 10-Year Needs Assessment

SOURCE: Southern California Association of Governments. December 2015. Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy. Chapter 8.

2.4.7 Social Equity

The 2016 RTP/SCS places an important emphasis on social equity. Like the 2012 RTP/SCS, the 2016 RTP/SCS includes an analysis on environmental justice.³¹ The concept of environmental justice is about equal and fair access to a healthy environment, with the goal of protecting underrepresented and poorer communities from incurring disproportionate environmental impacts. Consideration of environmental justice in the transportation planning process stems from Title VI of the Civil Rights Act of 1964. Title VI of the Civil Rights Act of 1964 establishes the need for transportation agencies to disclose to the public the benefits and burdens of proposed projects on minority populations. The understanding of civil rights has expanded to include low-income communities. In addition to Federal requirements, SCAG must comply with California Government Code Section 11135, which states that, “no person in the State of California shall, on the basis of race, national origin, ethnic group identification, religion, age, sex, sexual orientation, color, or disability, be unlawfully denied full and equal access to the benefits of, or be unlawfully subjected to discrimination under, any program or activity that is conducted, operated, or administered by the state or by any state agency, is funded directly by the state, or receives any financial assistance from the state.”

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have a commitment to assuring environmental justice in the programs they fund. Both of these federal agencies recently issued proposed revised planning regulations regarding environmental justice. This was done in part to comply with Title VI of the Civil Rights Act of 1964 and associated regulations and policies, including President Clinton’s 1994 Executive Order 12898 on Environmental Justice. Generally these laws prohibit discrimination on the basis of race, income, age, or disability. On August 4, 2011, seventeen federal agencies signed the “Memorandum of Understanding on Environmental Justice and Executive Order 12898.” The signatories, including the U.S. Department of Transportation, agreed to develop environmental justice strategies to protect the health of people living in communities overburdened by pollution and provide the public with annual progress reports on their efforts. In the regional transportation-planning context, SCAG’s role is to 1) ensure that when transportation decisions are made, low-income and minority communities have ample opportunity to participate in the decision-making process, and 2) identify whether such communities receive an equitable distribution of benefits and not a disproportionate share of burdens.

SCAG’s environmental justice program includes two main elements: public outreach and technical analysis. The public outreach efforts are intended to assure that all members of the public have an opportunity to participate meaningfully in the planning process. As of September 2015, SCAG has held five (5) public workshops on environmental justice for the 2016 RTP/SCS.³² The environmental justice workshops convened the general public and focus groups on the environmental justice analysis to ensure that all members of the public have an opportunity to participate meaningfully in the planning process. As a result of these workshops, specific areas of concerns were raised including new issues such as 1) areas within 500-feet of highways and commercial/commuter rail roads; 2) areas within a ½ mile buffer of existing rail transit stops (gentrification/displacement); and 3) neighborhood that fall within potential future emissions hotspots (based the RTP/SCS’s modeled on-road emissions outcomes for PM and CO). These issues are addressed in the 2016 RTP/SCS and the corresponding Environmental Justice Appendix.

³¹ Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*. Chapter 8.

³² Southern California Association of Governments. 3 September 2015. *Item No. 4 Staff Report: 2016 Regional Transportation Plan/ Sustainable Communities Strategy (2016 RTP/SCS) - Updates and Highlights of the Environmental Justice Analysis*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/eec090315fullagn.pdf>

2.4.8 Public Health

Built upon the public health emphasis of the 2012 RTP/SCS, the 2016 RTP/SCS places an even greater emphasis on public health. Public health is affected by the Plan in several ways, notably through its impact on the total level of air emissions, the exposure of the population to those emissions as a function of their location, and opportunities for physical activities including active transportation and recreation. Additionally, the health benefits of an active lifestyle have become apparent in recent years, and there is a growing support of increasing the walkability and bikeability of the communities in the region. Proposed land use strategies and transportation investments such as provision of additional investments in active transportation networks including first/last mile improvements, Safe Routes to School projects, and regional bikeways infrastructures are expected to increase the number of short trips and improve physical activity outcomes. Finally, including health-related measures in the Plan helps build an ongoing regional monitoring on the Plan's performance on public health.

A comprehensive approach for enhancing the public health analysis focuses on providing robust public health data to support evaluation of health outcome. In the 2016 RTP/SCS Public Health Analysis, a framework has been developed to promote health and prolong life among the population by enhancing the social determinants or the circumstances in which people are born, grow up, live, work, play, and age. Economic opportunity, government policies, and the built environment play a role influencing public health outcomes, so are social determinants of health, including social and community environment, health and health care, neighborhood and built environment, education, and economic stability. Related to the assessment of public health outcomes, seven focus areas are selected for additional analysis that would align with the goals of the 2016 RTP/SCS, including access to essential destinations, air quality, climate resiliency, economic wellbeing, physical activity, housing, and transportation safety. Impacts on public health are analyzed based on identified relevant performance metrics that could be used to measure impact of the 2016 RTP/SCS on the focus area.³³

2.5 RELATIONSHIP TO OTHER EIRS

The 2016 RTP/SCS PEIR builds on the analysis and mitigation contained in the 2012 RTP/SCS PEIR. The 2016 RTP/SCS project list is similar to the project list for the 2012 RTP/SCS, although some of the transportation projects from the 2012 RTP/SCS are now considered committed and are included in the No Project Alternative. The 2016 RTP/SCS PEIR evaluates the most recent projects and policies and provides more direct comparisons between current conditions and expected future Plan conditions. The 2016 RTP/SCS PEIR includes additional analysis of cumulative, growth-inducing and other indirect impacts.

³³ SCAG Energy and Environmental Committee. Special Meeting Agenda Package. 26 October 2015. Accessible via <https://www.scag.ca.gov/committees/Pages/CommitteeL2/SingleCommittee.aspx?CID=4>

2.6 INTENDED USES OF THE PEIR

SCAG will use this PEIR as part of its review and approval of the 2016 RTP/SCS. Lead agencies for individual projects may use this PEIR as the basis of their regional and cumulative impacts analysis. In addition, for projects that may be eligible for CEQA Streamlining applicable mitigation measures from this PEIR should be incorporated into those projects as appropriate. It is the intent of SCAG that lead agencies and others use the information contained within the PEIR in order to “tier” subsequent environmental documentation of projects in the region. Information from this document may also be incorporated in future County Congestion Management Programs and associated environmental documents, as applicable.

The 2016 RTP/SCS is intended to meet the changing socioeconomic, transportation infrastructure, financial, technological and environmental conditions of the region. Individual projects are included in the 2016 RTP/SCS; however, this PEIR is programmatic in nature and the analysis considers impacts that would be reasonably be expected in conjunction with the class and scope of transportation investments and land use development patterns envisioned in conjunction with the Plan, the potential for significant and unavoidable impacts after the consideration of feasible mitigation measures, and a range of feasible alternatives. Project-level analysis will be prepared by implementing agencies, serving as a lead agency under CEQA, with the authority and principal responsibility for approving or carrying out the individual projects. In some instances, there may also be a Federal lead agency pursuant to NEPA, for all or a portion of an action, where the project involves the need for approvals of right-of-way on federal lands, expenditure of federal funds, or issuance of federal permits or leases for which federal approval is required. Project-specific planning and implementation undertaken by each implementing agency will depend on a number of issues, including: policies, programs and projects adopted at the local level; restrictions on federal, state and local transportation funds; the results of feasibility studies for particular corridors; and further environmental review of proposed projects.

3.0

ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

This section of the Program Environmental Impact Report (PEIR) evaluates the potential of the Plan to result in significant impacts to the environment. This section provides a full scope of environmental analysis in conformance with the California Environmental Quality Act Guidelines (State CEQA Guidelines).

As a result of the detailed evaluation contained in this PEIR, it has been determined that the Plan would result in potentially significant impacts to Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural Resources; Energy; Greenhouse Gas Emissions and Climate Change; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Mineral Resources; Noise; Population, Housing, and Employment; Public Services; Recreation; Transportation, Traffic, and Safety; and Utilities and Service Systems. Although mitigation measures have been proposed for all of the above issue areas that would reduce the potentially significant impacts to the maximum extent practicable, impacts would remain significant and unavoidable, even with the implementation of mitigation measures. However, Impacts to Geology and Soils would be able to be mitigated to a level below significance with mitigation measures.

Each section provides the regulatory framework, existing conditions, thresholds of significance, impact analysis, cumulative impact analysis, mitigation measures for significant impacts, and level of significance after mitigation. The applicable federal, state, regional, county, and local statutes and regulations that govern individual environmental resources that must be considered by SCAG in the decision-making process are included in the regulatory framework described for each environmental resource. The existing conditions portion of the analysis has been prepared in accordance with the State CEQA Guidelines and includes a description of the environment in the Plan study area. The existing conditions are described based on literature review and archived resources, and agency coordination. Significance thresholds were established in accordance with Appendix G of the State CEQA Guidelines. The potential for cumulative impacts was considered in relation to related projects identified as a result of scoping, agency, and consultation with SCAG member jurisdictions and stakeholders. Mitigation measures were derived from public, agency, and SCAG member jurisdiction and stakeholder input. The level of significance after mitigation was evaluated in accordance with the thresholds of significance and the effectiveness of the proposed mitigation measures to reduce potentially significant impacts to below the significance threshold. The impact analysis contained in this environmental document is based solely on the implementation of the 2016 RTP/SCS as described in **Section 2, *Project Description***. The mitigation measures have been designed to address impacts at a programmatic level and contain SCAG mitigation measures and project-level mitigation measures.

3.1 AESTHETICS

This section of the Program Environmental Impact Report (PEIR) describes the aesthetics and scenic resources in the SCAG region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Plan,” or “Project”) on aesthetics, identifies mitigation measures for the impacts, and evaluates the residual impacts. Aesthetics were evaluated in accordance with Appendix G the 2015 State California Environmental Quality Act (CEQA) Guidelines. Aesthetics within the SCAG region were evaluated at a programmatic level of detail in relation to the General Plans of the six counties and the 191 cities within the SCAG region, a query of Caltrans scenic highways and vista points for the SCAG region, a review of related literature germane to the SCAG region, as well as a review of SCAG’s 2012 RTP/SCS PEIR.¹

The visual quality and character of the SCAG region is a function of the dramatic physical environment, ringed by two mountain ranges, the peninsular and transverse ranges; two deserts, the Mojave and Colorado; sandy beaches and marine terraces along the approximately 150-mile western margin of the SCAG region where the land meets the Pacific Ocean; and the Channel Islands that parallel the coastline. The SCAG region hosts 11 of the 25 most popular destinations in California, including Los Angeles (first), Palm Springs (eighth); Anaheim (ninth); Long Beach (10th); Santa Monica (13th), Newport Beach (16th), Pasadena (19th), Riverside (21st), Santa Ana (22nd), Irvine (23rd), and Huntington Beach (25th) to growing popularity of revitalized urban core areas.² The highway and transportation system in the SCAG region provides a wide variety of opportunities for enjoying the Southern California scenery and travelling to some of the state’s most popular destinations.

Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for aesthetics are provided.

Degree of visibility: The extent to which transportation improvements and/or anticipated development can be seen. This refers to a large extent on route alignment and configuration (i.e., elevated, at grade, depressed, or underground) of the transportation improvement and location, height/bulk, construction materials (reflectivity, color) of development. Generally, elevated grade transportation investments have a more substantial impact on aesthetics and views. The taller a development, in general, the greater the potential for impact.

Glare: Perceived glare is the unwanted and potentially objectionable sensation as observed by a person looking directly into the light source (e.g., the sun, the sun’s reflection, automobile headlights, or other light fixtures). Reflective surfaces on existing buildings, car windshields, etc., can expose people and property to varying levels of glare. Glare is typically a daytime condition where the sun reflects off a

¹ Southern California Association of Governments. April 2012. *Final Program Environmental Report: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*. Available at: <http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

² TripAdvisor. Accessed 20 October 2015. Popular Destinations in California. Available at: <http://www.tripadvisor.com/Tourism-g28926-California-Vacations.html>

particular building, while lighting effects often occur when new nighttime sources of lighting are introduced into an area.

Scale: The size and proportion, and of transportation improvements and development in relation to the massing of the structures and buildings in surrounding area.

Scenic Resources: Significant visual resources identified by local planning documents that can be maintained and enhanced to promote a positive image in the community, such as natural open spaces, topographic formations, and landscapes that contribute to a high level of visual quality. Natural landforms and landscapes are often established as scenic resources, such as lakes, rivers and streams, mountain meadows, and oak woodlands. However, scenic resources can also include man-made open spaces and the built environment, such as parks, trails, nature preserves, sculpture gardens, and similar features.

Shadow Sensitive Uses: Shadow sensitive uses are land uses that are considered sensitive to the effects of new light-blocking structures casting shadows because sunlight is important to the function, physical comfort, or commerce of the land use. Facilities and operations that are considered sensitive to the effects of shadows include: routinely useable outdoor spaces associated with residential, recreational, or institutional (e.g., schools, convalescent homes) land uses; commercial uses such as pedestrian-oriented outdoor spaces or restaurants with outdoor eating areas; nurseries; and existing solar collectors.³

State-designated Scenic Highway: The State Scenic Highway Program was created in 1963 to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment, a highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.⁴

Viewshed: A viewshed is the landscape (a geographic area composed of land, water, biotic and/or cultural elements) that may be seen from one or more viewpoints or along a transportation corridor under favorable atmospheric conditions and has inherent scenic qualities and/or aesthetic value as determined by those who view it. The extent of a viewshed can be limited by a number of intervening elements, including trees and other vegetation, built structures, or topography such as hills and mountains.

Visual Quality: Visual quality refers to the character of the landscape which generally gives visual value to a setting.^{5,6} Various jurisdictions within the SCAG region, such as cities, counties, state, federal, or regional agencies, provide guidelines regarding the preservation and enhancement of visual quality in

³ City of Los Angeles. 2006. *L.A. CEQA Thresholds Guide. Chapter A, Aesthetics and Visual Resources*. Available at: <http://environmentla.com/programs/Thresholds/A-Aesthetics%20and%20Visual%20Resources.pdf>

⁴ Los Angeles County Department of Regional Planning. 29 July 1965. *Regional Recreation Areas Plan*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_web80-regional-recreation-areas-plan.pdf

⁵ U.S. Department of Transportation, Federal Highways Administration. Accessed 12 May 2015. *Visual impact assessments for highway projects*. Available at: <http://www.dot.ca.gov/ser/downloads/visual/FHWAVisualImpactAssmt.pdf>

⁶ The term "visual quality" is used synonymously with "scenic quality" in this document.

their plans or regulations.⁷ An example of such guidance is the Caltrans Scenic Highway Visual Quality Program Intrusion Examples, presented in Table 3.1-1, *Caltrans Scenic Highways Program: Examples of Visual Quality Intrusions*. A given visual element may be considered desirable or undesirable, depending on design, location, use, and other considerations. Because of the size and diversity of the SCAG region, it is not possible or appropriate to apply uniform standards to all areas within the region.

**TABLE 3.1-1
CALTRANS SCENIC HIGHWAYS PROGRAM: EXAMPLES OF VISUAL QUALITY INTRUSIONS**

Land Use Type	Minor Intrusion	Moderate Intrusion	Major Intrusion
Buildings: Residential, Commercial, Industrial Development	Widely dispersed buildings. Natural landscape dominates. Wide setbacks and buildings screened from roadway. Exterior colors and materials are compatible with environment. Buildings have cultural or historical significance.	Increased number of buildings, but are complimentary to the landscape. Smaller setbacks and lack of roadway screening. Buildings do not degrade or obstruct scenic view.	Dense and continuous development. Highly reflective surfaces. Buildings poorly maintained. Visible blight. Development along ridge lines. Buildings degrade or obstruct scenic view.
Unightly Land Uses: Dumps, Quarries, Concrete Plants, Tank Farms, Auto Dismantling	Screened from view so that facility is not visible from the highway.	Not screened from view and visible but programmed/funded for removal and site restoration.	Not screened from view and visible by motorists. Will not be removed or modified. Scenic view is degraded.
Strip Malls		Neat and well landscaped. Blend with surroundings.	Not harmonious with surroundings. Poorly maintained or vacant. Blighted, Development degrades or obstructs scenic view.
Parking Lots	Screened from view so that vehicles and pavement are not visible from the highway	Neat and well landscaped. Blend with surroundings.	Not screened or landscaped. Scenic view is degraded.
Off-Site Advertising Structures			Billboards degrade or obstruct scenic view.
Noise Barriers		Noise barriers are well landscaped and complement the natural landscape. Noise barriers do not degrade or obstruct views.	Noise barriers obstruct scenic view.
Power Lines	Not easily visible from road.	Visible, but compatible with surroundings.	Poles and lines dominate view. Scenic view is degraded.

⁷ California cities and counties are not required to include visual quality elements in their general plans, although many do. However, general plans are required to include a conservation element, which includes resources such as waterways and forests that frequently are also scenic resources.

**TABLE 3.1-1
CALTRANS SCENIC HIGHWAYS PROGRAM: EXAMPLES OF VISUAL QUALITY INTRUSIONS**

Land Use Type	Minor Intrusion	Moderate Intrusion	Major Intrusion
Agriculture: Structures, Equipment, Crops	Blends in and complements scenic view. Indicative of regional culture.	Not in harmony with surroundings. Competes with natural landscape for visual dominance.	Incompatible with and dominates natural landscape. Structures equipment or crops degrade scenic view.
Exotic Vegetation	Used as screening and landscaping. Blends in and complements scenic view.	Competes with native vegetation for visual dominance.	Incompatible with and dominates natural landscape. Structures equipment or crops degrade scenic view.
Clearcutting		Tress bordering highway remains so that clearcutting is not evident.	Clearcutting or deforestation is evident. Scenic view is degraded.
Erosion	Minor soil erosion.	Slopes beginning to erode. Not stabilized.	Large slope failures and no vegetation. Scenic view is degraded.
Grading	Grading blends with adjacent landforms and topography.	Some changes, but restoration is taking place.	Extensive cut and fill. Scarred hillsides and landscape. Canyons filled in. Scenic view is degraded.
Road Design	Blends in and complements scenic view. Roadway structures are suitable for location and compatible with surroundings.	Cut and fill is visible but has vegetative cover.	

SOURCE:

California Department of Transportation. 2012. *Scenic Highways Guidelines, 2012. Appendix E: Examples of Visual Intrusions along Scenic Corridors*. Available at:
http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/guidelines/scenic_hwy_guidelines_04-12-2012.pdf

3.1.1 REGULATORY FRAMEWORK

Federal

Section 4(f) of the U.S. Department of Transportation Act

Section 4(f) refers to the original section within the U.S. Department of Transportation Act of 1966 that provided for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development. The law, now codified in 49 U.S. Code (USC) §303 and 23 USC §138, applies only to the U.S. Department of Transportation (U.S. DOT) and is implemented by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) through 23 Code of Federal Regulations (CFR) 774. Section 4(f) only applies if the project has a federal nexus (i.e., requires a federal permit or receives federal funds).

Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

In August 2005, Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU; 23 CFR 774) amended existing Section 4(f) at both Title 49 USC Section 303 and Title 23 USC Section 138 to simplify the process and approval of projects that have only *de minimis* impacts on lands impacted by Section 4(f).⁸ Under the revised provisions, once the U.S. DOT determines that a transportation use of Section 4(f) property results in a *de minimis* impact, analysis of avoidance alternatives are not required and the Section 4(f) evaluation process is complete. Section 6009 also required the U.S. DOT to issue regulations that clarify the factors to be considered and the standards to be applied when determining if an alternative for avoiding the use of a Section 4(f) property is feasible and prudent. On March 12, 2008, the FHWA issued a Final Rule on Section 4(f), which clarified the 4(f) approval process, simplified its regulatory requirements, and moved the Section 4(f) regulation to 23 CFR 774.

Intermodal Transportation Efficiency Act, Federal Highway Administration (FHWA) National Scenic Byways Program

The FHWA National Scenic Byways Program, which was established in Title 23, Section 162 of the USC under the Intermodal Transportation Efficiency Act of 1991, is a grassroots collaborative effort that designates selected highways as “All American Road” (a roadway that is a destination unto itself), America’s Byways or “National Scenic Byway” is a roadway that possesses outstanding qualities that exemplify regional characteristics.⁹

United States Bureau of Land Management (BLM) Scenic Areas and Back Country Byways

The BLM designates some of its holdings as Scenic Areas and some roadways in remote areas as Back Country Byways. The BLM Back Country Byways Program was established in 1989 and is a component of the National Scenic Byways Program.¹⁰ The counties of Imperial, Riverside, and San Bernardino in the SCAG region include land with such BLM designations.

United States Forest Service (USFS) National Scenic Byways Program

The USFS also has a National Scenic Byways Program, independent from the BLM program, which was established in 1995 under the Intermodal Transportation Efficiency Act of 1991 to indicate roadways of scenic importance that pass through national forests.¹¹ The SCAG region includes Forest Service Scenic Byways in the counties of Los Angeles, Riverside, San Bernardino, and Ventura.

⁸ U.S. Department of Transportation, Federal Highway Administration. Accessed 25 June 2015. *Environmental review toolkit: Section 4(f) – program overview*. Available at: [http://environment.fhwa.dot.gov/\(S\(1vyep545s3wmhuubnvexkmm2\)\)/4f/index.asp](http://environment.fhwa.dot.gov/(S(1vyep545s3wmhuubnvexkmm2))/4f/index.asp)

⁹ U.S. Department of Transportation, Federal Highway Administration. Accessed 11 May 2015. *National scenic byways legislation*. Available at: http://www.fhwa.dot.gov/hep/scenic_byways/us_code.cfm#program

¹⁰ U.S. Department of the Interior, Bureau of Land Management. Updated 30 January 2015. *BLM Byways Program*. Available at: http://www.blm.gov/wo/st/en/prog/Recreation/recreation_national/byways.html

¹¹ U.S. Forest Service. Accessed 11 May 2015. *National forest scenic byways*. Available at:

National Trails System Act

The National Trails System Act (Public Law 90-543) was established by Congress in 1968 to establish a network of scenic, historic, and recreational trails.¹² The Act defined four categories of national trails: recreation trails, scenic trails, historic trails, and connecting or side trails. Trails within park, forest, and other recreation areas administered by the Secretary of the Interior or the Secretary of Agriculture or in other federally administered areas may be established and designated as “National Recreation Trails” by the appropriate Secretary. Since the National Trails System Act was enacted, the list of qualifying national scenic trails and national historic trails has grown from the initial two trails (the Application National Scenic Trail and Pacific Crest National Scenic Trail) to the current list, which includes 11 national scenic trails and 19 historic trails. The Pacific Crest National Scenic Trail passes through Los Angeles County, Riverside County, and San Bernardino County in the SCAG region.

National Forests Land Management Plans

Each of the four Southern California national forests (Cleveland National Forest, Los Angeles National Forest, San Bernardino National Forest, and Los Padres National Forest) is included in the Southern California National Forests Vision. The Southern California National Forests Vision (forest plans) has created individual land management plans for each of the four Southern California national forests. The plans include a section for design criteria and a map of scenic integrity objectives for each national forest to guide the management of the land and its resources for the next 10 to 15 years.

State

California Department of Transportation (Caltrans) California Scenic Highways Program

The California Scenic Highways Program was created in 1963 under Senate Bill 1467, which added Sections 260 through 263 to the Streets and Highways Code, to preserve and protect scenic highway corridors from change that would reduce the aesthetic value of lands adjacent to highways.^{13,14} According to Caltrans’ Scenic Highway Guidelines, scenic highway corridors consist of land that is visible from, adjacent to, and outside the highway right-of-way, and is composed primarily of scenic and natural features. Topography, vegetation, viewing distance, and/or jurisdictional lines determine the corridor boundaries.¹⁵ To be included in the state program, the highways proposed for designation must meet Caltrans’ eligibility requirements and have visual merit. County highways and roads that meet the Caltrans Scenic Highways Program standards may also be officially designated.

<http://www.fs.fed.us/recreation/programs/tourism/TourUS.pdf>

¹² National Park Service. Modified 12 July 2012. *The National Trails System Act*. Also found in United States Code, Volume 16, Sections 1241-1251. Available online at: <http://www.nps.gov/nts/legislation.html>

¹³ California Department of Transportation. Accessed 20 October 2015. *Frequently asked questions*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/faq.htm

¹⁴ California Department of Transportation. October 2008. *Scenic Highway Guidelines*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/guidelines/scenic_hwy_guidelines_04-12-2012.pdf

¹⁵ California Department of Transportation. October 2008. *Scenic Highway Guidelines*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/guidelines/scenic_hwy_guidelines_04-12-2012.pdf

The state laws governing the Scenic Highway Program are provided in the California Streets and Highways Code, Sections 260 through 263. The State Scenic Highway System includes a list of highways that have been designated by Caltrans as scenic highways or are eligible for designation as scenic highways. These highways are designated in Section 263 of the Streets and Highways Code. Scenic highway designation can offer the following benefits:

- Protection of the scenic values of an area;
- Enhancement of community identity and pride, encouraging citizen commitment to preserving community values;
- Preservation of scenic resources to enhance land values and make the area more attractive; and
- Promotion of local tourism that is consistent with the community's scenic values.

A scenic corridor is the land generally adjacent to and visible from the highway and is identified by using a motorist's line of vision. A reasonable boundary is selected when the view extends to the distant horizon. Caltrans outlines the following minimum requirements for scenic corridor protection (Section 261 of the Streets and Highways Code): (1) regulation of land use and intensity (density) of development, (2) detailed land and site planning, (3) control of outdoor advertising, (4) careful attention to and control of earthmoving and landscaping, and (5) the design and appearance of structures and equipment. Caltrans defines non-compliance for a Corridor Protection Program as a program that: (1) no longer complies with the five legislatively required elements under Section 261 of the Street and Highways Code, (2) no longer affords protection because required elements have been amended or changed, or (3) no longer is being enforced by the local governing body.

California Building Energy Efficiency Standards: 2013 Title 24, Part 6 (California Energy Code)

The California Energy Code (Title 24, Section 6) was created as part of the California Building Standards Code (Title 24 of the California Code of Regulations) by the California Building Standards Commission in 1978 to establish statewide building energy efficiency standards to reduce California's energy consumption.¹⁶ California's Building Energy Efficiency Standards are updated on an approximately three-year cycle; the 2013 Standards went into effect July 1, 2014, and the 2016 Standards will go into effect on January 1, 2017. These standards include mandatory requirements for efficiency and design of lighting control devices and mandatory requirements for indoor and outdoor lighting systems in residential and non-residential buildings, and hotel or motel buildings.

Local

The SCAG region spans six counties and 191 cities, all of which have general plans containing policies related to scenic resources (Table 3.1.1-1, *Summary of County and City General Plan Policies and Ordinances in the SCAG Region*). Additional plans and ordinances at the master plan level, city level, and specific plan level may also apply within the SCAG region.

¹⁶ California Building Standards Commission. Accessed 26 June 2015. *History*. Available at: http://www.bsc.ca.gov/abt_bsc/history.aspx

**TABLE 3.1.1-1
SUMMARY OF COUNTY AND CITY POLICIES AND ORDINANCES IN THE SCAG REGION**

County	County and City Policies and Ordinances
Imperial	<p>Scenic Vistas: None designated in County or cities</p> <p>Scenic Highways: Circulation and Scenic Highways Element in the Imperial County General Plan¹</p> <p>Visual Character/Quality: Conservation/Open Space Element of the Imperial County General Plan and City General Plans, Imperial County Code of Ordinances Chapters 12.44 Wildlife Protection and 12.48 Wild Flowers and Trees</p> <p>Light and Glare: No County-level ordinances, some cities have General Plan policies or Ordinances²</p> <p>Shade and Shadow: No County-adopted standards</p>
Los Angeles	<p>Scenic Vistas: Designated Public Viewing Areas within Santa Monica Mountains Local Coastal Program,³ some cities have designated scenic views within City General Plans</p> <p>Scenic Highways: Conservation and Open Space Element of the Los Angeles County General Plan, some cities have designated scenic highways in Conservation and Open Space Elements and Transportation Elements of City General Plans</p> <p>Visual Character/Quality: Conservation and Open Space Element of the Los Angeles County General Plan and City General Plans; County and City Tree and Landscaping Ordinances</p> <p>Light and Glare: 2012 Los Angeles County Rural Outdoor Lighting District Ordinance and some City dark sky ordinances</p> <p>Shade and Shadow: The City of Los Angeles has established shade and shadow effect guidelines that are referenced by other cities in Los Angeles and Orange Counties in evaluation of impacts⁴</p>
Orange	<p>Scenic Vistas: None designated</p> <p>Scenic Highways: Transportation Element of the Orange County General Plan, some cities have designated scenic highways identified in General Plans</p> <p>Visual Character/Quality: Resources Element of the Orange County General Plan and City General Plans</p> <p>Light and Glare: County-level ordinances under review,⁵ some cities have General Plan policies or ordinances</p> <p>Shade and Shadow: No County-adopted standards. The City of Los Angeles has established shade and shadow effect guidelines that are referenced by other cities in Los Angeles and Orange Counties in evaluation of impacts.⁶</p>
Riverside	<p>Scenic Vistas: None designated</p> <p>Scenic Highways: Multipurpose Open Space Element of the County of Riverside General Plan, some cities have designated scenic highways identified in General Plans</p> <p>Visual Character/Quality: Riverside County Ordinance No. 559 Regulating the Removal of Trees, Multipurpose Open Space Element of the County of Riverside General Plan,⁷ and City General Plans</p> <p>Light and Glare: 1988 Riverside County Ordinance No. 655, some cities have General Plan policies or Ordinances²</p> <p>Shade and Shadow: No County-adopted standards</p>
San Bernardino	<p>Scenic Vistas: None designated</p> <p>Scenic Highways: Circulation and Infrastructure Element of the San Bernardino County General Plan, some cities have designated scenic highways identified in General Plans</p> <p>Visual Character/Quality: San Bernardino County Development Code Chapter 88.01, Plant Protection and Management, Circulation and Infrastructure Element and Conservation Element of the County of San Bernardino General Plan,⁸ and City General Plans</p> <p>Light and Glare: San Bernardino County Night Sky Protection Ordinance; some cities have General Plan policies or Ordinances²</p> <p>Shade and Shadow: No County-adopted standards</p>

**TABLE 3.1.1-1
SUMMARY OF COUNTY AND CITY POLICIES AND ORDINANCES IN THE SCAG REGION**

County	County and City Policies and Ordinances
Ventura	<p>Scenic Vistas: None designated</p> <p>Scenic Highways: Resources Appendix of the Ventura County General Plan, some cities have designated scenic highways identified in General Plans</p> <p>Visual Character/Quality: Ventura County Tree Protection Ordinance, Resources Element of the Ventura County General Plan, and City General Plans</p> <p>Light and Glare: Some cities have General Plan policies or Ordinances (no County-level ordinances)²</p> <p>Shade and Shadow: No County-adopted standards</p>

SOURCE:

¹ Imperial County Public Works Department. Approved 29 January 2008. *Circulation and Scenic Highways Element*. Available at: [http://www.icpds.com/CMS/Media/Circulation-Scenic-Highway-Element-\(2008\).pdf](http://www.icpds.com/CMS/Media/Circulation-Scenic-Highway-Element-(2008).pdf)

² Skykeepers. Accessed 22 June 2015. *Outdoor Lighting Regulations in California*. Available at: <http://www.skykeepers.org/ordsregs/califord.html>

³ Los Angeles County Department of Regional Planning. November 2013. *Santa Monica Mountains Local Coastal Program*. Available at: <http://planning.lacounty.gov/coastal/smm> Santa Monica Mountains Local Coastal Program map with public viewing areas available at: http://planning.lacounty.gov/assets/upl/project/coastal_adopted-map3.pdf

⁴ City of Los Angeles. 2006. *L.A. CEQA Thresholds Guide. Chapter A, Aesthetics and Visual Resources*. Available at: <http://environmentla.com/programs/Thresholds/A-Aesthetics%20and%20Visual%20Resources.pdf>

⁵ Skykeepers. Accessed 22 June 2015. *Outdoor Lighting Regulations in California*. Available at: <http://www.skykeepers.org/ordsregs/califord.html>

⁶ City of Los Angeles. 2006. *L.A. CEQA Thresholds Guide. Chapter A, Aesthetics and Visual Resources*. Available at: <http://environmentla.com/programs/Thresholds/A-Aesthetics%20and%20Visual%20Resources.pdf>

⁷ Riverside County. March 2014. *County of Riverside General Plan Amendment No. 960: Public Review Draft. Chapter 5: Multipurpose Open Space Element*. Available at: http://planning.rctlma.org/Portals/0/genplan/general_plan_2014/GPA960/GPAVolume1/MultipurposeOpenSpaceElement-%20GPA%20No%20960%20Volume%201%202014-02-20.pdf

⁸ San Bernardino County, Land Use Services Division. [Adopted 13 March 2007] Amended 24 April 2014. *County of San Bernardino 2007 General Plan*. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

For the most part, local planning guidelines have been developed in general plans to preserve and enhance the visual quality and aesthetic resources of urban and natural areas. Zoning codes implement the goals and objectives of general plans. The value attributed to a visual resource generally is based on the characteristics and distinctiveness of the resource and the number of persons who view it. Vistas of undisturbed natural areas, unique or unusual features forming an important or dominant portion of a viewshed, and distant vistas offering relief from less attractive nearby features are frequently considered to be scenic resources. In some instances, a case-by-case determination of scenic value may be needed, but often there is agreement within the relevant community about which features are valued as scenic resources.

In addition to state designations, cities and counties have their own scenic highway designations, which are intended to preserve and enhance existing scenic resources. Criteria for designation are commonly included in the conservation/open space element of the city or county general plan. Cities and counties can use open space easements as a mechanism to preserve scenic resources, if they have adopted open-space plans, as provided by the Open Space Easement Act of 1974 and codified in California Government Code, Section 51070 et seq. According to the Act, a city or county may acquire or approve an open-space easement through a variety of means, including using public money.

3.1.2 EXISTING CONDITIONS

The six-county SCAG region is characterized by diverse topography that ranges from coastal plains to steep mountains and includes six of California’s 11 geomorphic provinces, or naturally defined geologic regions: the Coast Ranges, the Transverse Ranges, the Peninsular Ranges, the Mojave Desert, the Basin and Range province, and the Colorado Desert province.¹⁷ The SCAG region encompasses two mountain ranges, the Transverse and Peninsular Ranges; two deserts, the Mojave and the Colorado Deserts; and approximately 150 miles of coastline where the western margin of California meets the Pacific Ocean. Elevation ranges from 0 feet above mean sea level (MSL) to 11,503 feet above MSL. This section characterizes the baseline conditions for scenic vistas, scenic resources within scenic highway corridors, visual character and quality, sources of light and glare and shade/shadow, and other scenic resources afforded protection pursuant to county and city general plans. The SCAG region ranges in character from urban centers, to rural agricultural lands, to natural woodlands, to mountains and canyons, to lakes and waterways, to beaches and the Pacific Ocean.

Scenic Vistas

There are nine Caltrans-designated vista points in the SCAG region (Table 3.1.2-1, *Caltrans Designated Vista Points*).

**TABLE 3.1.2-1
CALTRANS DESIGNATED VISTA POINTS**

County	Name	Route	Post Mile
Los Angeles	Lamont Odett	14	57.8
Riverside	Coachella Valley	74	87.6
Riverside	Indian Hill Road	243	13.8
San Bernardino	Bear Valley Dam	18	44.2
San Bernardino	Donald S. Wieman	18	21.4
San Bernardino	Eyes of the World	38	14.2
San Bernardino	Mill Creek	38	10.7
San Bernardino	Silverwood Lake	138	3.6
San Bernardino	Silverwood Lake 2	138	3.6

SOURCE:

Male, Laura, Sapphos Environmental, Inc. Pasadena, CA. 3 July 2015. Communication with Daniel Kitowski, Transportation Manager (GIS), California Department of Transportation.

There are no county-designated Vista Points within the county general plans for Imperial, Orange, Riverside, San Bernardino, or Ventura Counties; however, these general plans emphasize protection of scenic vistas from scenic routes/drives/highways and identify scenic resources and landmarks for which the scenic background and natural resources of the area should be preserved. Los Angeles County has designated scenic vistas within the Santa Monica Mountains Local Coastal Program.¹⁸

¹⁷ California Department of Conservation, California Geological Survey. 2002. *Note 36: California geomorphic provinces*. Available at: http://www.conservation.ca.gov/cgs/information/publications/cgs_notes/note_36/Documents/note_36.pdf

¹⁸ Los Angeles County Department of Regional Planning. November 2013. *Santa Monica Mountains Local Coastal Program*. Available at: <http://planning.lacounty.gov/coastal/smm> Santa Monica Mountains Local Coastal Program map with public viewing areas available at: http://planning.lacounty.gov/assets/upl/project/coastal_adopted-map3.pdf

Scenic Resources within Scenic Highway Corridors

There are two National Scenic Byways, two BLM Back Country Byways, and three National Forest Scenic Byways in the SCAG region:

- National Scenic Byways
 - Arroyo Seco Historic Parkway – Route 110, a 9.5-mile segment of Route 110 in Los Angeles County that connects Pasadena and downtown Los Angeles through the historic Arts and Crafts landscape of the Arroyo Seco¹⁹
 - Parker Dam Road (11 miles, San Bernardino County)²⁰
- BLM Scenic Areas and Back Country Byways
 - Bradshaw Trail Back Country Byway (65 miles) (Riverside County, Imperial County)²¹
 - Wild Horse Canyon Scenic Backcountry Byway (12 miles) (San Bernardino County)²²
- National Forest Scenic Byways
 - Angeles Crest Scenic Byway (Route 2)²³
 - Rim of the World Scenic Byway²⁴
 - Palms to Pines Scenic Byway²⁵

Portions of seven State Routes in the SCAG region have been designated as State Scenic Highways (Table 3.1.2-2, *Officially Designated State Scenic Highways*, and Figure 3.1.2-1, *State Designated and Eligible Scenic Highways and Vista Points*).

¹⁹ U.S. Department of Transportation, Federal Highway Administration. Accessed 11 May 2015. *Arroyo Seco Historic Parkway – Route 110*. Available at: <http://www.fhwa.dot.gov/byways/byways/10246>

²⁰ Code42day. Accessed 26 June 2015. *America's Scenic Byways: Parker Dam Road*. Available at: <http://scenicbyways.info/byway/68951.html>

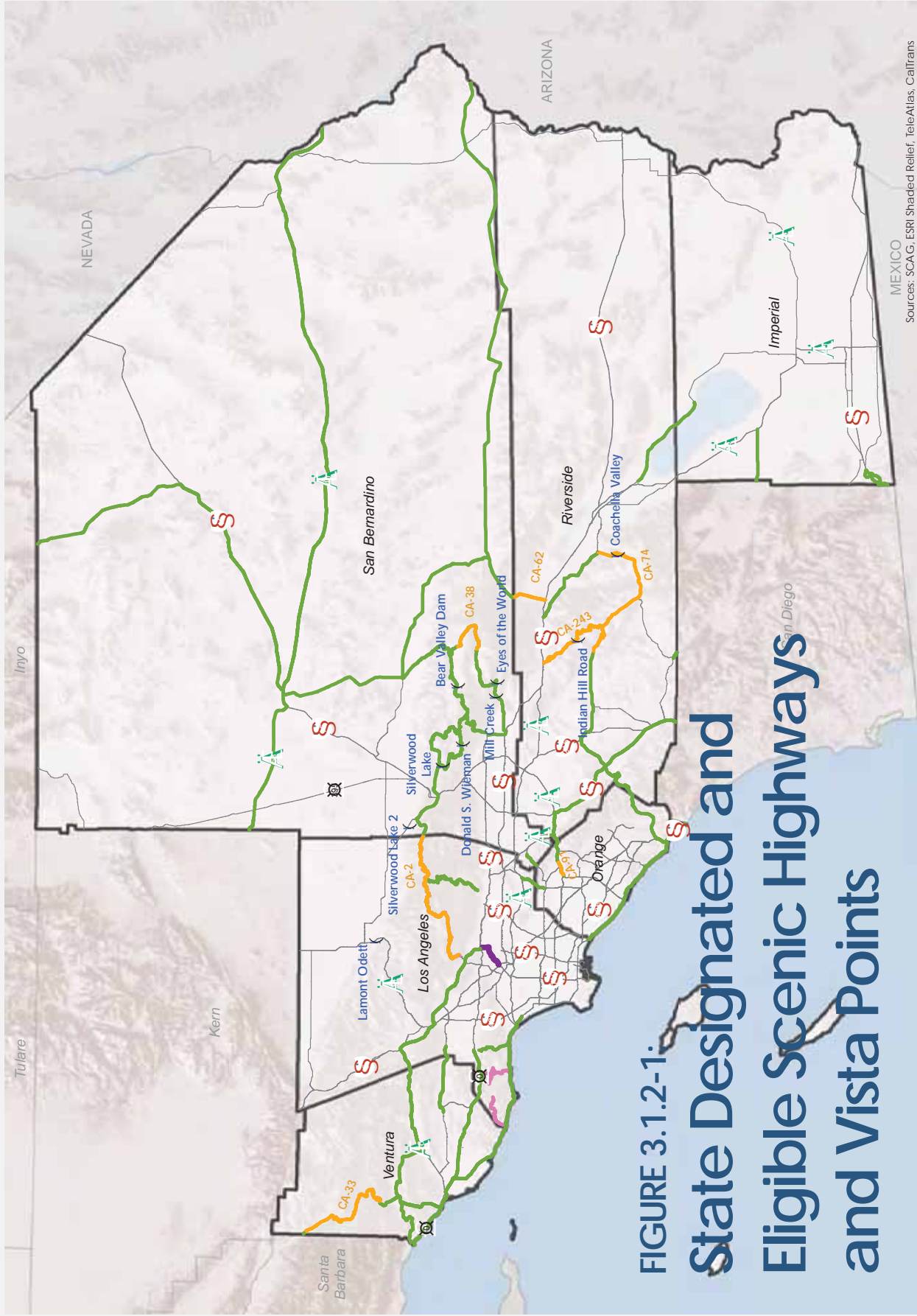
²¹ Code42day. Accessed 26 June 2015. *America's Scenic Byways: Bradshaw Trail*. Available at: <http://scenicbyways.info/byway/2172.html>

²² Code42day. Accessed 26 June 2015. *America's Scenic Byways: Wild Horse Canyon Scenic Backcountry Byway*. Available at: <http://scenicbyways.info/byway/2175.html>

²³ Code42day. Accessed 26 June 2015. *America's Scenic Byways: Angeles Crest Scenic Byway*. Available at: <http://scenicbyways.info/byway/10245.html>

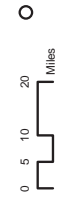
²⁴ Code42day. Accessed 26 June 2015. *America's Scenic Byways: Rim of the World Scenic Byway*. Available at: <http://scenicbyways.info/byway/2595.html>

²⁵ Code42day. Accessed 26 June 2015. *America's Scenic Byways: Palms to Pines Scenic Byway*. Available at: <http://scenicbyways.info/byway/2326.html>



**FIGURE 3.1.2-1:
State Designated and
Eligible Scenic Highways
and Vista Points**

-  CalTrans Designated Vista Points
-  Officially Designated State Scenic Highway
-  Eligible State Scenic Highway
-  Historic Parkway
-  Adopted Los Angeles County Scenic Highways



Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CalTrans

**TABLE 3.1.2-2
OFFICIALLY DESIGNATED STATE SCENIC HIGHWAYS**

Route	County	Location	Miles
2	Los Angeles	From 2.7 miles north of State Route 210 (at La Canada) to San Bernardino County Line	55.1
33	Ventura	From 6.4 miles north of SR-150 to Santa Barbara County Line	39.8
38	San Bernardino	From 0.1 mile east of South Fork Campground to 2.9 miles south of SR-18 at State Line	15.8
62	Riverside	From SR-10 north to the San Bernardino County Line	9.2
74	Riverside	From western boundary of the San Bernardino National Forest to SR-111 in Palm Desert	47.7
91	Orange	From SR-55 to eastern city limit of Anaheim	4.2
243	Riverside	From SR-74 to the Banning City limit	28.2

SOURCE:

California Department of Transportation. Accessed 11 May 2015. *Officially Designated State Scenic Highways*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/schwy.htm

Additional roadways in the SCAG region have been designated as County Scenic Highways (Table 3.1.2-3, *Officially Designated County Scenic Highways*).

**TABLE 3.1.2-3
OFFICIALLY DESIGNATED COUNTY SCENIC HIGHWAYS**

Route	County	Location	Miles
Mulholland Highway	Los Angeles	From SR-1 to Kanan Dume Road, and from west of Cornell Road to east of Las Virgenes Road	19.0
Malibu Canyon-Las Virgenes Highway	Los Angeles	From SR-1 to Lost Hills Road	7.4

SOURCE:

California Department of Transportation. Accessed 11 May 2015. *Officially Designated State Scenic Highways*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/schwy.htm

There are 40 additional portions of roadways in the SCAG region that have been identified by Caltrans as being *eligible* for designation as a State Scenic Highways (Table 3.1.2-4, *Roadways Eligible for State Scenic Highway Designation*).

**TABLE 3.1.2-4
ROADWAYS ELIGIBLE FOR STATE SCENIC HIGHWAY DESIGNATION**

Route	County	Location	Post Miles	Miles
1	Orange/Los Angeles	I-5 SO San Juan Cap./SR-19 Nr Long Beach	0.0–3.6	3.6
1	Los Angeles/Ventura	SR-187 Nr Santa Monica/SR-101 Nr El Rio	32.2–21.1	11.1
2	Los Angeles/San Bernardino	SR-210 in La Cañada. Flintridge/SR-138 Via Wrtwd	22.9–6.36	16.54
5	San Diego/Orange	Opposite Coronado/SR-74 Nr San Juan Cap	R14.0–9.6	4.4
5	Los Angeles	I-210 Nr Tunnel Station/SR-126 Nr Castaic	R44.0–R55.5	11.5
8	San Diego/Imperial	Sunset Cliffs/SR-98 Nr Coyote Wells	T0.0–R10.0	10

**TABLE 3.1.2-4
ROADWAYS ELIGIBLE FOR STATE SCENIC HIGHWAY DESIGNATION**

Route	County	Location	Post Miles	Miles
15	San Diego/Riverside	SR-76 Nr San Luis Rey River/SR-91 Nr Corona	R 46.5–41.5	5.0
15	San Bernardino	SR-58 Nr Barstow/SR-127 Nr Baker	76.9–R136.6	59.7
18	San Bernardino	SR-138 Nr Mt Anderson/SR-247 Nr Lucerne Valley	R17.7–73.8	56.1
27	Los Angeles	SR-1/Mulholland Dr.	0.0–11.1	11.1
30	San Bernardino	SR-330 Nr Highlands/SR-10 Nr Redlands	T29.5–33.3	3.8
33	Ventura	SR-101 Nr Ventura/SR150	0.0–11.2	11.2
33	Ventura/Santa Barbara/San Luis Obispo	SR-150/SR-166 in Cuyama Valley	11.2–11.5	0.3
38	San Bernardino	SR-10 Nr Redlands/SR-18 Nr Fawnskin (All)	0.0–49.5	49.5
39	Los Angeles	SR-210 Nr Azusa/SR-2	14.1–44.4	30.3
40	San Bernardino	Barstow/Needles	0.0–154.6	154.6
57	Orange/Los Angeles	SR-90/SR-60 Nr City of Industry	19.9–R4.5	15.4
58	Kern/San Bernardino	SR-14 Nr Mojave/I-15 Nr Barstow	112.0–R4.5	107.5
62	Riverside/San Bernardino	I-10 Nr Whitewater/Arizona SL (All)	0.0–142.7	142.7
71	Riverside	SR-91 Nr Corona/SR-83 NO Corona	0.0–G3.0	3.0
74	Orange/Riverside	I-5 Nr San Juan Capistrano/I-111 (All)	0.0–R96.0	96.0
78	San Diego/Imperial	SR-79 Nr Santa Ysabel/SR-86 Passing Nr Julian	51.1–13.2	37.9
79	San Diego/Riverside	SR-78 Nr Santa Ysabel/SR-371 Nr Aguanga	20.2–2.3	17.9
91	Orange/Riverside	SR-55 Nr Santa Ana Canyon/I-15 Nr Corona	R9.2–7.5	1.7
91	Orange	SR-55/E Cil Anaheim	R9.2–13.4	4.2
101	Los Angeles/Ventura/ Santa Barbara/San Luis Obispo	SR-27 (Topanga Canyon Blvd) SR-46 Nr Paso Robles	25.3–57.9	27.6
111	Imperial/Riverside	Bombay Beach-Salton Sea SP/SR-195 Nr	57.6–18.4	39.2
111	Riverside	SR-74 Nr Palm Desert/I-210 Nr Whitewater	39.6–R63.4	23.8
118	Ventura/Los Angeles	SR-23/Desoto Ave. Nr Browns Canyon	17.4–R2.7	14.7
126	Ventura/Los Angeles	SR-150 Nr Santa Paula/I-5 Nr Castaic	R12.0–OR5.8	6.2
127	San Bernardino/Inyo	I-15 Nr Baker/Nevada SI (All)	L0.0–49.4	49.4
138	San Bernardino	SR-2 Nr Wrightwood/SR-18 Nr Mt Anderson	6.6–R37.9	31.3
142	San Bernardino	Orange CL/Peyton Dr.	0.0–4.4	4.4
150	Santa Barbara/Ventura	SR-101 Nr Ventura/SB CL/SR-126 Nr Santa	0.0–34.4	34.4
173	San Bernardino	SR-138 Nr Slvrwd Lk/SR-18 SO lk Arwhd (All)	0.0–23.0	23.0
210	Los Angeles	I-5 Nr Tunnel Station/SR-134	R0.0–R25.0	25.0
215	Riverside	SR-74 Nr Romoland/SR-74 Nr Perris	23.5–26.3	2.8
243	Riverside	SR-74 Nr Mountain Cntr/I-210 Nr Banning (All)	0.0–29.7	29.7
247	San Bernardino	SR-62 Nr Yucca Valley/I-15 Nr Barstow (All)	0.0–78.1	78.1
330	San Bernardino	SR-30 Nr Highland/SR-18 Nr Running Springs (All)	29.5–44.1	14.6

SOURCE:

California Department of Transportation. Accessed 11 May 2015. *Eligible (E) and Officially Designated (OD) Routes*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/cahisys.htm

There are 5,045 state agency bridges on the California State Highway system and 3,699 local agency bridges that are located within the SCAG region, eight of which are listed on the National Register of Historic Places (NRHP), 80 of which are eligible for NRHP, five of which are potentially eligible for NRHP, 286 for which the historical significance has not been determined as of July 2015, and 8,365 of which are not eligible for NRHP (Table 3.1.2-5, *Historical Significance of State and Local Agency Bridges*).²⁶

**TABLE 3.1.2-5
HISTORICAL SIGNIFICANCE OF STATE AND LOCAL AGENCY BRIDGES**

County	Listed on National Register of Historic Places	Eligible for NRHP	Potentially Eligible for NRHP	Historic Significance Not Determined as of August 2015	Not Eligible for NRHP	Total
Imperial	0	0	0	16	414	430
State agency	0	0	0	8	283	291
Local agency	0	0	0	8	131	139
Los Angeles	7	69	4	81	3,824	3,985
State agency	0	42	0	70	2,099	2,211
Local agency	7	27	4	11	1,725	1,774
Orange	0	2	0	9	1,204	1,215
State agency	0	2	0	6	652	660
Local agency	0	0	0	3	552	555
Riverside	1	5	0	29	1,118	1,153
State agency	0	1	0	23	627	651
Local agency	1	4	0	6	491	502
San Bernardino	0	3	1	138	1,308	1,450
State agency	0	1	1	25	886	913
Local agency	0	2	0	113	422	537
Ventura	0	1	0	13	497	511
State agency	0	0	0	13	306	319
Local agency	0	1	0	0	191	192
SCAG region	8	80	5	286	8,365	8,744
State agency	0	46	1	145	4,853	5,045
Local agency	8	34	4	141	3,512	3,699

SOURCE:

California Department of Transportation. Accessed 8 September 2015. *Historical Significance—State Bridges*. Available at: http://www.dot.ca.gov/hq/structur/strmaint/hs_state.pdf

California Department of Transportation. Accessed 8 September 2015. *Historical Significance—Local Agency Bridges*. Available at: http://www.dot.ca.gov/hq/structur/strmaint/hs_local.pdf

Visual Character and Quality

Aesthetically distinctive resources can be found throughout the SCAG region, ranging in character from urban centers, to rural agricultural lands, to natural woodlands, to mountains and canyons, to lakes and waterways, to beaches and the Pacific Ocean. The extraordinary range of visual features in the region is afforded by the mixture of climate, topography, and flora and fauna found in the natural environment as well as the diversity of style, composition, and distribution of the built environment. The SCAG region

²⁶ California Department of Transportation. July 2015. *Structure Maintenance & Investigations: Historical Significance – State Agency Bridges*. Available at: http://www.dot.ca.gov/hq/structur/strmaint/hs_state.pdf

encompasses approximately 150 miles of California coastline, with an elevation range of 0 feet above MSL at the coastline to 11,503 feet above MSL at the peak of San Gorgonio Mountain in San Bernardino County. The six-county region includes six of California's eleven geomorphic provinces:²⁷

1. **Coast Ranges** (Los Angeles and Ventura counties): the SCAG region includes the granitic southern portion of this northwest-trending series of mountain ranges and valleys subparallel to the San Andreas Fault.
2. **Transverse Ranges** (Los Angeles, Riverside, San Bernardino, and Ventura counties): an east-west trending series of steep mountain ranges and valleys that extends from the San Miguel, Santa Rosa, and Santa Cruz islands to the west to the San Bernardino Mountains to the east. The transverse ranges also include the San Gabriel Mountains, Tehachapi Mountains, Santa Monica Mountains, and Santa Susana Mountains. Three national forests have been established to protect and manage natural resources, wildlife, recreational opportunities, and the quality of the environment within portions of the Transverse Ranges: Los Padres National Forest, Angeles National Forest, and San Bernardino National Forest.²⁸ These ranges are characterized by petroleum-rich sedimentary rocks, which has led to a large amount of oil production in the area; oil rigs are present in non-protected areas throughout the landscape.
3. **Peninsular Ranges** (Imperial, Los Angeles, Orange, Riverside, and San Bernardino counties): a series of ranges separated by northwest trending valleys, subparallel to faults branching from the San Andreas Fault, characterized by granitic rock and metamorphic rock. The Peninsular Ranges include the San Jacinto Mountains. The Cleveland National Forest has been established to protect and manage natural resources, wildlife, recreational opportunities, and the quality of the environment within portions of the Peninsular Ranges.
4. **Mojave Desert** (Imperial, Los Angeles, Riverside, and San Bernardino counties): a broad interior region of isolated mountain ranges separated by expanses of desert plains with an interior enclosed drainage and many playas, located between the Garlock Fault and the San Andreas Fault.
5. **Basin and Range** (San Bernardino County): the SCAG region includes the southernmost portion of this province characterized by interior drainage with lakes and playas. This province includes Death Valley, the lowest area in the United States, which is located to the north of the SCAG region in Inyo County.
6. **Colorado Desert** (Imperial, Riverside, and San Bernardino counties): a low-lying barren desert basin (the Imperial Valley), approximately 245 feet below sea level in part that is dominated by the Salton Sea. The province, which is comprised of a depressed block between active branches of alluvium-covered San Andreas Fault located to the southwest of the Mojave Desert province, is characterized by the ancient beach lines and silt deposits of extinct Lake Cahuilla.

Natural features include land and water resources such as parks and open areas, wilderness areas, beaches, and natural water resources. Man-made lakes are included as elements of the visual environment that have been constructed to resemble natural features. The loss of natural aesthetic

²⁷ California Department of Conservation, California Geological Survey. 2002. *Note 36: California Geomorphic Provinces*. Available at: http://www.conservation.ca.gov/cgs/information/publications/cgs_notes/note_36/Documents/note_36.pdf

²⁸ U.S. Department of Agriculture, Forest Service. 2009. *A Guide to Your National Forests and Grasslands*. Available at: <http://www.fs.fed.us/maps/products/guide-national-forests09.pdf>

features, reduction of vistas, or the introduction of contrasting urban features may diminish the value of natural resources in the region. Views of the coast from locations in Ventura, Los Angeles and Orange Counties are considered valuable visual resources.^{29,30,31} Views of various mountain ranges are also widely prevalent throughout the region. Rivers, streams, creeks, lakes, and reservoirs located in the region may also be visually significant. Features of the built environment that may also have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the built environment that may be visually significant include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, and a location where a historic event occurred.

The SCAG region is characterized by an approximately 92.9 percent rural land use pattern, with approximately 3.4 percent of the land use pattern characterized as urban and approximately 3.3 percent characterized as suburban (Table 3.1.2-6, *Urban, Suburban, and Rural Land Use Patterns by County*, Figure 3.1.2-2, *Land Use Pattern in SCAG Region*). The counties of Imperial, Riverside, San Bernardino, and Ventura are comprised of over 90 percent rural land uses, with approximately 71.7 percent of land in Los Angeles County characterized by rural land uses and approximately 54.7 percent of land in Orange County characterized by rural land uses. There are approximately 13,300 square miles of protected natural lands in the approximately 38,000-square-mile SCAG region.³² Approximately 6,772 square miles (17.8 percent) of the SCAG region have been set aside for open space and recreation.

²⁹ Los Angeles County Department of Regional Planning. Adopted 6 October 2015. *Los Angeles County General Plan. Chapter 9: Conservation and Natural Resources Element. Section VII. Scenic Resources*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf

³⁰ Orange County Public Works OC Development Services. July 2014. *Orange County General Plan. Chapter VI Resources Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235>

³¹ Ventura County. 28 June 2011. *Ventura County General Plan: Resources Appendix*. Available at: <http://www.ventura.org/rma/planning/pdf/plans/General-Plan-Resources-Appendix-6-28-11.pdf>

³² Southern California Association of Governments, Energy and Environment Committee. 2 July 2015. *EEC July 2, 2015 full agenda packet. Agenda Item No. 8 Re: 2016 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Natural/Farm Lands Update*. Available at: <http://www.scag.ca.gov/committees/Pages/Current-Agendas.aspx>

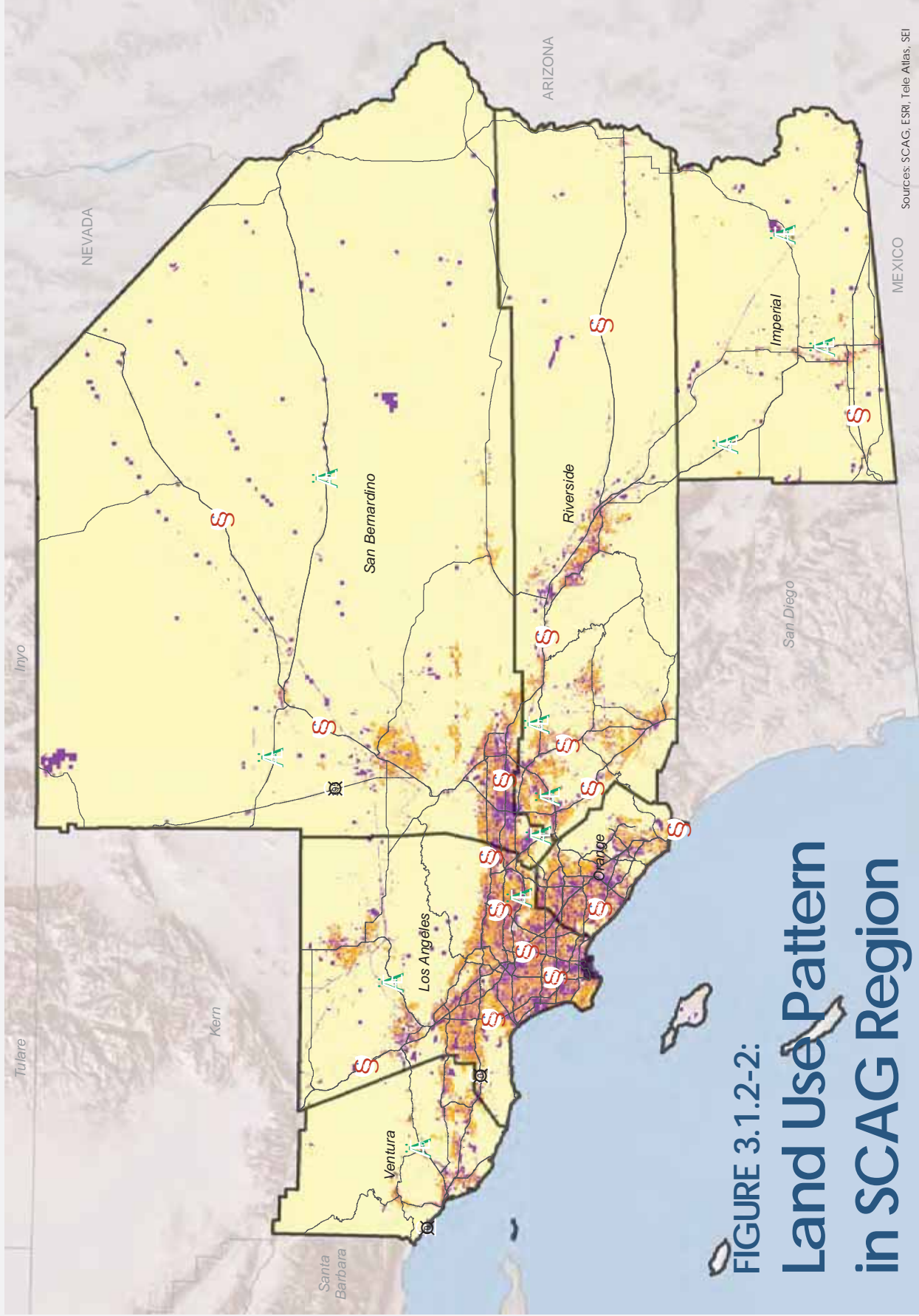


FIGURE 3.1.2-2:
Land Use Pattern
in SCAG Region

- Rural
- Suburban
- Urban

0 5 10 20
 Miles

Sources: SCAG, ESRI, Tele Atlas, SEI

**TABLE 3.1.2-6
URBAN, SUBURBAN, AND RURAL LAND USE PATTERNS BY COUNTY**

County	Urban Land Use Pattern (Square Miles)	Percent Urban Land of Overall Area	Suburban Land Use Pattern (Square Miles)	Percent Suburban Land of Overall Area	Rural Land Use Pattern (Square Miles)	Percent Rural Land of Overall Area
Imperial	78.0	1.7	34.4	0.8	4,327.7	97.5
Los Angeles	454.6	12.0	494.8	13.1	2,709.3	71.7
Orange	151.5	21.5	161.6	22.9	385.4	54.7
Riverside	208.0	2.9	238.0	3.3	6,684.7	93.7
San Bernardino	329.6	1.65	248.8	1.25	19,356.5	97.10
Ventura	61.1	3.4	79.1	4.4	1,644.3	90.6
SCAG region	1,282.8	3.4	1,256.7	3.3	35,107.9	92.9

SOURCE:

SCAG Existing Land Uses (10/14/2015). Land use patterns have been interpreted from the following existing land use categories:

URBAN: multi-family residential, general office, commercial and services, facilities, education, industrial, transportation/communications/utilities, mixed commercial and industrial, and under construction.

SUBURBAN: single-family residential, mobile homes and trailer parks, mixed residential, and mixed residential and commercial

RURAL: rural residential, military installations, open space and recreation, agriculture, vacant, water, undevelopable, and unknown

NOTE:

Portions of each County have not been categorized, which means that percentages may not add up to 100 percent. This margin of error ranges from 0.0 percent in Imperial, Riverside, and San Bernardino counties to 3.15 percent in Los Angeles County.

Most existing urban development is found along the coastal plains of Los Angeles, Orange, and Ventura Counties, as well as in adjoining valleys that extend inland from the coastal areas. Urban development also has moved into the inland valleys such as the Antelope, San Bernardino, Yucca, Moreno, Hemet–San Jacinto, Coachella, and Imperial Valleys. Downtown Los Angeles is the largest urbanized center within the SCAG region. Other urbanized areas include the cities of Long Beach, Burbank, Glendale, Pasadena, and Pomona in Los Angeles County; Riverside in Riverside County; San Bernardino in San Bernardino County; Santa Ana, Anaheim, and Irvine in Orange County; Oxnard and Ventura in Ventura County; and El Centro in Imperial County. The urban form is limited by national forests, mountains, and the coast. The majority of medium- and high-density housing in the region is found in the urban core of the region, in Downtown Los Angeles, East Los Angeles, and the “West Side” of Los Angeles. Large cities, such as Long Beach, Santa Ana, Glendale, Oxnard, and Pasadena, also have concentrations of high-density development in their downtown areas. Several beach communities, such as the Cities of Santa Monica, Manhattan Beach, Hermosa Beach, Redondo Beach, Huntington Beach, and Newport Beach, have high density close to the ocean. Surrounding suburbs are predominantly low-density housing tracts. Low-density housing expands west into Ventura County, east through southeast Los Angeles County, throughout much of Orange County, and through the western Inland Empire. The resort communities and cities of the Coachella Valley in Riverside County also are built primarily on a low-density scale. The developing land on the urban fringe, such as the Antelope Valley of Los Angeles County and the Victorville-Hesperia area, Lucerne Valley, and Yucca Valley of San Bernardino County, also are primarily low-density residential. The Imperial Valley in Imperial County is primarily an agricultural region with a growing, yet still regionally small, population that lives in primarily low-density developments. There are approximately 2.6 million acres of important agricultural lands in the SCAG

region: approximately 1.1 million acres of Important Farmland and approximately 1.5 million acres of grazing land/rangeland (see Section 3.2, *Agriculture and Forestry Resources*).

Over 2 million acres in the region are developed, including over 100,000 acres used for transportation facilities (see Section 3.16, *Transportation, Traffic, and Safety*). Elements of the transportation infrastructure, including freeways, highways, roadways, bridges, and railroads are a component of the visual character of the urban environment. A discussion of these components is provided below.

Freeways, Highways, and Roadways

In urban areas, roadway rights-of-way make up approximately 20 to 30 percent of the total land area. Because most vehicular movement occurs along transportation corridors, their placement largely determines what parts of the SCAG region will be seen by persons traveling in the area. In the SCAG region, arterials and freeways constitute a major component of the existing visual environment. The visual character of freeways themselves depends on the scale at which observers view them. Above and from a distance, freeway traffic forms a compelling contribution to the scenery, whether by lights moving at night or by the changing visual character of daytime traffic. From below and at close range, freeways are often barriers to views of near and distant scenery. Arterials and freeways make up a major component of the existing visual environment of the region. Arterials in the SCAG region offer a variety of visual experiences from the uncrowded, narrow winding roads in mountain areas to the high-volume urban streets in the densely populated areas of Los Angeles and Orange Counties. Many arterials have been built connecting urban concentrations with natural areas with key scenic resources. Examples include:

- The Pacific Coast Highway 1 (PCH) traverses the entire coastal side of the SCAG region. Proceeding northward, PCH enters the region at Dana Point in Orange County and follows the shoreline of the Pacific Ocean, illuminating its beaches and rugged cliffs, through Los Angeles and Ventura Counties, where it continues on to Northern California.
- The 50-mile Santa Monica Mulholland Scenic Corridor runs westward from the Hollywood Freeway (U.S. 101), winding its way through the Santa Monica Mountains to Leo Carrillo State Beach in Malibu.
- The 15-mile Palos Verdes Scenic Drive begins at Palos Verdes Estates and goes to Point Fermin Park in the community of San Pedro. The cliff-top section of the road offers many scenic views.

In addition, county and local roads in foothill and mountain areas also afford panoramic views throughout the region. Examples of areas with these types of views include:

- Los Angeles County: Santa Monica Mountains, San Gabriel Mountains, Verdugo Mountains, Santa Susana Mountains (also in Ventura County), San Jose Hills, Puente Hills
- Orange County: San Joaquin Hills, Anaheim Hills, and Santa Ana Mountains
- Riverside County: San Jacinto Mountains
- San Bernardino County: Chino Hills and San Bernardino Mountains
- Ventura County: Simi Hills, Santa Susana Mountains, Santa Monica Mountains

Mountainous portions of Imperial County are not generally accessible from county roads. Large areas in the Chocolate Mountains are owned by the military and are not accessible to civilians.

Trains

Passenger rail operations (i.e., Amtrak, Metrolink, Metro) occupy existing railroad tracks and right-of-way areas and generally limited in terms of routes and overall passengers served. Except in predominantly residential areas, the view of passenger trains (at-grade or elevated guideways) is not generally considered visually offensive to most viewers. Conversely, passenger rail operations afford riders a variety of views. In Ventura County, for example, Amtrak provides scenic views of the coastline and adjacent mountains. Because of their prevalence in the urban core at relatively low elevations, passenger rail operations in the SCAG region provide accessible views of scenic resources comparable to those associated with freeways, highways, and roadways.

Freight railroads and associated rail yards are often considered to have a negative aesthetic effect in many urban communities. This perception is largely due to graffiti associated with rail cars and rail yards, unsightly building facilities, and viewshed blockage. Additional factors include building scale and utilitarian architectural style, visual intrusiveness on surrounding land uses, and community context (i.e., predominately industrial vs. residential uses). Negative opinions are particularly acute within adjacent residential communities. Views of freight railroads (i.e., rail cars) and rail yard facilities are largely limited, due, in part, to topography, security fencing, and limits on operation within urban communities. However, some facilities are visible from adjacent roadways, along freeways, highways, railroad right-of-ways, and hillside areas. Rail yard facilities within the SCAG region are predominately located within industrial core areas and include the Port of Los Angeles, Long Beach, East Los Angeles, Hobart, City of Industry (Los Angeles County), West Colton, and Burlington Northern/Santa Fe (BNSF) (San Bernardino County). Additional freight facilities are also located in less densely populated areas such as Barstow and Yermo (San Bernardino County).

Airports

The SCAG region includes numerous airports serving both commercial and private airplane flights. Major commercial airports in the region include Los Angeles International Airport (LAX), Palmdale Airport, Long Beach Airport, and Burbank Airport in Los Angeles County; John Wayne Airport in Orange County; Ontario International Airport, San Bernardino International Airport, and Southern California Logistics Airport in San Bernardino County; and Palm Springs International Airport and March Inland Port in Riverside County. From an aesthetic resources standpoint, the proximity of aviation facilities to residential areas is considered to have a negative impact due to the industrial nature of aviation facilities and their attraction of related industrial uses including warehousing and freight-based businesses. Direct views of aviation operations at airports, views of takeoffs and landings, and the prevalence of trucks and vehicular congestion near aviation facilities all contribute to the perceived negative aesthetic effects of airports on residential areas.

Within the SCAG region, proximal views of takeoffs and landings of large commercial aircraft occur near all major commercial airports. Proximal, but temporary, passing views of aviation facilities and airport operations are also prevalent from highways and major arterials serving these facilities. Near LAX, residents of Inglewood, El Segundo, Playa del Rey, and Westchester are exposed to these types of views. Residential areas in Palmdale, Lancaster, and unincorporated Los Angeles County are proximal to flights

at the Palmdale facility. Long Beach and Signal Hill residents have views of takeoffs and landings at the Long Beach Airport. Residents in Tustin, Newport Beach, Irvine, and Costa Mesa are located in proximity to the John Wayne Airport. Residential and resort housing is located close to the Palm Springs Airport. Moreno Valley and Riverside residents have the closest views of flights from March Inland Port. Residential areas in San Bernardino, Colton, and Redlands have views of flights at the San Bernardino International Airport. Ontario residents have the closest views of flights from the Ontario International Airport. Victorville residents have the closest views of flights from the Southern California Logistics Airport.

To a lesser degree, similar conditions are experienced near general aviation facilities throughout the region, although air traffic is considerably less than at commercial aviation facilities. In general, there is a great deal less air traffic and therefore less population exposed to this traffic at general aviation facilities than near commercial facilities. However, several general aviation facilities (e.g., Santa Monica, Hawthorne) are located near urban residential areas.

Ports

The adjacent shipping ports of Los Angeles and Long Beach represent the major shipping location in the SCAG region and also one of the most important shipping locations in the United States. Smaller ports include Port Hueneme in Ventura County, Redondo Beach Harbor in Los Angeles County, and Dana Point Harbor in Orange County. Proximity to rail and air transport facilities increases the utility and importance of these ports. Because of security and safety concerns, ports generally block public access to the waterfront within the port, limiting visual access as well. However, provisions of the California Coastal Act provide for public access to the coast elsewhere in the SCAG region.

Port facilities in Los Angeles and Long Beach offer views of container terminals, cranes, other types of loading equipment, and ships carrying cargo in and out of the ports. Operations in the Port of Los Angeles are visible in portions of the San Pedro area (City of Los Angeles). Port facilities in Long Beach are widely visible from downtown Long Beach, portions of West Long Beach, and along the shoreline south of downtown. Port of Long Beach facilities are also visible from two of the city's major tourist attractions along Queensway Bay: the Queen Mary and the Aquarium of the Pacific.

Light, Glare, and Shade and Shadow

The more urbanized areas of the SCAG region tend to produce high levels of nighttime light, daytime glare from reflective materials such as glass building facades and wide stretches of asphalt roads, and shadows on adjacent outdoor land uses from tall buildings and structures (**Table 3.1.2-7, *Existing Sources of Nighttime Light in SCAG Region***). Suburban areas tend to produce high levels of nighttime light and daytime glare but lower levels of shadows on shade-sensitive uses due to lower building heights. Rural areas tend to produce low levels of nighttime light; low to moderate levels of daytime glare, as agricultural structures and paved roads produce some glare; and very low levels of shadows from taller structures due to the distance between structures.

**TABLE 3.1.2-7
EXISTING SOURCES OF NIGHTTIME LIGHT IN SCAG REGION**

County	Approximate Percentage of Light and Dark Sky Area at Night	Characterization of Nighttime Light Levels
Imperial	5% light; 95% dark	Very low throughout most of county, with brightly lit areas in the urbanized southern portion of the County adjacent to the City of Mexicali, scattered in the locations of larger communities, and in the city of El Centro.
Los Angeles	50% light; 50% dark	High levels of nighttime light in the urbanized southern half of the county including the cities of Long Beach, Los Angeles, and Pomona. The cities of Santa Clarita and Lancaster are also brightly lit areas within the county. The darker areas include the Santa Monica Mountains, Los Padres National Forest, Angeles National Forest, and the rural desert communities in the northern portion of the county.
Orange	80% light; 20% dark	High levels of nighttime light in the county, with two darker areas: the mountains northwest of Laguna Beach and Cleveland National Forest on the eastern side of the county.
Riverside	15% light; 85% dark	Very low throughout most of county, with brightly lit areas in the urbanized western portion of the county including the city of Riverside, scattered in the locations of larger communities, and in the cities of Palm Springs and Temecula.
San Bernardino	5% light; 95% dark	Very low throughout most of county, with brightly lit areas in the urbanized southwestern portion of the county, scattered in the locations of larger communities, and in the city of Victorville.
Ventura	25% light; 75% dark	Very low throughout most of county, with brightly lit areas in the urbanized southern portion of the county, scattered in the locations of larger communities, and in the cities of Oxnard and Thousand Oaks. The darker area includes the Los Padres National Forest.

SOURCE:

NASA Earth Observatory/NOAA NGDC. Accessed 25 August 2015. *Earth City Lights*. Available at: GoogleEarth.com

3.1.3 THRESHOLDS OF SIGNIFICANCE

The potential for the 2016 RTP/SCS to result in impacts related to aesthetics was analyzed in relation to the four questions contained in Appendix G of the State CEQA Guidelines. The Plan would normally be considered to have a significant impact related to aesthetics/scenic resources if it has the potential to:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

In addition, the following threshold is applied in regard to light and glare, based on precedent and appropriateness to the 2016 RTP/SCS. The Plan would have a significant impact:

- If shadow-sensitive uses would be shaded by project-related structures for more than three hours in the winter or for more than four hours during the summer.

Methodology

The 2016 RTP/SCS includes transportation projects and coordinated regional strategies for transportation investments and land use growth that are aimed to increase mobility, promote sustainability, and improve the regional economy. The Regional Travel Demand Model (RTDM) used for this analysis captures pass-through traffic that does not have an origin or destination in the region, but does impact the region, so that too is included in the analysis. Although land use development is anticipated to occur within the region even without the 2016 RTP/SCS, the Plan includes regional land use growth policies and strategies that could influence growth, including distribution patterns, throughout the region. To address this, the analysis in the PEIR covers overall impacts of transportation projects included in the 2016 RTP/SCS and land development strategies described in the 2016 RTP/SCS. In addition, this PEIR considers cumulative impacts from other community development projects, which could result in additional impacts inside and outside the region. The methodology for determining the significance of aesthetics impacts compares the existing conditions to future (2040) conditions, as required pursuant to CEQA Section 15126.2(a). This analysis evaluates the potential for significant impacts of the 2016 RTP/SCS to aesthetics in accordance with Appendix G of the State CEQA Guidelines and guidelines established by USFS; BLM; Caltrans; Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties; and major cities within the SCAG region.

To assess potential impacts to aesthetics adjacent to transportation corridors, a geographic information system (GIS) was used to analyze major highway, transit, and freight rail projects in the 2016 RTP/SCS.³³ The GIS analysis determined that transportation projects included in the Plan could affect scenic vistas, scenic highway corridors, visual character, nighttime light and daytime glare levels, and shadow effects on shadow-sensitive uses in the SCAG region. Indirect impacts were evaluated based on the land pattern assumptions that protected lands would remain protected and strategies intended to shift new growth away from high value habitat areas and concentrate growth in existing urbanized areas or opportunity areas such as high-quality transit areas (HQTAs) (near transit projects), livable corridors, neighborhood mobility areas, and suburban town centers that are well served by transit and are conducive to higher-density housing and walkable, mixed-use communities in the future.

³³ Major Transportation Projects include but are not limited to projects that involve ground disturbing activities and projects outside of existing rights-of-way such as projects that require new rights-of-way, adding traffic lanes, and grade separation.

3.1.4 IMPACT ANALYSIS

IMPACT AES-1. Potential to have a substantial adverse effect on a scenic vista.

Significant Impact

The 2016 RTP/SCS includes transportation projects and development influenced by land use strategies that would require the conversion of open space to development, including designated open space that is visible from USFS, Caltrans, county, and city designated scenic vistas, constituting a significant impact.

Implementation of the transportation projects and land use strategies in the 2016 RTP/SCS could result in both short-term and long-term visual impacts by blocking views from FHWA National Scenic Byways or Caltrans, county, and/or city designated scenic vista points. For purposes of this PEIR, public views (i.e., from look-outs, roadways, parks, and other public places) are also analyzed for visual impacts. The Preferred Alignment of the High Speed Rail project (which may involve underground tunneling for portions of the alignment) as it passes through Los Angeles County along the Antelope Freeway (SR-14) is located between the eastern and western segments of the Angeles National Forest, and the proposed alternatives would pass through the Angeles National Forest, which would have the potential to affect views of the rural community of Acton or affect views of Angeles National Forest from USFS-designated high scenic integrity objective (SIO) areas if the entire alignment is not underground.³⁴ High scenic integrity is a USFS management objective for conditions where human activities are not visually evident and the valued (desired) landscape character “appears” intact or unaltered.³⁵ One of Caltrans’ scenic vista points would have the potential to be substantially affected by projects included in the Plan, as the High Speed Rail project in Los Angeles County would be located approximately 0.8 mile northeast of Lamont Odett Vista Point, which would have the potential to affect views of the valley.

Construction of new transportation facilities, expansion of existing facilities, development influenced by land use strategies, or growth in previously undisturbed sites would block or impede views of scenic resources in a given area. For example, construction of highways, connectors, interchanges, goods movement roadway facilities, High Speed Rail, and sound walls would block or impede views of mountains, oceans, or rivers. Similarly, individual development projects that could be planned in existing urbanized areas or opportunity areas as an indirect result of the Plan would have the potential to have the same effects. Effects from anticipated growth would result in new development constructed in existing urbanized areas where views of a scenic resource are blocked. This could occur as a result of increased density in HQTAs or other areas with views of scenic elements such as the San Bernardino, Santa Monica, or San Gabriel Mountains.

Construction impacts, although short-term, would also result in view blockage by construction equipment and scaffolding, removal of landscaping, temporary route changes, temporary signage, exposed excavation activities and slope faces with contrasting soil colors, and construction staging areas. Best Management Practices (BMPs) utilized during construction to minimize the potential visual impacts would include

³⁴ United States Department of Agriculture, Forest Service (USFS). September 2005. *Angeles National Forest Final Land Management Plan: Scenic Integrity Objectives*. Available at: http://www.fs.usda.gov/Internet/FSE_MEDIA/stelprdb5311723.pdf

³⁵ United States Department of Agriculture, Forest Service (USFS). September 2005. *Land Management Plan, Part 3: Design Criteria for Southern California National Forests*. Available at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5166878.pdf

locating construction staging areas in less visible locations (given other environmental considerations such as avoiding sensitive habitat, etc.), fencing and/or screening staging areas, and revegetation of exposed slopes at the earliest possible opportunity. Even with these typical practices, short-term visual impacts would often be unavoidable.

Development in floodplains, wetlands, wooded areas, coastal bluffs, lagoons, reservoirs, regional parks, recreational areas, agricultural lands, or in areas that include steep slopes or scenic vistas has the potential to adversely impact the region's visual resources by blocking such scenic vistas. Specifically, several transportation projects included in the Plan would have the potential to create a significant visual impact, such as highway projects involving noise barriers that can block views; construction that involves cut and fill within the viewshed of Caltrans, county, or city designated scenic vistas; or construction of tall structures that obstruct views (see **Figure 2.4.2-1, Major Highway Projects**, **Figure 2.4.2-2, Major HOV Projects**, **Figure 2.4.2-3, Major Mixed Flow Projects**, **Figure 2.4.2-4, Major Rail Projects**, and **Figure 2.4.2-5, Major Toll Projects**, in **Section 2.0, Project Description**). Additionally, proposed transportation projects that would create a significant visual impact include construction of roadway improvements such as grade separated facilities for rail or buses, goods movement roadway facilities, and widened roads with high-occupancy vehicle (HOV) and high-occupancy toll (HOT) lanes and connectors. Each of these types of transportation projects would block or impede vistas of surrounding scenic resources during and after construction. Moreover, the elevation and scale of some of the transportation projects in the Plan would be visually intrusive to surrounding areas (depending on the degree of visibility of the transportation facilities).

Highway widening projects such as SR-74 in Riverside County and I-10 in San Bernardino County and the SR-57/SR-60 Interchange improvement in Los Angeles County also have the potential to impact visual resources. In addition, construction of new highway facilities such as the High Desert Corridor Project would obstruct scenic resources. Creation of aerial structures over the top of existing transportation features, such as connectors, has a very high potential to create visual impacts to panoramic views, views of significant landscape features, or landforms.

Several transit projects, if implemented, would affect the region's visual environment. As discussed above, the 2016 RTP/SCS includes transportation projects involving new transportation facilities, as well as those that would involve modifications to existing facilities. New light rail transit projects in Los Angeles County, such as the Slauson Light Rail and the Gold Line extensions from Azusa to the San Bernardino County line, would also obstruct views, especially if all or parts of these lines are elevated. Many of the transit projects included in the 2016 RTP/SCS, if implemented, would be located in existing urbanized areas and new growth opportunity areas that would block views of historic resources. These effects would also occur as a result of anticipated development following implementation of the land use strategies included in the 2016 RTP/SCS, as many valued visual resources are located within urban areas. A few transportation projects, such as the Regional Connector – Light Rail and portions of the California High Speed Rail project, would tunnel underground and not affect scenic vistas.

Goods movement highway facilities, such as the High Desert Corridor project and freight toll lanes extending from East Los Angeles in the Pomona Freeway into Riverside County, are examples of transportation projects that would obstruct scenic views. Adding new goods movement highway facilities may require construction of new roadway facilities and acquisition of right-of-way property that would result in the loss of vegetation along these routes and changes in topography of the given area depending on the route alignment. Elevated highway and roadway facilities would block views of

the San Gabriel Mountains, Whittier Hills, Puente Hills, San Bernardino Mountains, and Jurupa Mountains, depending on the alignment chosen.

Construction of transportation projects and facilities that involve modifications such as widening or upgrading existing roadways and safety improvements would involve lesser changes to the visual environment. These modification projects would most likely occur within existing highway and roadway facilities, although they could require acquisition of right-of-way property. Such changes may not block or impede views of scenic resources or view from designated scenic vistas much more than at present.

The 2016 RTP/SCS includes transportation modification projects in all six counties of the SCAG region. These proposed transportation projects would consist of improvements to existing highways, HOV lanes, HOT lanes, arterials, interchanges, bridges and grade crossings, sound wall retrofitting, and improvements to transit rail and bus services. Impacts from transportation modification projects would generally be less substantial than those created by new transportation projects. The improvements proposed by these transportation modification projects would occur on existing facilities, and are not assumed to be designed at a higher elevation and therefore would not be expected to block views of scenic resources. The 2016 RTP/SCS also includes active transportation projects such as regional greenway networks, regional and local bikeway networks, coastal trails access, and safe routes to school. In many cases, such projects would not only improve access to scenic parts of the region, such as coastal areas, but would also add visually pleasing elements to the region through landscaping, lighting, and sustainable or a complete street approach to design.

However, due to the large number of transportation projects and potential development influenced by land use strategies included in the Plan, it is expected that new and expanded highway and roadway facilities, new and expanded transit projects, and new and expanded goods movement projects, or other facilities would result in significant impacts to vistas of scenic resources in the region. Similarly, anticipated increased growth and development in the region has the potential to impact scenic vistas by obstructing views. Therefore, the Plan would result in a significant impact to scenic vistas requiring the consideration of mitigation measures.

IMPACT AES-2: Potential to substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Less than Significant Impact

The general location of 2016 RTP/SCS transportation projects in urban areas and anticipated new growth and development focused within HQTAs avoids the potential to substantially damage scenic resources within state-designated scenic highway. Therefore, the Plan would have a less than significant impact on scenic resources within designated scenic highways. The transportation projects considered in the 2016 RTP/SCS do not include projects that would require the acquisition or development of previously undisturbed vacant land, including designated open space that is visible from Officially Designated State Scenic Highways. The 2016 RTP/SCS does not include transportation projects within the immediate vicinity of any Officially Designated State Scenic Highways, or Officially Designated County Scenic Highways. Major projects within the immediate vicinity of roadways eligible for State Scenic Highway designation include:

- Urban Rail (approximately 0.3 mile northeast of SR-1 in Santa Monica)
- HOV Lanes (SR-5, SR-74, SR-91, SR-101)
- High Speed Rail (SR-5)
- HOT Lanes (SR-15, SR-91, SR-138)
- Mixed Lane Flow Projects (SR-15, SR-58, SR-74, SR-91, SR-118)
- Freight Toll Lanes (SR-57)
- Metrolink (SR-74)
- Bus Rapid Transit Projects (SR-111)

At SR-74, the construction of a new freeway segment that will connect to the eligible scenic highway near Warren Road, in particular, will require careful attention to and control of earthmoving and landscaping in accordance with Section 261 of the Streets and Highways Code.

As a scenic highway corridor is the land generally adjacent to and visible from the highway, identified by using a motorist's line of vision, with a view that extends to the distant horizon, there is the potential for adverse visual impacts related to implementation of transportation projects along eligible and designated scenic highways. In the event that a project is proposed in one of these areas, that project would be required to comply with applicable rules and regulations governing the protection of that area as a scenic resource. As the majority of the transportation projects in the 2016 RTP/SCS are minor modifications or maintenance within the region's urban areas, the majority of scenic routes would not be affected.

While there are no restrictions on scenic highway projects, local agencies and Caltrans must work together to coordinate projects and ensure the protection of the scenic value to the greatest extent possible. For example, state law (Section 320 of the California Public Utilities Code) requires the undergrounding of all visible electricity distribution lines within 1,000 feet of a scenic highway.³⁶ In some cases, local governments have their own land use and site planning regulations to project scenic values along a given corridor.

Additionally, the 2016 RTP/SCS includes land use strategies that encourage more compact growth development patterns in the region and aim to shift growth away from high value habitat areas toward existing urbanized areas with transportation infrastructure in place and opportunity areas that are conducive to more mixed-use and higher-density housing in the future. Several HQTAs extend along scenic highways and, as such, would have the potential to impact scenic highways or vistas. Impacts would occur if anticipated development were to detract or diminish the elements that contribute to the scenic nature of the highway, such as a modern office building or retail center located along such a highway that could be incongruous with the surrounding scenic nature if not properly shielded from view.

The 2016 RTP/SCS would also have the potential to impact rock outcroppings or other scenic elements such as historic resources within eligible state scenic highways. As discussed above, many of the transportation projects and the HQTAs are located in areas with designated scenic resources including historic buildings and scenic rock outcroppings. Therefore, there is potential for the 2016 RTP/SCS to affect these resources. Due to the general location of transportation projects in urban areas and the

³⁶ California Department of Transportation. October 2008. *Scenic Highway Guidelines*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/guidelines/scenic_hwy_guidelines_04-12-2012.pdf

anticipated new growth and development focused within HQTAs instead of along scenic highways in the land use scenario, this would be a less than significant impact, and the consideration of mitigation measures is not required.

IMPACT AES-3: Potential to substantially degrade the existing visual character or quality of the site and its surroundings.

Significant Impact

The transportation projects and development influenced by land use strategies considered in the 2016 RTP/SCS would have the potential to degrade the visual character or quality of the site and its surroundings where such improvements pass through open space areas, constituting a significant impact. The SCAG region is comprised of approximately 38,000 square miles, many of which are in their natural state or are primarily rural. Transportation projects outside of the urban core would add visual elements of urban character to these areas. Some of the transportation projects in the 2016 RTP/SCS are located in rural parts of the region. Transportation projects that require new construction and modification projects would add visual elements of urban character to these rural areas. Proposed enhancements to existing transportation facilities and construction of new highways, roadways, and other transit facilities, as well as new development or densification of residential, commercial, and similar land uses would create adverse visual impacts by adding visual elements of urban character to existing rural or open spaces. This would occur where new alignments or road widening pass through primarily rural, agricultural, and/or open space areas, and the contrast would potentially result in a significant impact to visual quality (e.g., High Speed Rail, widening of State Route 138). The 2016 RTP/SCS includes transportation projects that would intersect with the Pacific Crest National Scenic Trail in Los Angeles, San Bernardino, and Riverside Counties (i.e., mixed lane flow projects, California High Speed Rail, HOT Lanes), which would affect the visual character of the scenic trail at these locations.

As described in **Section 3.14, *Population, Housing, and Employment***, land use strategies included in the 2016 RTP/SCS would focus new growth in existing urbanized areas and opportunity areas like HQTAs that are supported by existing transportation facilities and are conducive to walkable and/or transit-oriented land patterns. The 2016 RTP/SCS includes transportation investments and land use strategies that have the potential to affect the pattern of new growth in the region. As discussed in **Section 3.14**, the total SCAG region population is expected to increase by approximately 3.8 million persons from 2014 to 2040. Additionally, the land use development strategies included in the 2016 RTP/SCS assumes a significant increase in small-lot, single- and multi-family housing that is expected to mainly occur in infill and mix use locations near transit infrastructure (HQTAs and transit priority areas [TPAs]). As the transportation investments and land use strategies in the 2016 RTP/SCS have the potential to influence new growth in less urban parts of the region or outside the existing suburban town centers, the proposed land use strategies could result in some new growth to areas of the region that are currently not developed or underdeveloped, which would ultimately result in the conversion to a more urban character.

The 2016 RTP/SCS focuses the majority of new housing and job growth in HQTAs and other opportunity areas in existing main streets, downtowns, and commercial corridors. This strategy supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures. However, the densification of uses, even in existing urbanized areas, would result in changes to the overall visual character. For example,

Phase 2 of the Gold Light Rail Line will travel through urban neighborhoods with distinct character and may be located adjacent to historic resources depending on the final alignments. The wires, structures, and other elements associated with light rail would change the character of these areas. Increased urbanization through taller buildings or more compact development would have a similar effect by changing the low-scale nature of a particular neighborhood.

In urbanized areas, roadways and ancillary improvements such as sound walls included in the 2016 RTP/SCS would also result in adverse visual impacts depending on the scale of improvements and location of sensitive viewers, including the driving public, users of gathering places, rest areas and vista points, and residents who live near resources. Highway widening and the construction of HOV/HOT and managed lanes and park-and-ride lots may result in some loss of existing freeway landscaping. Although these activities generally occur in urbanized environments, these actions would have an adverse effect on visual quality, depending upon nearby sensitive viewers.

Arterials and freeways comprise a major component of the existing visual environment of the region. Arterials in the region offer a variety of visual experiences from the uncrowded, undeveloped stretches of rural roads in Imperial, Riverside, San Bernardino, and Ventura Counties to the narrow winding roads in the mountain areas and the high-volume urban streets in the densely populated areas of Los Angeles and Orange Counties. Improvement of existing highway facilities in highly urbanized areas would result in relatively minor impacts to visual quality because of their location in urban environments.

Significant impacts would also occur if proposed alignments or transportation facilities require large cut-and-fill slopes or noise barriers, whether in previously undeveloped areas or in already developed urban areas. Careful alignment and design, conformance with local grading ordinances, and installation of landscaping to ensure compatibility with surrounding development would be expected to reduce visual impacts to below the level of significance at the project level. Since the majority of the transportation projects documented in the Plan are in areas with existing roadway networks, impacts to areas such as wetlands, coastal bluffs, and forests are generally unlikely.

As already mentioned, transportation projects included in the 2016 RTP/SCS consist of construction of highway or roadway improvements such as grade separated facilities for rail and buses, goods movement roadway facilities, and HOV and HOT connectors, as well as construction of the High Speed Rail system. Grade separated facilities would have a substantial adverse visual impact on surrounding land uses during and after construction. The elevation and scale of the proposed grade separated facilities would create a significant contrast with the overall visual character of the existing landscape setting. Transportation modification projects that involve the widening or upgrading of existing roadways can be designed to complement the existing system and, therefore, would involve lesser changes to the visual character of the existing landscape setting.

Transit centers and park-and-ride lots would be constructed primarily within the heavily urbanized portions of the SCAG region and consequently affect a large number of viewers. Transit centers would be expected to be dominant visual elements due to their fixed structures, including terminals, service facilities, and lighted parking lots. While these facilities would become integrated with the urban setting over time, their initial effect would result in a change in visual quality. Elevated and at-grade transit facilities such as the Gold Line Extension have the greatest potential to change the visual character of an area, while underground rail facilities such as the Metro Regional Connector would have fewer impacts.

Nonetheless, transportation projects and land use strategies in the 2016 RTP/SCS have the potential to result in changes to the visual character of existing landscapes or natural areas. Therefore, the 2016 RTP/SCS would result in a significant indirect impact in regard to degradation of visual character and quality, requiring the consideration of mitigation measures.

IMPACT AES-4: Potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Potential to result in shade and shadow impacts.

Significant Impact

The 2016 RTP/SCS would have the potential to result in significant impacts in relation to creating a new source of substantial light or glare which would adversely affect day or nighttime views and expanded areas of shade and shadow in jurisdictions without ordinances protecting night skies or local standards protecting shadow-sensitive land uses.

Light and glare effects often occur in urban areas. Glare is typically a daytime condition where the sun reflects off a particular building, while lighting effects often occur when new nighttime sources of lighting are introduced into an area. Both of these conditions would occur as a result of the 2016 RTP/SCS, which includes transportation projects that would introduce nighttime sources of lighting as well as anticipated development, buildings, and vehicles that would produce sources of glare. Anticipated sources of light and glare as a result of the transportation projects in the 2016 RTP/SCS include nighttime construction lights, security lighting, and operations lighting such as vehicles, buildings, parking lots, and walkways. The majority of the transportation projects and land use strategies in the Plan would occur in urbanized areas with existing high levels of nighttime light, such as transportation projects in Los Angeles County that include adding security lights at existing transit stops and street lighting systems along existing major roads. However, the following major transportation projects would occur in areas that currently have low levels of nighttime light:

- HOV Lanes (western Ventura County)
- High Speed Rail (northern Los Angeles County)
- Mixed Lane Flow Projects (northern Los Angeles County and San Bernardino County)
- Toll Lanes (northern Los Angeles County, northern San Bernardino County, and southeastern Orange County)
- HOT Lanes (southwestern San Bernardino County)

Transportation projects and development influenced by land use strategies included in the 2016 RTP/SCS would be subject to the provisions of dark skies ordinances and/or general plan policies in select cities in Imperial County, the Los Angeles County Rural outdoor Lighting District (unincorporated northern Los Angeles County) and select cities in Los Angeles County, select cities in Orange County, properties within a 45-mile radius of Palomar Observatory that are subject to Ordinance No. 655 and select cities in Riverside County,³⁷ select cities in San Bernardino County, and select cities within Ventura County. These provisions include shielding lights at night to avoid light trespass on other

³⁷ Board of Supervisors of the County of Riverside. Accessed 21 October 2015. *Ordinance No. 655: An Ordinance of the County of Riverside Regulating Light Pollution*. Available at: <http://www.clerkoftheboard.co.riverside.ca.us/ords/600/655.htm>

properties and toward the night sky. However, as none of the counties are completely within the jurisdiction of a dark skies ordinance district or city, several of the projects in the Plan would not be inherently required to reduce light and glare impacts as part of the project design.

The 2016 RTP/SCS includes transportation projects that would require the acquisition or development of previously undisturbed vacant land with low levels of existing nighttime light and few existing sources of glare, such as Phase I of the California High Speed Rail project in northern Los Angeles County. Construction and operation of transportation projects (including nighttime maintenance) in currently rural areas would result in significant direct impacts in regard to creation of a new source of substantial light which would adversely affect nighttime views in the area. As discussed above, compact development anticipated with the HQTAs to accommodate new growth would result in more occurrences of glare in urban areas. It is also anticipated that the introduction of new roads and infrastructure, such as transit infrastructure in previously undisturbed areas, would result in lighting impacts. This could also occur as a result of new land use development pattern strategies included under the Plan. Therefore, the 2016 RTP/SCS would result in a significant impact in regard to light and glare.

Shade and shadow impacts generally occur when construction of a new element, such as a tall building, casts a shadow on a nearby shadow sensitive use. Shadow sensitive uses are generally any usable outdoor space, such as eating or playing areas. For example, construction of a new building that cast a shadow on a nearby school playground for an extended period of time would likely have a shadow impact. The 2016 RTP/SCS includes transportation projects such as new transit transfer terminals, street and rail grade separation projects, sound walls, new potentially elevated freeway lanes and off-ramps, new potentially elevated light rail extensions, and new bridges, that may be tall enough to cast a shadow on adjacent property. However, most transportation projects would not be expected to result in shade or shadow impacts because most transportation infrastructure is not located near sensitive outdoor uses. The majority of the transportation projects in the Plan would be located within existing transportation corridors (i.e., existing freeway right-of-ways), and would be expected to result in a less than significant direct impact in regard to shade and shadow.

Shade and shadow impacts would be expected to occur as an indirect impact from the Plan in urban areas as a result of the densification of land uses in HQTAs (i.e., the construction of new taller structures casts shadows on sensitive outdoor uses) or through elevated transportation infrastructure, such as elevated light rail, in residential or commercial areas instead of transportation corridors. Both the light rail line and the associated stations have the potential to cast shadows on nearby uses. Although the 2016 RTP/SCS does not include specific development projects, it is anticipated that shade and shadow impacts would occur.

The proposed transportation projects included in the 2016 RTP/SCS would have the potential to create a new source of substantial light or glare which would adversely affect day or nighttime views and expanded areas of shade and shadow in jurisdictions where there are no ordinances protecting night skies or local standards protecting shadow-sensitive land uses, constituting a significant impact requiring the consideration of mitigation measures.

3.1.5 CUMULATIVE IMPACTS

The 2016 RTP/SCS includes transportation projects and land use strategies that will shape the region over the next 25 years. These changes will include the extension of transportation and related infrastructure that would impact scenic resources. Many of these transportation projects will improve access and connectivity not only within the region (as discussed above) but also to areas outside the region. In addition, transportation projects included in the Plan will connect with other transportation projects outside the region, facilitating and potentially inducing construction of transportation infrastructure outside the region. This additional infrastructure outside the region could lead to development outside the region.

IMPACT AES-1. Potential to have a substantial adverse effect on a scenic vista.

Significant Cumulative Impact

The 2016 RTP/SCS includes transportation projects that require the conversion of open space to development, including designated open space that is visible from USFS, Caltrans, county, and city designated scenic vistas, when taken into consideration with the other infrastructure and development projects in the SCAG region and surrounding areas, constituting a significant cumulative impact requiring the consideration of mitigation measures.

IMPACT AES-2: Potential to substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Less than Significant Cumulative Impact

The general location of 2016 RTP/SCS transportation projects in urban areas and anticipated new growth and development focused within HQTAs avoids the potential to substantially damage scenic resources within state-designated scenic highways. HQTAs would be located near two State-designated scenic highways that are already developed: at the northeastern end of the portion of SR-74 in Riverside County, which is characterized by single-family residences and commercial development in the City of Palm Desert, and on the northern side of the western portion of SR-91 in Orange County, which is characterized by single-family residences, commercial and industrial development, the Santa Ana River Lake, Anaheim Lake, and a few parks (see Figure 2.4.4-1, *High Quality Transit Areas Throughout the SCAG Region in 2040*; see Figure 3.1.2-1). HTQAs would not be located near the State-designated scenic highways that are characterized by rural uses and open space, such as Angeles Crest Highway (Sr-2), which is located within the Angeles National Forest that precludes future development, or State Route 243, which is predominantly located within the San Bernardino National Forest. As these HQTAs in proximity to State-designated scenic highways are already developed, the land use strategies considered in the Plan would not be expected to substantially damage scenic resources within an officially designated State scenic highway. The land use strategies would not be expected to substantially damage historic buildings within these scenic highway corridors because, although a small portion of the single-family residences were constructed in the 1950s, the majority of development in Palm Desert along SR-74 occurred more recently in the 1970s, 1980s, and 1990s; similarly, although the area was developed for agricultural use in the 1940s and 1950s, the majority of single-family residential, commercial, and

industrial development to the north of SR-91 occurred in the 1970s, 1980s, 1990s.³⁸ Therefore, the Plan when taken into consideration with other development and transportation infrastructure projects anticipated in the SCAG region and surrounding area would have a less than significant impact on scenic resources within designated scenic highways, and would not contribute to cumulative impacts on scenic resources within state-scenic highways in the SCAG region.

IMPACT AES-3: Potential to substantially degrade the existing visual character or quality of the site and its surroundings.

Significant Cumulative Impact

The proposed transportation projects included in the 2016 RTP/SCS would have the potential to degrade the visual character or quality of the site and its surroundings where such improvements pass through areas where open space is the existing condition, which, when considered in combination with other infrastructure and development with the SCAG region and nearby areas, constitutes a significant cumulative impact on the visual character of the region. The combination of urban transportation facilities infrastructure and anticipated new growth and development would change the character of the region over time. Some of these changes would be expected to occur on the fringe of the region. Urbanization or loss of these visual resources would also affect areas outside the region, as many of these scenic areas extend beyond the Plan's regional boundaries. As a result, the 2016 RTP/SCS could indirectly result in changes to the visual character or to scenic areas outside the SCAG region. Therefore, the 2016 RTP/SCS would contribute to a cumulatively considerable change in the visual character or quality of the SCAG region, requiring the consideration of mitigation measures.

IMPACT AES-4: Potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Potential to result in shade and shadow impacts.

Significant Cumulative Impact

The proposed transportation projects included in the 2016 RTP/SCS would have the potential to create a new source of substantial light or glare which would adversely affect day or nighttime views and expanded areas of shade and shadow in jurisdictions where there are no ordinances protecting night skies or local standards protecting shadow-sensitive land uses, constituting a significant impact on visual resources. The combination of the transportation projects included in the 2016 RTP/SCS and the anticipated development that could occur as a result of the extension of transportation and related infrastructure would contribute to cumulative impacts to light and glare where there are no local ordinances protecting dark skies, and contribute to cumulative shade and shadow impacts where there are no local standards protecting shadow-sensitive land uses, requiring the consideration of mitigation measures.

³⁸ Nationwide Environmental Title Research, LLC. Accessed 23 November 2015. *Historic Aerials*. Available at: <http://www.historicaerials.com/>

3.1.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to aesthetics are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by the Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT AES-1. Potential to have a substantial adverse effect on a scenic vista.

SCAG Mitigation Measures

MM-AES-1(a): SCAG shall facilitate minimizing impacts to scenic vistas through cooperation, information sharing regarding the locations of designated scenic vistas, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online Training materials. Caltrans and Lead agencies, such as county and city planning departments, shall be consulted during this update process.

Project-Level Mitigation Measures

MM-AES-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects of visual intrusions on scenic vistas, or National Scenic Byways that are in the jurisdiction and responsibility of Caltrans, other public agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with regulations for Caltrans scenic vistas and goals and policies within county and city general plans, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Use a palette of colors, textures, building materials that are graffiti-resistant, and/or plant materials that complement the surrounding landscape and development.
- Use contour grading to better match surrounding terrain. Contour edges of major cut-and-fill to provide a more natural looking finished profile.
- Use alternating facades to "break up" large facades and provide visual interest.
- Design new corridor landscaping to respect existing natural and man-made features and to complement the dominant landscaping of the surrounding areas.
- Replace and renew landscaping along corridors with road widenings, interchange projects, and related improvements.
- Retain or replace trees bordering highways, so that clear-cutting is not evident.
- Provide new corridor landscaping that respects and provides appropriate transition to existing natural and man-made features, and is complementary to the dominant landscaping or native habitats of surrounding areas.
- Implement design guidelines, local policies, and programs aimed at protecting views of scenic corridors and avoiding visual intrusions in design of projects to minimize

contrasts in scale and massing between the project and surrounding natural forms and developments. Avoid, if possible, large cuts and fills when the visual environment (natural or urban) would be substantially disrupted. Site or design of projects should minimize their intrusion into important viewsheds and use contour grading to better match surrounding terrain.

IMPACT AES-3: Potential to substantially degrade the existing visual character or quality of the site and its surroundings.

SCAG Mitigation Measures

See MM-AES-1(a).

Project-Level Mitigation Measures

MM-AES-3(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects of degrading the existing public viewpoints, visual character or quality of the site that are in the jurisdiction and responsibility of local jurisdictions and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the goals and policies within county and city general plans, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Minimize contrasts in scale and massing between the projects and surrounding natural forms and development, minimize their intrusion into important viewsheds, and use contour grading to better match surrounding terrain in accordance with county and city hillside ordinances, where applicable.
- Design landscaping along highway corridors to add significant natural elements and visual interest to soften the hard-edged, linear transportation corridors.
- Require development of design guidelines for projects that make elements of proposed buildings/facilities visually compatible, or minimize visibility of changes in visual quality or character through use of hardscape and softscape solutions. Specific measures to be addressed include setback buffers, landscaping, color, texture, signage, and lighting criteria.
- Design projects consistent with design guidelines of applicable general plans.
- Apply development standards and guidelines to maintain compatibility with surrounding natural areas, including site coverage, building height and massing, building materials and color, landscaping, site grading, and so forth in accordance with general plans and adopted design guidelines, where applicable.
- Require that sites are kept in a blight/nuisance-free condition. Remove blight or nuisances that compromise visual character or visual quality of project areas including graffiti abatement, trash removal, landscape management, maintenance of signage and billboards in good condition, and replace compromised native vegetation and landscape.

MM-AES-1(b).

IMPACT AES-4: Potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Potential to result in shade and shadow impacts.

SCAG Mitigation Measures

MM-AES-4(a): SCAG shall facilitate minimizing impacts on aesthetics related to new sources of light or glare or expanded areas of shade and shadow through cooperation, information sharing regarding the guidelines and policies, design approaches, building materials, siting, and technology, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online Training materials. Lead agencies, such as county and city planning departments, shall be consulted during this update process.

Project-Level Mitigation Measures

MM-AES-4(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or minimizing the effects of light and glare on routes of travel for motorists, cyclists, and pedestrians, or on adjacent properties, and limit expanded areas of shade and shadow to areas that would not adversely affect open space or outdoor recreation areas that are in the jurisdiction and responsibility of local jurisdictions and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the goals and policies within county and city general plans, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Use lighting fixtures that are adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties.
- Restrict the operation of outdoor lighting for construction and operation activities to the hours of 7:00 a.m. to 10:00 p.m.
- Use high pressure sodium and/or cut-off fixtures instead of typical mercury-vapor fixtures for outdoor lighting.
- Use unidirectional lighting to avoid light trespass onto adjacent properties.
- Design exterior lighting to confine illumination to the project site, and/or to areas which do not include light-sensitive uses.
- Provide structural and/or vegetative screening from light-sensitive uses.
- Shield and direct all new street and pedestrian lighting away from light-sensitive off-site uses.
- Use non-reflective glass or glass treated with a non-reflective coating for all exterior windows and glass used on building surfaces.
- Architectural lighting shall be directed onto the building surfaces and have low reflectivity to minimize glare and limit light onto adjacent properties.

3.1.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT AES-1. Potential to have a substantial adverse effect on a scenic vista.

Implementation of Mitigation Measures MM-AES-1(a) and MM-AES-1(b) would reduce potential impacts to scenic resources and vistas. However, even with the implementation of these mitigation measures, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT AES-3: Potential to substantially degrade the existing visual character or quality of the site and its surroundings.

Implementation of Mitigation Measures MM-AES-3(a), MM-AES-1(b), and MM-AES-3(b) would reduce impacts related to adverse effects on visual character and quality. However, even with the implementation of these mitigation measures, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT AES-4: Potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Potential to result in shade and shadow impacts.

Implementation of Mitigation Measures MM-AES-4(a) and MM-AES-4(b) would reduce the potential for light and glare impacts and shade and shadow impacts. However, even with the implementation of these mitigation measures, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

AGRICULTURE AND FORESTRY RESOURCES

This section of the Program Environmental Impact Report (PEIR) describes the agricultural and forestry resources in the SCAG region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Project,” or “Plan”) on agriculture and forestry resources, identifies mitigation measures for the impacts, and evaluates the residual impacts. Agriculture and forestry resources were evaluated in accordance with Appendix G of the 2015 State California Environmental Quality Act (CEQA) Guidelines. Agriculture and forestry resources within the SCAG region were evaluated at a programmatic level of detail in relation to the general plans of the six counties and the 191 cities within the SCAG region; the Forest Management Plans for the four national forests in the SCAG region, Angeles National Forest, San Bernardino National Forest, Los Padres National Forest, and Cleveland National Forest; a query of Important Farmland pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency; a query of Williamson contract lands; a query of agricultural and timberland zoning; a review of published and unpublished literature germane to the SCAG region; as well as a review of SCAG’s 2012 SCAG RTP/SCS PEIR¹ and the natural land strategies described in the 2016 RTP/SCS.

California ranked first among the 50 states in 2011 in terms of net farm income at \$16.3 billion.² Agricultural and related products are also one of California’s largest exports to the rest of the world. Important agricultural lands, including farmlands account for more than 2 million acres in the SCAG region.³ Over 100,000 parcels are designated as farmland parcels in the SCAG region.⁴ The most recent available data compiled by the U.S. Forest Service indicates that the Southern California region produces less than 1 percent of the commercial lumber produced in the state.⁵

Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for agriculture and forestry resources are provided.

Farmland: §21060.1(a) of CEQA (Public Resources Code §§21000-21177) delineates the consideration of agricultural land to include “prime farmland, farmland of statewide importance, or unique farmland, as defined by the United States Department of Agriculture (USDA) land inventory and monitoring criteria,

¹ Southern California Association of Governments. April 2012. *Final Program Environmental Report: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*. Available at: <http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

² Kleinhenz, Robert A., Kimberly Ritter-Martinez, and Ferdinando Guerra. February 2013. *2013-2014 Economic Forecast And Industry Outlook*. Los Angeles County Economic Development Corporation, The Kyser Center for Economic Research. Available at: <http://laedc.org/reports/2013-14EconomicForecastandIndustryOutlook.pdf>

³ California Department of Conservation. Accessed 26 June 2015. *Farmland Mapping and Monitoring Program – Imperial County: Important Farmland Data Availability*. Available at: <http://www.consrv.ca.gov/dlrp/fmmp/Pages/Imperial.aspx>

⁴ California Department of Conservation. Accessed 11 March 2015. *Farmland Mapping and Monitoring Program*. Available at: <http://www.conservation.ca.gov/DLRP/FMMP/Pages/Index.aspx>

⁵ Morgan, Todd A., Jason P. Brandt, Kathleen E. Songster, Charles E. Keegan III, and Glenn A. Christensen. August 2012. *California’s Forest Products Industry And Timber Harvest, 2006*. General Technical Report PNW-GTR-866. United States Department of Agriculture, Forest Service, Pacific Northwest Research Station.

as modified for California,” and is herein collectively referred to as “Farmland.” The following are categories mapped by the CDC:⁶

Prime Farmland: Farmland that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance: Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland: Farmland of lesser quality soils used for the production of the state’s leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Local Importance: Land of importance to the local agricultural economy as determined by each county’s board of supervisors and a local advisory committee.

Grazing Land: Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen’s Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.

Urban and Built-Up Land. Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

Other Land: Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Forest: §12220(g) of CEQA defines forest land as “land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.”

Timberland: Public Resources Code §4526 defines Timberland as “land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for,

⁶ California Department of Conservation, Division of Land Resource Protection. 2004. *A Guide to the Farmland Mapping and Monitoring Program*. Available at: http://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp_guide_2004.pdf

and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.”

Timberland Production Zone: California Government Code Section 51104(g) defines a Timberland Production Zone (TMZ) as “an area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h). With respect to general plans of cities and counties, ‘timberland preserve zone’ means ‘timberland production zone.’”

3.2.1 REGULATORY FRAMEWORK

Federal

United States Forest Service (USFS) National Forest Management Act of 1976

The USFS manages approximately 2.3 million acres of national forests in the SCAG region, which is subject to the National Forest Management Act of 1976 (Public Law 94-588), a federal law that governs the administration of national forests. There are four national forests in the SCAG region, each of which is managed in accordance with a Forest Management Plan: the Angeles National Forest,⁷ San Bernardino National Forest,⁸ Los Padres National Forest,⁹ and Cleveland National Forest.¹⁰

Farmland Protection Policy Act of 1981 (FPPA)

Congress passed the Agriculture and Food Act of 1981 (Public Law 97-98) containing the FPPA subtitle I of Title XV, Section 1539-1549. Pursuant to the FPPA of 1981 Sections 1539–1549, the Secretary of Agriculture is directed to establish and carry out a program to “minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to the extent practicable, will be compatible with state, unit of local government, and private programs and policies to protect farmland” (7 U.S. Code [USC] 4201–4209 & 7 USC 658).¹¹ Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. The purpose of the FPPA to minimize the impacts federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It ensures that to the extent possible, federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years. The FPPA does not authorize the

⁷ U.S. Department of Agriculture, Forest Service. Accessed 25 June 2015. *Angeles National Forest: Planning*. Available at: <http://www.fs.usda.gov/main/angeles/landmanagement/planning>

⁸ U.S. Department of Agriculture, Forest Service. Accessed 25 June 2015. *San Bernardino National Forest: Planning*. Available at: <http://www.fs.usda.gov/main/sbnf/landmanagement/planning>

⁹ U.S. Department of Agriculture, Forest Service. Accessed 25 June 2015. *Los Padres National Forest: Planning*. Available at: <http://www.fs.usda.gov/main/lpnf/landmanagement/planning>

¹⁰ U.S. Department of Agriculture, Forest Service. Accessed 25 June 2015. *Cleveland National Forest: Planning*. Available at: <http://www.fs.usda.gov/main/cleveland/landmanagement/planning>

¹¹ U.S. Department of Agriculture, Natural Resources Conservation Service. Accessed 11 May 2015. *Farmland Protection Policy Act (FPPA)*. Available at: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/ca/home/?cid=nrcs144p2_063934

federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners.

For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land.

Agricultural Act of 2014

Every five years, Congress passes a Farm Bill to establish national agriculture, nutrition, conservation, and forestry policy; the Agricultural Act of 2014 (2014 Farm Bill; H.R. 2642; Public Law 113-79) provides for the reform and continuation of agricultural and other programs of the Department of Agriculture through fiscal year 2018.¹² The Agricultural Act of 2014 consolidates agricultural conservation programs for flexibility, accountability, and adaptability at the local level; makes USFS's Stewardship Contracting Authority over forestry resources permanent; provides funding for agricultural research, development, and promoting local and regional food systems; and encourages agricultural producers and partners to design conservation projects that focus on and address regional priorities. Projects that are funded under the Agricultural Act of 2014 are subject to FPPA agricultural conservation requirements. The Farm and Ranch Lands Protection Program (FRPP), a voluntary easement purchase program that helped farmers and ranchers keep their land in agriculture, was repealed under the Agricultural Act of 2014 and replaced with the Agricultural Conservation Easement Program (ACEP).^{13,14} Acres under the FRPP are considered enrolled ACEP.¹⁵ ACEP is composed of an Agricultural Land Easement (ALE) component and a Wetlands Reserve Easement (WRE) component; the purposes of the ALE component are to protect the agricultural use and future viability and related conservation values, of eligible land by limiting nonagricultural uses of that land and to protect grazing uses and related conservation values. The United States Natural Resources Conservation Service (NRCS) manages the program.

Federal Environmental Quality Incentives Program (EQIP)

EQIP is a voluntary program that provides assistance to farmers and ranchers who face threats to soil, water, air, and related natural resources on their land.¹⁶

¹² United States Committee on Agriculture, Nutrition, and Forestry. Accessed 26 October 2015. *2014 Farm Bill*. Available at: <http://www.ag.senate.gov/issues/farm-bill>

¹³ U.S. Department of Agriculture, Natural Resources Conservation Service. Accessed 25 June 2015. *Farm and Ranch Lands Protection Program*. Available at: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/farmranch/>

¹⁴ U.S. Department of Agriculture, Natural Resources Conservation Service. Accessed 25 June 2015. *2014 Farm Bill – rules: about federal rules*. Available at: <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/easements/farmranch/?cid=stelprdb1263599#acep>

¹⁵ U.S. Department of Agriculture, Natural Resources Conservation Service. Accessed 25 June 2015. *2014 Farm Bill – rules: statutory changes made by the 2014 Farm Bill*. Available at: <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/farmbill/?cid=nrcseprd323005>

¹⁶ U.S. Department of Agriculture, Natural Resources Conservation Service. Accessed 25 June 2015. *2014 Farm Bill – Environmental Quality Incentives Program – NRCS*. Available at: <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/financial/eqip/?cid=stelprdb1242633>

State

California Land Conservation Act of 1965

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is the state's primary program for the conservation of private land in agricultural and open space. The Williamson Act (California Government Code Sections 51200–51297.4) enables local governments to enter into contracts with private landowners in order to restrict specific parcels of land to agricultural or related open space use in return for reduced property tax assessments.¹⁷

Farmland Security Zone Act

The Farmland Security Zone Act (California Government Code Sections 51296–51297.4) is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy.¹⁸ Farmland Security Zone Act contracts are sometimes referred to as “Super Williamson Act Contracts.” Under the provisions of this act, a landowner already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone classification automatically renews each year for an additional 20 years. In return for a further 35 percent reduction in the taxable value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into non-agricultural uses.

California Department of Conservation (CDC) Farmland Mapping and Monitoring Program (FMMP)

The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands in the State of California and conversion of these lands over time.¹⁹ The goal of the FMMP is to provide consistent and impartial data to decision makers for use in planning for the future of California's agricultural land resources.²⁰ The CDC applies the Natural Resources Conservation Service (NRCS) soil classifications to identify agricultural lands, and these agricultural designations are used in planning for the present and future of California's agricultural land resources. The CDC has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications. The following are categories mapped by the CDC: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-Up Land, and Other Land.²¹

¹⁷ California Department of Conservation. Accessed 11 May 2015. *Governing Statutes: California Land Conservation Act*. Available at: http://www.conservation.ca.gov/dlrp/lca/lrcc/Pages/governing_statutes.aspx

¹⁸ State of California. Accessed 11 May 2015. *Farmland Security Zones*. Available at: [http://www.conservation.ca.gov/dlrp/lca/farmland_security_zones/Pages/index.aspx#what is a farmland security zone](http://www.conservation.ca.gov/dlrp/lca/farmland_security_zones/Pages/index.aspx#what%20is%20a%20farmland%20security%20zone)

¹⁹ California Department of Conservation. Accessed 11 May 2015. *Farmland Mapping and Monitoring Program*. Available at: <http://www.conservation.ca.gov/DLRP/FMMP/Pages/Index.aspx>

²⁰ California Department of Conservation. Accessed 11 March 2015. *Farmland Mapping and Monitoring Program*. Available at: <http://www.conservation.ca.gov/DLRP/FMMP/Pages/Index.aspx>

²¹ California Department of Conservation, Division of Land Resource Protection. 2004. *A Guide to the Farmland Mapping and Monitoring Program*. Available at: http://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp_guide_2004.pdf

California Farmland Conservancy Program (CFCP)

The CFCP seeks to encourage the long-term, private stewardship of agricultural lands through the voluntary use of agricultural conservation easements. The CFCP provides grant funding for projects which use and support agricultural conservation easements for protection of agricultural lands. As of January 2015, the CFCP has funded more than 175 easement projects in California, including more than 57,000 acres in more than a dozen counties between 1996 and 2014.^{22,23} CFCP has also funded a number of planning grants, including some with regional or statewide value. CFCP did not award any new grants for planning and policy projects in the SCAG region between 1996 and 2014.²⁴

Local

General Plans

The SCAG region spans six counties, each of which has a general plans containing policies related to protection of agriculture and forestry resources:

- **Imperial County:** Agricultural Element²⁵ (no policies for forestry resources)
- **Los Angeles County:** Chapter 9: Conservation and Natural Resources Element²⁶
- **Orange County:** Chapter VI. Resources Element²⁷
- **Riverside County:** Chapter 5: Multipurpose Open Space Element²⁸
- **San Bernardino County:** Chapter V. Conservation Element²⁹
- **Ventura County:** Resources Appendix³⁰

Additional plans and ordinances at the master plan level, city-level, and specific plan level may also apply within the SCAG region.

²² California Department of Conservation, Division of Land Resource Protection. Accessed 11 May 2015. *California Farmland Conservancy Program*. Available at: <http://www.conservation.ca.gov/dlrp/cfcp/Pages/Index.aspx>

²³ California Department of Conservation. Accessed 25 June 2015. *Completed easements and planning projects*. Available at: <http://www.conservation.ca.gov/dlrp/cfcp/stories/Pages/index.aspx>

²⁴ California Department of Conservation. Accessed 25 June 2015. *Completed easements and planning projects*. Available at: <http://www.conservation.ca.gov/dlrp/cfcp/stories/Pages/index.aspx>

²⁵ Imperial County Planning/Building Department. [Adopted 9 November 1993] Revised 19 November 1996. *Imperial County General Plan: Agricultural Element*. Available at: <http://www.icpds.com/CMS/Media/Agricultural-Element.pdf>

²⁶ Los Angeles County Department of Regional Planning. Adopted 6 October 2015. *Los Angeles County General Plan 2035*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf

²⁷ Orange County Public Works Development Services. July 2014. *General Plan: Chapter VI. Resources Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235>

²⁸ Riverside County Planning Department. 9 December 2014. *Riverside County General Plan – Current*. Available at: <http://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx>

²⁹ County of San Bernardino Land Use Service Division. Amended 24 April 2014. *County of San Bernardino 2007 General Plan*. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

³⁰ County of Ventura Resource Management Agency, Planning Division. Amended 28 June 2011. *Ventura County General Plan: resources appendix*. Available at: <http://www.ventura.org/rma/planning/pdf/plans/General-Plan-Resources-Appendix-6-28-11.pdf>

Zoning

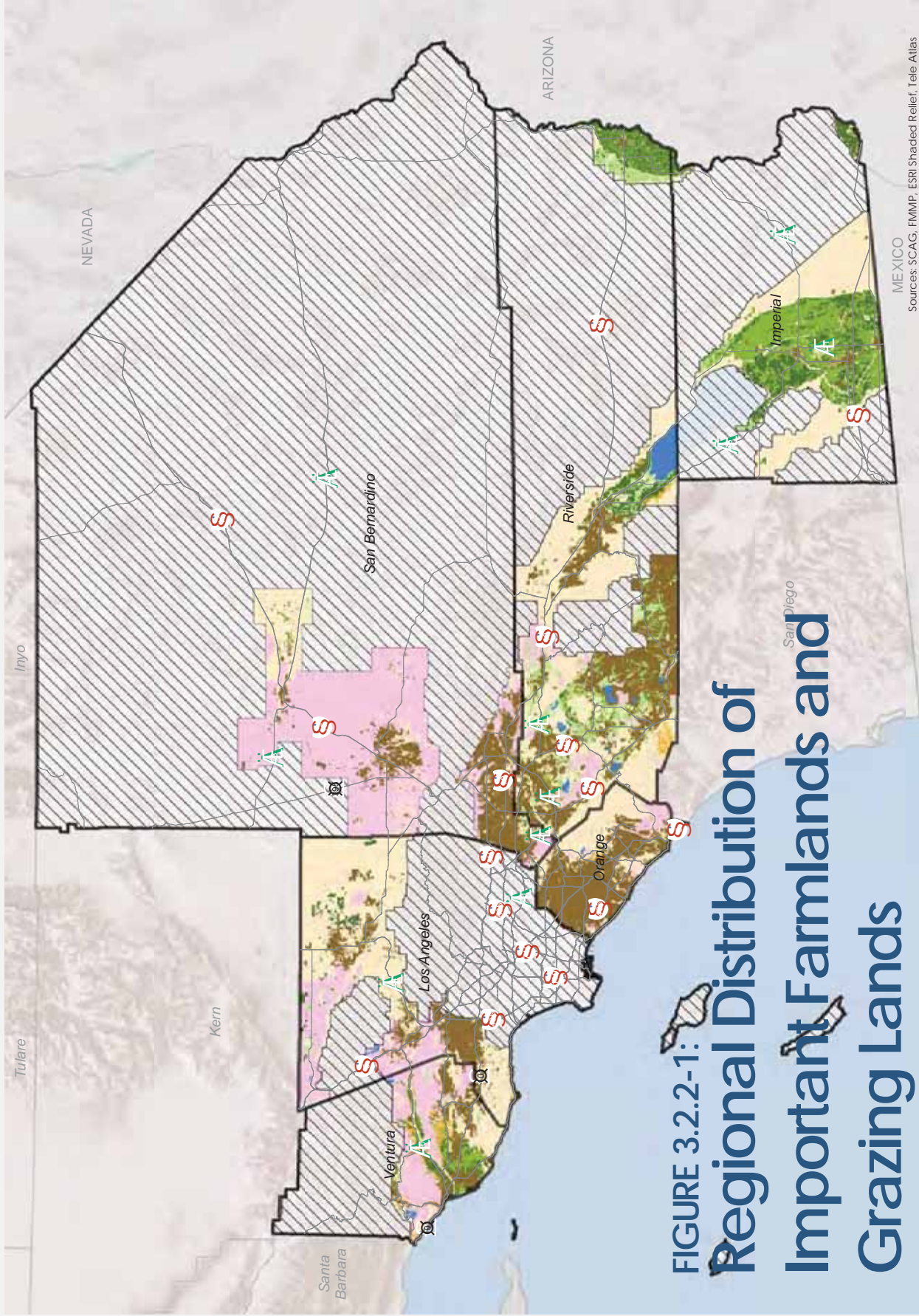
City and county zoning codes provide the set of detailed requirements that implement general plan policies at the level of the individual parcel. Zoning codes present standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction, including zones for agricultural use and timberland production. Since 1971, state law has required the city or county zoning code to be consistent with the jurisdiction's general plan. The purpose of agricultural zoning is to protect farmland and farming activities from incompatible non-farm uses.

3.2.2 EXISTING CONDITIONS

This section characterizes the baseline conditions for Important Farmland, zoning for agricultural use, Williamson contracts, zoning for forest land, zoning for timberland, timberland zoned Timberland Production, and existing forest land resources.

Prime and Unique Farmlands and Farmland of Statewide Importance

The distribution of farmlands and rangelands in the SCAG region and vicinity is based primarily on data provided by the California Department of Conservation. Based on the most recent (2012) estimates prepared by the California Department of Conservation (CDC), there are approximately 2.6 million acres of important agricultural lands in the SCAG region: approximately 1.1 million acres of Important Farmland and approximately 1.5 million acres of grazing land/rangeland (*Figure 3.2.2-1, Regional Distribution of Important Farmlands and Grazing Lands*, and *Table 3.2.2-1, 2012 California Department of Conservation Important Agricultural Land Inventory*).



**FIGURE 3.2.2-1:
Regional Distribution of
Important Farmlands and
Grazing Lands**

**TABLE 3.2.2-1
2012 CALIFORNIA DEPARTMENT OF CONSERVATION
IMPORTANT AGRICULTURAL LAND INVENTORY***

Acres	Imperial County	Los Angeles County	Orange County	Riverside County	San Bernardino County	Ventura County	SCAG Region
Prime Farmland	192,951	27,733	3,071	119,309	12,482	41,570	397,116
Farmland of Statewide Importance	305,614	841	367	43,919	5,860	33,337	389,938
Unique Farmland	2,074	1,088	3,599	33,340	2,623	28,725	71,449
Farmland of Local Importance	37,687	5,671	0	229,658	956	15,168	289,140
Subtotal – Important Farmland	538,326	35,333	7,037	426,226	21,921	118,800	1,147,643
Grazing Land	0	235,829	37,386	110,385	902,869	197,866	1,484,335
Total Acres Important Agricultural Land	538,326	271,162	44,423	536,611	924,790	316,666	2,631,978
Percent Total Important Agricultural Land	18.8%	8.9%	7.3%	11.6%	7.2%	22.4%	10.4%

NOTE:

* This FMMP data is for general planning purposes and has a minimum mapping unit of 10 acres. For information about Farmland parcels that are less than 10 acres, please see Table 3.2.2-2.

SOURCE:

California Department of Conservation. Accessed 26 June 2015. *Farmland Mapping and Monitoring Program: Important Farmland Data Availability*. Available at: <http://www.consrv.ca.gov/dlrp/fmmp/>

Imperial County contains the highest number of acres of Prime Farmland (6.7 percent of county) and Farmland of Statewide Importance (10.7 percent of county) of the counties within the SCAG region due to a favorable climate, productive soils and the availability of irrigation water from the All American Canal.³¹ The top crops within Imperial County, which produced approximately \$1.9 billion in agricultural crops and commodities in 2012 and \$2.2 billion in 2013, include vegetables, melons, field crops, fruit and nut crops, seed crops and nursery products, and apiary products (honey/beeswax).³² Although Imperial County does not contain state-designated Important Grazing Land, livestock produced approximately \$484 million (24.9 percent) of the county’s agricultural income in 2013.

Riverside County contains the highest number of acres of Unique Farmland (0.7 percent of county) and Farmland of Local Importance (5.0 percent of county) of the counties within the SCAG region due its special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality of high value crops when treated and managed according to modern farming methods, such as citrus, olives, and avocados, as well as its production of major crops for Riverside County such as irrigated permanent pasture, summer squash, okra, eggplant, radishes, watermelon,

³¹ Imperial County Planning/Building Department. [Adopted 9 November 1993] Revised 19 November 1996. *Imperial County General Plan: Agricultural Element*. Available at: <http://www.icpds.com/CMS/Media/Agricultural-Element.pdf>

³² Imperial County. 5 August 2014. *Imperial County Agricultural Crop And Livestock Report 2013*. Available at: http://www.co.imperial.ca.us/ag/crop_&_livestock_reports/Crop_&_Livestock_Report_2013.PDF

dairylands, and jojoba.³³ Riverside County produced approximately \$1.25 billion in agricultural crops and commodities in 2012 and \$1.3 billion in 2013.³⁴

Ventura County, which is comprised of 44 percent of the land within Imperial County and 26 percent of the land within Riverside County, has some of the most productive prime and unique farmlands in the nation; the County produced approximately \$1.8 billion in agricultural crops and commodities in 2011 and approximately \$2 billion in 2013.^{35,36} Approximately 8.4 percent of the County has been designated as Important Farmland, located exclusively in the southern half of the County. The top crops in Ventura County include lemons, strawberries, celery, Valencia oranges, avocados, lettuce, broccoli, and fruit and nut crops.

Although only 1.2 percent of Los Angeles County is comprised of Important Farmland (concentrated to the north of the San Gabriel Mountains) because it has become the most urbanized of the counties within the SCAG region, the County did produce approximately \$173 million in agricultural crops and commodities in 2011 and approximately \$200.5 million in 2013; nursery products are by far the number one agricultural commodity in the County (50.2 percent), followed by flowers and foliage, fruits and nuts crops, vegetable crops, field crops, livestock production, apiary, and forest products.^{37,38}

San Bernardino County, which contains the highest number of acres of Important Grazing Land (7.0 percent of county) of the counties within the SCAG region and is comprised of only 0.2 percent designated Important Farmland, produced approximately \$386 million in agricultural crops and commodities in 2013, 60.1 percent of which was for milk, 11.3 percent for eggs, 8.4 percent for cattle and calves (meat), 2.1 percent for turf, and two percent or less for other crop categories.³⁹

Orange County, which was once a rural community supported primarily by an agricultural economy that included oranges, apricots, and walnuts, has the least remaining acreage of Important Farmlands due to rapid suburbanization in the 1960s and 1970s and conversion of agricultural land to urban development.⁴⁰ However, Orange County, which has 11 percent of the land area of Riverside County, still produced approximately \$137 million in agricultural crops and commodities in 2013 and

³³ Riverside County Planning Department. 9 December 2014. *Riverside County General Plan – Current*. Available at: <http://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx>

³⁴ Riverside County Agricultural Commissioner’s Office. Accessed 10 July 2015. *Riverside County Agricultural Production Report 2013*. Available at: <http://www.rivcoag.org/Portals/0/Publications/Crop%20Reports-EntireCounty/2013%20Riverside%20County%20Agricultural%20Production%20Report.pdf>

³⁵ Ventura County Resource Management Agency, Planning Division. Amended 28 June 2011. *Ventura County General Plan: Resources Appendix*. Available at: <http://www.ventura.org/rma/planning/pdf/plans/General-Plan-Resources-Appendix-6-28-11.pdf>

³⁶ Ventura County Office of Agricultural Commissioner. 5 August 2014. *Ventura County’s Crop And Livestock Report 2013*. Available at: <http://vcportal.ventura.org/AgComm/docs/crop-reports/2013CropReport.pdf>

³⁷ Los Angeles County Department of Regional Planning. Adopted 6 October 2015. *Los Angeles County General Plan 2035*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf

³⁸ Los Angeles County Farm Bureau. Accessed 10 July 2015. *2013 Los Angeles County Crop And Livestock Report*. Available at: <http://www.lacfb.org/2013.pdf>

³⁹ San Bernardino County. Accessed 10 July 2015. *2013 Crop Report*. Available at: <http://cms.sbcounty.gov/Portals/13/CropReports/2013%20Crop%20and%20Livestock%20Report%20-%20Final.pdf?ver=2014-06-18-133337-353>

⁴⁰ Orange County Public Works Development Services. July 2014. *General Plan: Chapter VI. Resources Element*. Available at: <http://ocplanning.net/civica3/filebank/blobdload.aspx?blobid=40235>

approximately \$132 million in 2014, predominantly through sale of nursery crops, tree and berry crops (especially Valencia oranges and strawberries), and vegetable crops (51 percent, 34 percent, and 14 percent total value, respectively), despite the drought.⁴¹ Orange County does not contain any designated Farmland of Local Importance.

Important Farmland by Parcel Size

There are 54,732 Important Farmland parcels within the SCAG region, approximately 47.1 percent of which are designated Prime Farmland, approximately 28.7 percent of which are designated Farmland of Statewide Importance, and approximately 24.2 percent of which are designated Unique Farmland (Table 3.2.2-2, *2014 California Department of Conservation Parcels by Size in the SCAG Region*). Approximately 71.7 percent of the SCAG region's Farmland parcels are less than 10 acres in size and not identified by FMMP in Table 3.2.2-1. Orange County has the greatest percentage of smaller Farmland parcels, with approximately 91.4 percent of Farmland parcels (1,470 parcels) less than 10 acres in size; in San Bernardino County, approximately 88.0 percent of Farmland parcels (3,118 parcels) are less than 10 acres; in Los Angeles County, approximately 82.9 percent of Farmland parcels (2,528 parcels) are less than 10 acres; in Riverside County, approximately 78.2 percent of Farmland parcels (17,730 parcels) are less than 10 acres; in Ventura County, approximately 76.1 percent of Farmland parcels (8,048 parcels) are less than 10 acres; and in Imperial County, approximately 48.0 percent of Farmland parcels are less than 10 acres.

**TABLE 3.2.2-2
2014 CALIFORNIA DEPARTMENT OF CONSERVATION FARMLAND PARCELS BY SIZE IN THE
SCAG REGION**

County	Less than 5 Acres		Greater than or Equal to 5 Acres and Less than 10 Acres		10 Acres or Above		Total Number of Important Farmland Parcels
	Parcels	% of Total	Parcels	% of Total	Parcels	% of Total	
Imperial	5,243	39.5%	1,129	8.5%	6,911	52.0%	13,283
P	2,335	38.8%	576	9.6%	3,113	51.7%	6,024
S	2,488	36.9%	506	7.5%	3,756	55.6%	6,750
U	420	82.5%	47	9.2%	42	8.3%	509
Los Angeles	2,237	73.4%	291	9.5%	520	17.1%	3,048
P	1,719	71.0%	233	9.6%	468	19.3%	2,420
S	174	78.0%	28	12.6%	21	9.4%	223
U	344	84.9%	30	7.4%	31	7.7%	405
Orange	1,397	86.9%	73	4.5%	138	8.6%	1,608
P	647	88.0%	25	3.4%	63	8.6%	735
S	75	80.6%	6	6.5%	12	12.9%	93
U	675	86.5%	42	5.4%	63	8.1%	780
Riverside	15,190	67.0%	2,540	11.2%	4,945	21.8%	22,675
P	6,658	62.6%	1,164	10.9%	2,812	26.4%	10,634
S	3,674	67.7%	584	10.8%	1,165	21.5%	5,423
U	4,858	73.4%	792	12.0%	968	14.6%	6,618

⁴¹ Orange County Agricultural Commissioner. Accessed 10 July 2015. *2014 Orange County Crop Report*. Available at: <http://cms.ocgov.com/documents/2014OrangeCountyCropReport.pdf>

**TABLE 3.2.2-2
2014 CALIFORNIA DEPARTMENT OF CONSERVATION FARMLAND PARCELS BY SIZE IN THE
SCAG REGION**

County	Less than 5 Acres		Greater than or Equal to 5 Acres and Less than 10 Acres		10 Acres or Above		Total Number of Important Farmland Parcels
	Parcels	% of Total	Parcels	% of Total	Parcels	% of Total	
San Bernardino	2,640	74.5%	478	13.5%	427	12.0%	3,545
P	1,479	70.8%	352	16.8%	259	12.4%	2,090
S	541	74.3%	67	9.2%	120	16.5%	728
U	620	85.3%	59	8.1%	48	6.6%	727
Ventura	6,799	64.3%	1,249	11.8%	2,525	23.9%	10,573
P	2,350	60.7%	498	12.9%	1,021	26.4%	3,869
S	1,461	58.9%	305	12.3%	715	28.8%	2,481
U	2,988	70.8%	446	10.6%	789	18.7%	4,223
SCAG REGION	33,506	61.2%	5,760	10.5%	15,466	28.3%	54,732
P	15,188	58.9%	2,848	11.1%	7,736	30.0%	25,772
S	8,413	53.6%	1,496	9.5%	5,789	36.9%	15,698
U	9,905	74.7%	1,416	10.7%	1,941	14.6%	13,262

NOTE:

P = Prime Farmland; S = Farmland of Statewide Importance; U = Unique Farmland.

SOURCE:

California Department of Conservation. Accessed 11 May 2015. *Farmland Mapping and Monitoring Program*. Available at: <http://www.conservation.ca.gov/DLRP/FMMP/Pages/Index.aspx>

Agricultural Zoning/Williamson Act Preserves

Farmlands and rangelands are agricultural lands that are part of the region’s open landscape and entail various types and degrees of modifications to natural lands. Farmlands include irrigated and non-irrigated crop production. Rangelands include any expanse of natural land that is not fertilized, irrigated, or cultivated and is predominately used for grazing by livestock and wildlife.

Within the six-county SCAG region, Imperial County, Riverside County, and San Bernardino County contain several acres of Williamson Act-Non-Renewal Contract Land that will no longer be restricted after the end of the contract; the only Williamson Act Contract land within Los Angeles County is Williamson Act-Mixed Enrollment Agricultural Land for Santa Catalina Island; and Orange County no longer contains Williamson Act agricultural preserves (Table 3.2.2-3, *Williamson Act Contract Land within the SCAG Region*).

**TABLE 3.2.2-3
WILLIAMSON ACT CONTRACT LAND WITHIN THE SCAG REGION**

County	Prime Agricultural Land	Non-Prime Agricultural Land	Farmland Security Zone (FSZ)	Mixed Enrollment Agricultural Land	Non-Renewal
Imperial ¹	No	No	No	No	Yes
Los Angeles ²	No	No	No	Yes	No
Orange ³	No	No	No	No	No
Riverside ⁴	Yes	Yes	No	Yes	Yes
San Bernardino ⁵	No	No	No	Yes	Yes
Ventura ⁶	No	No	Yes	Yes	Yes

SOURCE:

¹ California Department of Conservation. Accessed 26 June 2015. *Imperial County Williamson Act FY 2011-2012*. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/WA/imperial_11_12_WA.pdf

² California Department of Conservation. Accessed 26 June 2015. *Los Angeles County Williamson Act FY 2012-2013*. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/WA/LA_12_13_WA.pdf

³ California Department of Conservation. 2012. *State of California Williamson Act*. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/2012%20Statewide%20Map/WA_2012_11x17.pdf

⁴ California Department of Conservation. Accessed 25 August 2015. *Riverside County Williamson Act FY 2008-2009 Sheet 1, Sheet 2, Sheet 3*. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/WA/riverside_c_08_09_WA.pdf

⁵ California Department of Conservation. Accessed 25 August 2015. *San Bernardino County Williamson Act FY 2012-2013 Sheet 1, Sheet 2*. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/WA/sanbernardino_no_12_13_WA.pdf

⁶ California Department of Conservation. Accessed 25 August 2015. *Ventura County Williamson Act FY 2013-2014*. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/WA/Ventura_13_14_WA.pdf

Forest and Timberland Zoning

Within the SCAG region, forest lands include the Angeles National Forest, Cleveland National Forest, Los Padres National Forest, and San Bernardino National Forest, as well as forest lands within the open space zones of Imperial and Los Angeles counties (**Table 3.2.2-4, *Forest Land, Timberland, and Timberland Production Zones by County***). "Timber" means trees of any species maintained for eventual harvest for forest products purposes, whether planted or of natural growth, standing or down, on privately or publicly owned land, including Christmas trees, but does not mean nursery stock.⁴² Timber is permitted in the A-2 and A-3 agricultural zones in Imperial County, the Open Space zone in Los Angeles County with a Conditional Use Permit (CUP), and the Open Space Overlay in San Bernardino County with a CUP. "Timberland" means privately or publicly owned land which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre. Riverside County permits timberland production within the R-R (rural residential) zone and W-2 (controlled development areas) zone if a CUP has been obtained. There is no Timberland Production Zone land in the SCAG region.

⁴² State Government Code, Section 38103 and Section 38103.1. Available at: <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=rtc&group=38001-39000&file=38101-38110>

TABLE 3.2.2-4
FOREST LAND, TIMBERLAND, AND TIMBERLAND PRODUCTION ZONES BY COUNTY

County	Forest Land Zone	Timberland Zone	Timberland Production Zone
Imperial ^{1,2}	Forest industries permitted in S-1 (open space) zone.	Timber permitted in A-2 and A-3 (agricultural) zones.	Not identified in zoning code or General Plan.
Los Angeles ^{3,4}	OS (open space) zone includes forest preserves. The Angeles National Forest and Los Padres National Forest lands are protected.	Within the OS (open space) zone, harvesting miscellaneous forest products is permitted in this zone if a CUP ⁵ has been obtained.	Not identified in zoning code or General Plan.
Orange ^{5,6}	Not identified in zoning code. Cleveland National Forest lands are protected.	Not identified use in zoning code or General Plan.	Not identified in zoning code or General Plan.
Riverside ^{7,8}	San Bernardino National Forest and Cleveland National Forest lands are protected.	R-R (rural residential) zone and W-2 (controlled development areas) zone permit lumber production of a commercial nature, including commercial logging, or commercial development of timber and lumber mills if a CUP has been obtained.	Not identified in zoning code or General Plan.
San Bernardino ^{9,10}	Angeles National Forest and San Bernardino National Forest lands are protected. All Quercus tree species are protected in all zones, except in association with activities that have been determined to be exempt.	OS (open space) overlay permits limited timber harvesting in scenic areas within or adjacent to the right-of-way to that which is necessary to maintain and enhance the quality of the forest. Timber operations are exempt from requirements regarding the removal of regulated trees or plants as long as they are conducted in compliance with the Z berg-Nejedly Forest Practice Act of 1973 (Public Resources Code Section 4526 et seq.).	Not identified in zoning code or General Plan.
Ventura ^{11,12,13}	Los Padres National Forest lands are protected. The OS (open space) zone permits the managed production of forest lands in the Non-Coastal Zoning Ordinance. All Quercus and Platanus tree species, as well as historical trees and heritage trees, are protected in all zones; several other trees are protected within the Scenic Resource Protection Overlay Zone. Forest land is not identified in the Coastal Zoning Ordinance.	Ventura County does not contain land which produces timber commercially for eventual use as lumber or pulp; however, six Christmas tree farms are zoned Timberland Preserve (T-P) pursuant to the provisions of the Timberland Preserve Zone of the County Zoning Ordinance. The "T-P" zone is compatible with the Open Space, Agriculture and Rural land use designations (of the Land Use Chapter of the General Plan). Five of these six properties are located in the Ojai Valley area and one in the Piru area. Together they total approximately 94 acres.	Not identified in zoning code or General Plan.

NOTE:
CUP: Conditional Use Permit

SOURCE:

- ¹ Imperial County Planning and Development Services. [Adopted 24 November 1998] Amended 9 December 2014. Title 9: Division 5: Zoning Areas Established. Available at: http://icpds.com/CMS/Media/TITLE9Div5_2014.pdf
- ² County of Imperial Planning and Development Services Department. Approved 29 January 2008. Land Use Element of the Imperial County General Plan. Available at: [http://icpds.com/CMS/Media/Land-Use-Element-\(2008\).pdf](http://icpds.com/CMS/Media/Land-Use-Element-(2008).pdf)
- ³ Los Angeles County, California, Code of Ordinances; Title 22 – Planning and Zoning; Division 1 – Planning and Zoning; Chapter 22.40 – Special Purpose and Combining Zones; Part 9 O-S Open Space Zone. Accessed 25 August 2015. Available at: https://library.municode.com/HTML/16274/level4/TIT22PLZO_DIV1PLZO_CH22_40SPPLCOZO_PT9OOPSZO.html
- ⁴ Los Angeles County Department of Regional Planning. Adopted 6 October 2015. Los Angeles County General Plan 2035. Available at: http://planning.lacounty.gov/assets/up/project/gp_final-general-plan.pdf
- ⁵ Orange County, CA Code of Ordinances; Article 2 – The Comprehensive Zoning Code. Accessed 25 August 2015. Available at: https://www.municode.com/library/ca/orange_county/codes/code_of_ordinances?nodeid=TIT7LAUSBURE_DIV9PL_ART2THCOZOCO
- ⁶ County of Orange. Land Use Planning and Subdivision. 2005. Orange County General Plan 2005: Chapter III. Land Use Element. Available at: http://planning.rctma.org/Portals/0/zoning/ordinance/Ord_348_clean_version.pdf
- ⁷ County of Riverside. Effective 18 June 2015. Ordinance No. 348. Available at: http://planning.rctma.org/Portals/0/zoning/ordinance/Ord_348_clean_version.pdf
- ⁸ Riverside County Planning Department. 9 December 2014. County of Riverside General Plan; Chapter 3: Land Use Element. Available at: http://planning.rctma.org/Portals/0/genplan/general_plan_2013/1%20General%20Plan/Chapter%203%20Land%20Use_clean_120914.pdf
- ⁹ County of San Bernardino Land Use Services Division. [Effective 12 April 2007] Amended 15 January 2015. County of San Bernardino 2007 Development Code. Available at: <http://www.sbcounty.gov/uploads/lus/developmentcode/DCWWebsite.pdf>
- ¹⁰ County of San Bernardino Land Use Services Division. [Effective 12 April 2007] Amended 24 April 2014. County of San Bernardino 2007 General Plan. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>
- ¹¹ Ventura County Planning Division. Amended 18 March 2014. Ventura County Non-Coastal Zoning Ordinance; Division 8. Chapter 1 of the Ventura County Ordinance Code. Available at: http://www.ventura.org/rma/planning/pdf/zoning/VNCNZO_03-18-14_revised.pdf
- ¹² Ventura County Planning Division. Effective 9 March 2013. Ventura County Coastal Zoning Ordinance; Division 8. Chapter 1.1 of the Ventura County Ordinance Code. Available at: http://www.ventura.org/rma/planning/pdf/ordinances/zoning/coastal_zone_ord.pdf
- ¹³ County of Ventura Resource Management Agency, Planning Division. Amended 22 October 2013. Ventura County General Plan Land Use Appendix. Available at: http://www.ventura.org/plans/GENERAL_PLAN_Land_Use_Appendix_October_22_2013_.pdf

Forestry Resources

Forestry resources within the SCAG region are concentrated in the four national forests in the SCAG region: the Angeles National Forest (Los Angeles and San Bernardino counties), San Bernardino National Forest (San Bernardino and Riverside counties), Los Padres National Forest (Los Angeles and Ventura County), and the Cleveland National Forest (Orange County and Riverside County) (see **Figure 3.2.2-2, *Forest Lands in SCAG Region***). There are no state forests that are used as forestry resources in the SCAG region.⁴³

The montane and subalpine vegetation in the SCAG region consists of conifer-dominated forests and woodland. These generally occur at elevations of 3,000 feet or more in the Transverse (Los Padres National Forest, Angeles National Forest, and San Bernardino National Forest) and Peninsular Ranges (San Bernardino National Forest and Cleveland National Forest). Oak-dominated woodlands and forests are found at low- to mid-elevations of the Transverse and Peninsular Ranges. Canyon live oak (*Quercus chrysolepis*) forms forests with Coulter pine (*Pinus coulteri*), bigcone-fir (*Pseudotsuga macrocarpa*), Douglas-fir (*P. menziesii*), and interior live oak (*Q. wislizenii*) on the higher and inner slopes of the mountains, as well as forming riparian forests along seasonal streams. Coast live oak (*Q. agrifolia*) woodland forms on more coastal slopes, while Engelmann oak (*Q. engelmannii*) woodland and valley oak (*Q. lobata*) woodland grow on deeper alluvial slopes and valleys. California walnut (*Juglans californica*) is found associated with coast live oak, usually on north slopes, and in some places becomes the dominant species. Woodland consists of trees with an understory of grasses and herbs. Introduced grasses dominate the understory, although in some cases native bunchgrasses may be present.

At the lower elevations, Coulter pine forms open woodland with canyon live oak, black oak (*Quercus kelloggii*), and ponderosa pine and Jeffrey pine. At somewhat higher elevations, yellow (ponderosa and Jeffrey) pine forest dominate. Farther upslope, upper montane conifer forests are present, consisting of white fir and sugar pine, followed by mountain juniper (*Juniperus occidentalis* ssp. *australis*) woodland on open slopes and ridges and lodgepole pine (*Pinus contorta*) forest on flats and gentle slopes. The highest elevation forests are dominated by limber pine. These forests are found at the highest elevations of the San Bernardino Mountains. The actual elevation range of each forest type is dependent on other site factors, such as precipitation, moisture-holding capability of the soil, slope and aspect.

The Tecate cypress (*Cyprinus forbesii*), is a fire-adapted conifer species found only on low-fertility soils. This species grows in several stands in the SCAG region in the vicinity of Sierra Peak in Orange County. Tecate cypress forest is considered a special-status natural community by the California Natural Diversity Database (CNDDDB), and the Tecate cypress itself is a California Native Plant Society listed species.

Factors Influencing the Conversion of Agricultural and Forest Lands in the SCAG Region

The spread of urban and suburban development has contributed to the loss of historic agricultural lands in the twentieth and twenty-first centuries in the SCAG region. Forest lands are concentrated in the four

⁴³ California Department of Forestry and Fire Protection (CAL FIRE). December 2014. *CAL FIRE Demonstration State Forests*. Available at: http://www.fire.ca.gov/communications/downloads/fact_sheets/StateForests.pdf

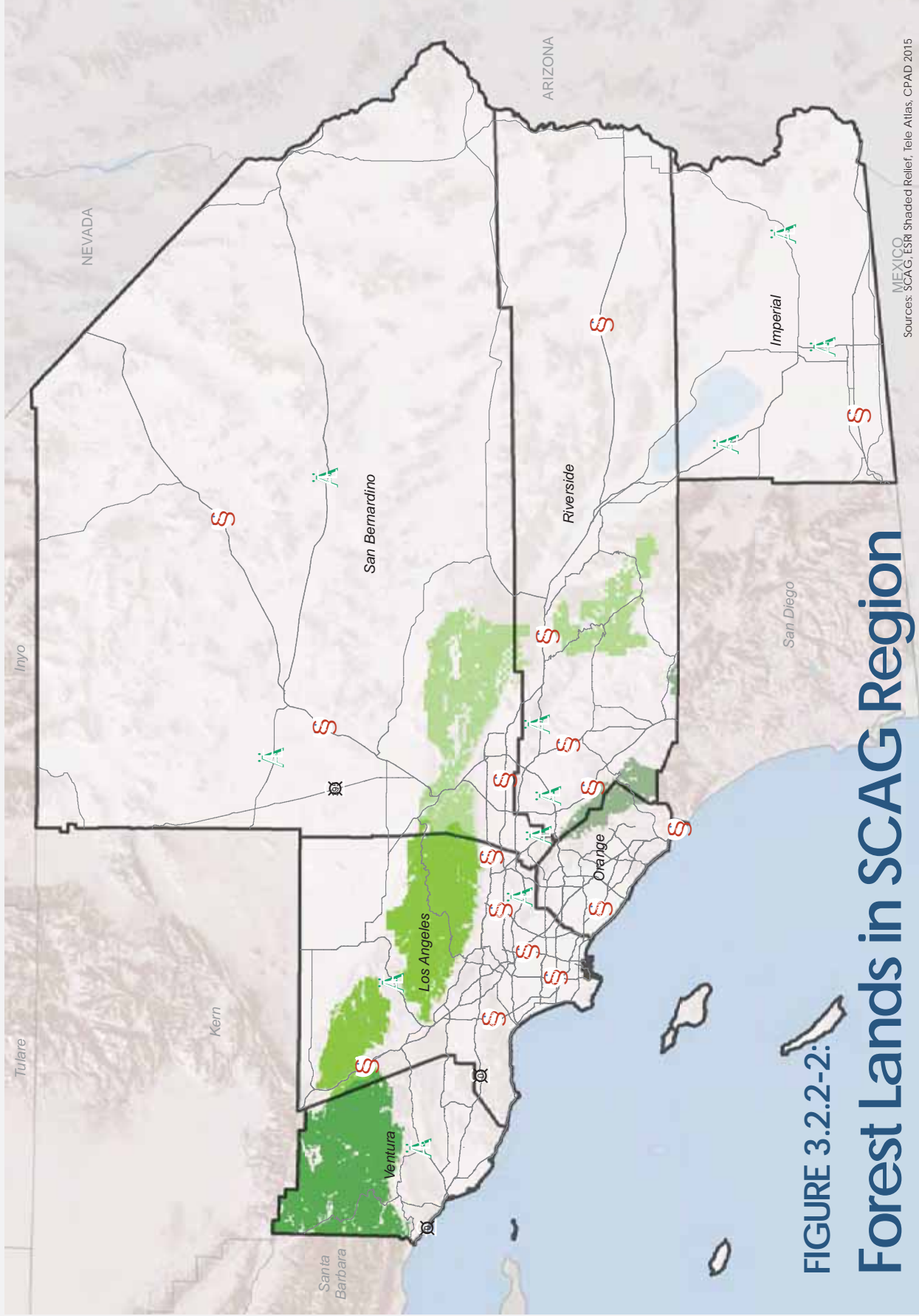


FIGURE 3.2.2-2:
Forest Lands in SCAG Region

- Angeles National Forest
- Cleveland National Forest
- Los Padres National Forest
- San Bernardino National Forest

Sources: SCAG, ESRI Shaded Relief, Tele Atlas, CPAD 2015

0 5 10 20
Miles

national forests within the SCAG region, which are protected from future development but potentially subject to wildfires, especially near the wildland-urban interface where human-caused fires are more prevalent, which can result in the conversion of forest land to other plant communities. For the last 10 years, about 3,500 human-caused wildfires have burned an average of approximately 400,000 acres of National Forest System land annually, with the majority caused by campfires.⁴⁴ The 2014 designation of 346,177 acres (or approximately 49 percent) of the heaviest used area within the Angeles National Forest and the San Bernardino National Forest (4,002 acres, or approximately 0.5 percent) as the San Gabriel Mountains National Monument has increased protection afforded to those lands, including protection of the chaparral and oak woodland that represent a portion of the rare Mediterranean ecosystem in California.⁴⁵

Conversion of Forest and Woodlands

The California Department of Fish and Wildlife (CDFW) recognizes valley oak woodland, Engelmann oak woodland, and California walnut woodland as sensitive woodland communities in the SCAG region (see Table 3.4.2-1, *Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region*, in Section 3.4, Biological Resources). These communities have shown a dramatic decline due to urban and agricultural development in this century. Hardwood upland forests are found on higher, wetter sites than oak woodlands and are distinguished from woodlands by a higher tree density. Walnut forests found on the south side of the San Gabriel Mountains to the Santa Ana Mountains, mainland cherry forest historically found in Los Angeles County, island cherry (*Prunus ilicifolia* ssp. *lyonii*) forest and island ironwood (*Lyonothamnus floribundus*) forest found on the Channel Islands are considered sensitive natural communities.

Conversion of Agricultural Lands

Historically, development patterns in the region have been tied as much to the conversion of agricultural lands as to the consumption of natural lands for urban uses. A key issue in the region today is whether the high rate of farmland conversion in recent years can be slowed to prevent irreversible losses. An estimated 370,000 acres of important farmland and grazing land were converted to non-agricultural uses and/or applied for development entitlements between 1984 and 2012 (approximately 13,206 acres per year).^{46,47,48,49,50,51}

⁴⁴ U.S. Department of Agriculture, Forest Service. Accessed 10 July 2015. *Fire*. Available at: <http://www.fs.fed.us/managing-land/fire>

⁴⁵ U.S. Department of Agriculture, Forest Service. Accessed 10 July 2015. *San Gabriel Mountains National Monument*. Available at: <http://www.fs.fed.us/visit/san-gabriel-mountains-national-monument>

⁴⁶ California Department of Conservation. Accessed 1 July 2015. *Farmland Mapping and Monitoring Program: Imperial County – Important Farmland data availability*. Available at: <http://www.consrv.ca.gov/dlrp/fmmp/Pages/Imperial.aspx>

⁴⁷ California Department of Conservation. Accessed 1 July 2015. *Farmland Mapping and Monitoring Program: Los Angeles County – Important Farmland data availability*. Available at: <http://www.consrv.ca.gov/dlrp/fmmp/Pages/LosAngeles.aspx>

⁴⁸ California Department of Conservation. Accessed 1 July 2015. *Farmland Mapping and Monitoring Program: Orange County – Important Farmland data availability*. Available at: <http://www.consrv.ca.gov/dlrp/fmmp/Pages/Orange.aspx>

⁴⁹ California Department of Conservation. Accessed 1 July 2015. *Farmland Mapping and Monitoring Program: Riverside County – Important Farmland data availability*. Available at: <http://www.consrv.ca.gov/dlrp/fmmp/Pages/Riverside.aspx>

⁵⁰ California Department of Conservation. Accessed 1 July 2015. *Farmland Mapping and Monitoring Program: San Bernardino County – Important Farmland data availability*. Available at: <http://www.consrv.ca.gov/dlrp/fmmp/Pages/SanBernardino.aspx>

3.2.3 THRESHOLDS OF SIGNIFICANCE

The potential for the 2016 RTP/SCS to result in impacts related to agriculture and forestry resources was analyzed in relation to the five questions contained in Appendix G of the State CEQA Guidelines. The project would normally be considered to have a significant impact related to agriculture and forestry resources if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
- Result in the loss of forest land or conversion of forest land to non-forest use.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

Methodology

The 2016 RTP/SCS includes coordinated strategies for transportation investments and land use distribution patterns. These land use distribution patterns identify forecasted jurisdictional level growth and include land use development distribution regional policies to accommodate the forecasted growth. The Regional Travel Demand Model (RTDM) used for this analysis captures pass-through traffic that does not have an origin or destination in the region, but does impact the region, so that too is included in the project analysis. Although development is anticipated to occur within cities and counties even without the 2016 RTP/SCS, this Plan includes regional policies that could influence growth, including distribution patterns, throughout the region. To address this, the analysis in the PEIR covers overall impacts of transportation investments and land use strategies described in the 2016 RTP/SCS. In addition, this PEIR considers cumulative impacts from other local projects (e.g., development projects that have been approved within each county), which could result in additional impacts inside and outside the region. The methodology for determining the significance of agriculture and forestry resources impacts compares the existing conditions to future (2040) conditions, as required in CEQA Section 15126.2(a). This analysis evaluates the potential for significant impacts of the 2016 RTP/SCS to agriculture and forestry resources in accordance with Appendix G of the State CEQA Guidelines and guidelines established by Caltrans; Ventura, Los Angeles, Orange, San Bernardino, Riverside, and Imperial Counties; and major cities within the SCAG region.

⁵¹ California Department of Conservation. Accessed 1 July 2015. *Farmland Mapping and Monitoring Program: Ventura County – Important Farmland Data Availability*. Available at: <http://www.consrv.ca.gov/dlrp/fmmp/Pages/Ventura.aspx>

To assess potential impacts to agriculture and forestry resources within the SCAG region, a geographic information system (GIS) was used to analyze major highway, transit, and freight rail projects in the 2016 RTP/SCS. A 500-foot worst-case-scenario construction radius was created around the major transportation projects then intersected with Farmland and forest land resources in the SCAG region.⁵² The results of the GIS analysis determined whether projects included in the Plan could directly affect Important Farmland, zoning for agricultural use, Williamson Act contract land, forest land, timberland, or timberland zoned Timberland Production in the SCAG region. Indirect impacts were evaluated based on the land pattern assumptions reflected in the Plan that protected lands would remain protected and new growth would be shifted away from high value habitat areas and concentrated in existing urbanized areas or opportunity areas, such as high-quality transit areas (HQTAs) (near transit projects), livable corridors, neighborhood mobility areas, and suburban town centers which are well-served by transit and are conducive to higher density housing, and walkable, mixed-use communities in the future.

3.2.4 IMPACT ANALYSIS

IMPACT AF-1: Potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

Significant Impact

Implementation of transportation projects and anticipated development resulting from land use strategies included in the 2016 RTP/SCS would have the potential to convert Prime Farmland, Farmland of Statewide Importance, and Unique Farmland in all six counties and affect Local Farmland and Grazing land in five of the six counties because these important farmlands are located in the vicinity (within a worst-case-scenario 500-foot construction radius) of the transportation projects in the Plan, constituting a significant impact (Table 3.2.4-1, *Estimated Maximum Direct Potential Loss of Important Agricultural Land*). However, based on this worst-case scenario, no more than 1.6 percent of combined existing Important Farmland and Grazing Land (0.8 percent of Important Farmland) would be directly converted to non-agricultural use as a result of the transportation projects and strategies included in the Plan. This would be a negligible reduction in Important Agricultural Land within the SCAG region.

⁵² Major Transportation Projects include but are not limited to projects that involve ground disturbing activities and projects outside of existing rights-of-way such as projects that require new rights-of-way, adding traffic lanes, and grade separation.

**TABLE 3.2.4-1
ESTIMATED MAXIMUM DIRECT POTENTIAL LOSS OF IMPORTANT AGRICULTURAL LAND**

County	Important Farmland (Acres)						Subtotal Important Farmland (Acres)	Grazing Land (Acres)	Total Important Agricultural Land (Acres)	Percent Potentially Lost by County
	Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance	Farmland of Statewide Importance	Farmland of Local Importance				
Imperial	648.0	724.6	0.2	283.5	1,656.3	0	2,769.1	0.5%		
Los Angeles	619.4	69.5	20.9	403.0	1,112.8	5,374.4	6,866.2	2.5%		
Orange	200.0	43.2	135.8	0	379	480.9	6,136.3	13.8%		
Riverside	457.1	334.4	131.8	4,353.1	5,276.4	1,076.1	6,492.3	1.2%		
San Bernardino	46.5	14.4	72.5	6.4	139.8	8,597.6	9,285.2	1.0%		
Ventura	175.1	277.7	15.6	79.4	547.8	325.7	9,985.6	3.15%		
Acres potentially lost: SCAG region	2,146.1	1,463.8	376.8	5,125.4	9,112.1	15,854.7	41,534.7	1.6%		
Acres existing Important Farmland: SCAG region	397,116	389,938	71,449	289,140	1,147,643	1,484,335	2,631,978			
Percent potentially lost by type	0.5%	0.4%	0.5%	1.8%	0.8%	1.1%	1.6%			

SOURCE: California Department of Conservation. Accessed 26 June 2015. Farmland Mapping and Monitoring Program: Important Farmland Data Availability. Available at: <http://www.consrv.ca.gov/dlrp/fmmp/>

Implementation of the transportation projects considered in the 2016 RTP/SCS could result in long-term impacts to agricultural lands in the region that may include Important Farmland or Grazing Land, by adding transportation infrastructure to parts of the region that currently serve as agricultural lands or through development on agricultural lands, which are interspersed throughout urban areas and are also located in less developed portions of the counties. Where there would be new transportation facilities constructed outside of the region's urbanized areas, undisturbed/vacant land could be utilized for transportation purposes. Additionally, development associated with new urban uses could be located on agricultural lands. Transportation projects that are most likely to result in significant impacts to agricultural lands include highway expansion, highway widening projects, and potential connectors. Other transportation projects such as roadway improvements, toll road improvements and connections, grade separated facilities for busways, goods movement roadway facilities, high speed rail and commuter rail projects, and high-occupancy vehicle (HOV) / high-occupancy toll (HOT) connectors in areas that currently serve as agricultural could also result in significant impacts, thus requiring the consideration of mitigation measures.

In addition to impacts from transportation projects included in the Plan, anticipated land use strategies included in the Plan could also result in the consumption of agricultural lands. The Plan includes land use strategies that would focus new growth in the region's urbanized areas (primarily HQTAs), livable corridors, neighborhood mobility areas, existing suburban town centers, and walkable, mixed-use communities). However, some development is anticipated to occur on areas that are currently in use as agricultural lands, constituting a significant impact requiring the consideration of mitigation measures.

IMPACT AF-2: Potential to conflict with existing zoning for agricultural use, or a Williamson Act contract.

Significant Impact

Implementation of the transportation projects and anticipated development resulting from land use strategies included in the 2016 RTP/SCS would have the potential to conflict with land managed pursuant to Williamson Act contracts within the SCAG region, constituting a significant impact. Prime Agricultural Land in Riverside County, Mixed Enrollment Agricultural Land in Ventura County, and Non-Renewal land in Imperial and Riverside counties under a Williamson Act contract are located within the 500-foot worst-case scenario construction radius of the transportation projects in the Plan. There is a potential for the Plan to result in direct impacts to lands managed under Williamson Act contracts, constituting a significant impact requiring the consideration of mitigation measures.

Implementation of the transportation projects included in the 2016 RTP/SCS could also directly affect existing zoning for agricultural use. Land zoned for agricultural use within Imperial, Orange, Riverside, San Bernardino, and Ventura Counties is located within the 500-foot worst-case scenario construction radius of projects in the Plan. The Plan includes land use strategies to focus new growth in urbanized areas. However, despite strategies intended to encourage growth in urbanized areas, some growth would occur in areas that would potentially conflict with existing zoning for agricultural use or Williamson Act contracts, constituting a significant impact requiring the consideration of mitigation measures.

IMPACT AF-3: Potential to conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

Less than Significant Impact

Implementation of the transportation projects and anticipated development projects resulting from the land use strategies included in the 2016 RTP/SCS would result in less than significant impacts to forestry resources in regard to conflicts with existing zoning for forest land, timberland, or timberland zoned Timberland Production. Within the SCAG region, forest industries are permitted in open space zones in Imperial County and Ventura County. National forest lands are protected from future development. Only two of the transportation projects included in the Plan would cross through the SCAG region's national forests. An HOV lane project along the I-15 freeway would cross through the San Bernardino National Forest, and three of the four alternatives that will be evaluated for Phase I of the California High Speed Rail Project in Los Angeles County involve crossing through/under the Angeles National Forest. Impacts to zoning for forest land, timberland, or Timberland Production would be less than significant at a programmatic level from these two projects because (1) there are very few existing trees along the I-15 freeway within the San Bernardino National Forest (predominantly characterized by shrubland adjacent to the freeway, with trees in riparian areas), and (2) the three California High Speed Rail alignment alternatives that would cross through the Angeles National Forest would involve drilling a rail tunnel through the San Gabriel Mountains beneath the Angeles National Forest, preserving the wilderness and the forest at ground surface along the route.⁵³ These two projects would likely require a Forest Management Plan amendment regarding the preservation of scenic integrity objectives; however, as the HOV project in the San Bernardino National Forest would be located within an existing transportation corridor and other rail alignments would be underground, neither project would conflict with existing zoning for, or cause rezoning of, forest land, timberland, or Timberland Production in the national forests. As forestry resources within the SCAG region are concentrated in the four national forests in the SCAG region and there are no state forests that are used as forestry resources in the SCAG region, the 2016 RTP/SCS would result in no impact in regard to existing zoning for forest land.

The harvesting of timberland is only permitted in two agricultural zones in Imperial County, in the open space zone in Los Angeles County only if a Conditional Use Permit (CUP) has been obtained, in the rural residential zone and controlled development areas in Riverside County only if a CUP has been obtained, in the open space zone in San Bernardino County, and only Christmas tree farms are permitted in the Timberland Preserve zone in Ventura County. Although implementation of the transportation projects considered in the 2016 RTP/SCS could result in long-term impacts to land zoned for agricultural use and open space in the region that may include zoning for timberland use, timberland harvesting is a minor agricultural use in the SCAG region, the only county that harvested timber in 2013 was Ventura County, worth approximately 0.0005 percent of the county's annual agricultural value.^{54,55,56,57,58,59} Therefore, by

⁵³ Scauzillo, Steve, San Gabriel Valley Times. 25 September 2015. *High Speed Rail Authority Asks Permission to Drill Under Angeles National Forest*. Available at: <http://www.sgvtribune.com/general-news/20150925/high-speed-rail-authority-asks-permission-to-drill-under-angeles-national-forest>

⁵⁴ Imperial County. 5 August 2014. *Imperial County Agricultural Crop And Livestock Report 2013*. Available at: http://www.co.imperial.ca.us/ag/crop_&_livestock_reports/Crop_&_Livestock_Report_2013.PDF

adding transportation infrastructure to parts of the region that currently serve as agricultural lands or through development on agricultural lands, which are interspersed throughout urban areas and are also located in less developed portions of the counties, the 2016 RTP/SCS would result in a less than significant impact, if any, to timberland.

Timberland Production Zones have not been established in the six-county SCAG region. As such, there would be no impact to Timberland Production Zones.

In addition to impacts from transportation projects included in the Plan, anticipated land use strategies included in the Plan could also result in the consumption of agricultural lands or open space lands that permit the harvesting of timberland. Although the Plan includes land use strategies that would focus new growth in the region's urbanized areas (primarily HQTAs), livable corridors, neighborhood mobility areas, existing suburban town centers, and walkable, mixed-use communities), some development has the potential to occur in the very few areas in Ventura County that are currently in use as timberland harvesting lands constituting a less than significant impact to forestry resources, and no mitigation measures are required.

IMPACT AF-4: Potential to result in the loss of forest land or conversion of forest land to non-forest use.

Less than Significant Impact

Implementation of transportation projects and anticipated development resulting from land use strategies included in the 2016 RTP/SCS would result in less than significant impacts in regard to the loss of forest land or conversion of forest land to non-forest use because forestry resources within the SCAG region are concentrated in the four national forests in the SCAG region, which are protected from future development, but there is the potential for minor loss of patches of existing forest land near the wildland-urban interface to occur as a result of anticipated development. The Plan does not include transportation projects that would directly result in a significant loss of forest land. As the 2016 RTP/SCS includes land use strategies that aim to concentrate future anticipated development in the region's urbanized areas, existing suburban town centers, and walkable, mixed-use communities (primarily the HQTAs) and other areas that are not protected from future development, the Plan would not indirectly result in the loss or conversion of forest land to non-forest use. Although the region's forest land is predominantly concentrated in the four national forests in the SCAG region that are protected from future development, there are also small patches of forest land and sensitive woodland communities

⁵⁵ Ventura County Office of Agricultural Commissioner. 5 August 2014. *Ventura County's Crop And Livestock Report 2013*. Available at: <http://vcportal.ventura.org/AgComm/docs/crop-reports/2013CropReport.pdf>

⁵⁶ Los Angeles County Farm Bureau. Accessed 10 July 2015. *2013 Los Angeles County Crop And Livestock Report*. Available at: <http://www.lacfb.org/2013.pdf>

⁵⁷ San Bernardino County. Accessed 10 July 2015. *2013 Crop Report*. Available at: <http://cms.sbcounty.gov/Portals/13/CropReports/2013%20Crop%20and%20Livestock%20Report%20-%20Final.pdf?ver=2014-06-18-133337-353>

⁵⁸ Orange County Agricultural Commissioner. Accessed 10 July 2015. *2014 Orange County Crop Report*. Available at: <http://cms.ocgov.com/documents/2014OrangeCountyCropReport.pdf>

⁵⁹ Riverside County Agricultural Commissioner's Office. Accessed 10 July 2015. *Riverside County Agricultural Production Report 2013*. Available at: <http://www.rivcoag.org/Portals/0/Publications/Crop%20Reports-EntireCounty/2013%20Riverside%20County%20Agricultural%20Production%20Report.pdf>

near the wildland-urban interface within the six-county region that are not protected from future development. Implementation of the transportation projects considered in the 2016 RTP/SCS could result in long-term impacts to forest land by adding transportation infrastructure to parts of the region that currently contain forest land or through development on forest land, which is interspersed in small patches throughout urban areas and are also located in less developed portions of the counties. Where there would be new transportation facilities constructed outside of the region's urbanized areas, undisturbed/vacant land could be utilized for transportation purposes. Additionally, development associated with new urban uses could also be located on forest land, resulting in the conversion of small patches of forest land to non-forest use. Transportation projects that are most likely to result in minor impacts to forest lands include highway expansion, highway widening projects, and potential connectors. Other transportation projects such as roadway improvements, toll road improvements and connections, grade separated facilities for busways, goods movement roadway facilities, high speed rail and commuter rail projects, and high-occupancy vehicle (HOV) / high-occupancy toll (HOT) connectors in areas that are currently forest land could also result in minor impacts. Therefore, the 2016 RTP/SCS would result in less than significant impacts to forestry resources in regard to the loss of forest land or conversion of forest land to non-forest use, and no mitigation measures are required.

IMPACT AF-5: Potential to involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

Significant Impact

Implementation of transportation projects and anticipated development resulting from land use strategies included in the 2016 RTP/SCS would result in significant impacts in regard to the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use, constituting a significant impact requiring the consideration of mitigation measures.

Although the Plan would include land use strategies that focus new anticipated development in the region's urbanized areas, some new development is anticipated to occur in agricultural areas on forest land outside the national forests (where forest land is protected from future development), and/or near the wildland-urban interface. As described under Impact AF-1, the Plan would potentially directly impact up to 0.8 percent of existing Farmland in the SCAG region based on a worst-case scenario construction radius, and could indirectly result in the conversion of additional Farmland to non-agricultural use or conversion of forest land to non-forest use as a result of increased development near the urbanized areas or suburban town centers that result from transit and/or passenger rail projects included in the Plan.

Forestry resources within the SCAG region are concentrated in the four national forests in the SCAG region, which are protected from future development. However, as discussed in the 2016 RTP/SCS, climate change and related drought conditions associated with greenhouse gas emissions and projected population growth would be expected to contribute to the loss of agricultural and forest land. As climate change studies suggest that Southern California will continue to experience more extreme weather scenarios, including longer and hotter heat waves that would increase the threat of wildfire in parts of the SCAG region already prone to wildfires, forested areas in the region are expected to

experience greater threats from wildfires as conditions grow drier and hotter.⁶⁰ Agricultural areas in Southern California are “moderately” vulnerable to climate change (i.e., loss of winter chill hours, increased invasive pests, changes to plant and pest interactions, and increased plant and animal diseases in agriculture have the potential to result in the loss of agricultural land).⁶¹ As described in **Section 3.8, *Greenhouse Gases and Climate Change***, the 2016 RTP/SCS would not result in an increase in GHG emissions compared to existing conditions and would exceed SB 375 GHG emissions reduction targets, but it would not meet the AB 32 target for reducing greenhouse gas emissions, resulting in an indirect impact in regard to the loss of forest land.

Therefore, transportation projects and land use strategies included in the 2016 RTP/SCS could have the potential to cause other changes in the existing environment that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use, constituting a significant impact requiring the consideration of mitigation measures .

3.2.5 CUMULATIVE IMPACTS

IMPACT AF-1: Potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

Significant Cumulative Impact

The 2016 RTP/SCS includes transportation projects and strategies that would have the potential to convert Prime Farmland, Farmland of Statewide Importance, and Unique Farmland in all six counties and affect Local Farmland and Grazing land in five of the six counties because these important farmlands are located in the vicinity (within a worst-case-scenario 500-foot construction radius) of the transportation projects in the Plan, constituting a significant impact when taken into consideration with other infrastructure and development project in the SCAG region and surrounding areas (**Figure 3.2.2-1**). As stated in the Natural & Farmlands Appendix of the 2016 RTP/SCS, the SCAG region lost approximately 19 percent of farmland designated as “important” by the California Department of Conservation from 1984 to 2012.⁶² Transportation projects and land use patterns anticipated in the 2016 RTP/SCS would exacerbate the conversion of Farmland in the region that has occurred over the past three decades.

⁶⁰ Intergovernmental Panel on Climate Change. 2014. *Climate Change 2014 Synthesis Report Summary for Policymakers*. Available at: http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf

⁶¹ California Department of Food and Agriculture. 2013. *Climate Change Consortium for Specialty Crops: Impacts and Strategies for Resilience*. Available at: <https://www.cdfa.ca.gov/environmentalstewardship/pdfs/ccr-report.pdf>

⁶² California Department of Conservation. Accessed 26 October 2015. *Farmland Mapping and Monitoring Program: County Data*. Historic land use conversion data for all six counties in the SCAG region, 1984-present (2012). Available at: http://www.conservation.ca.gov/dlrp/fmmp/Pages/county_info.aspx

IMPACT AF-2: Potential to conflict with existing zoning for agricultural use, or a Williamson Act contract.

Significant Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with other development and infrastructure projects within the SCAG region and surrounding areas, would have the potential to conflict with land managed pursuant to Williamson Act contracts within the SCAG region, constituting a significant cumulative impact. As mentioned in the Natural & Farmlands Appendix of the 2016 RTP/SCS, only about 6.6 percent of farmland in the SCAG region is protected under a Williamson Act contract. The loss of agriculture on protected Williamson Act contract lands as a result of transportation projects included in the 2016 RTP/SCS, the anticipated growth targeted in urbanized areas near Williamson Act contract lands, and potential impacts from related projects would be expected to exacerbate an ongoing loss of protected agricultural lands to development.

IMPACT AF-3: Potential to conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

No Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with other infrastructure and development projects in the SCAG region and nearby areas, would not contribute to cumulative impacts to conflict with existing zoning for forest land, timberland, or timberland zoned, or potential need to rezone timberland resources. The 2016 RTP/SCS would not contribute to cumulative significant impacts in the region in regard to conflicts with existing zoning for, or causing rezoning of, forest land or Timberland Production because forestry resources are concentrated within the four national forests in the SCAG region, which are protected from future development, timber harvesting is conducted only in Ventura County, and Timberland Production Zones have not been established in the SCAG region.

IMPACT AF-4: Potential to result in the loss of forest land or conversion of forest land to non-forest use.

Significant Cumulative Impact

The 2016 RTP/SCS would contribute to cumulative significant impacts when taken into consideration with related transportation projects and anticipated growth and land use development pattern in regard to the loss of forest land or conversion of forest land to non-forest use. The loss of forest land in patches near the wildland-urban interface as a result of transportation projects included in the 2016 RTP/SCS, the anticipated growth targeted in HQTAs near forest lands, and potential impacts from related projects would exacerbate an ongoing loss of existing forest lands to development.

IMPACT AF-5: Potential to involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

Significant Cumulative Impact

The 2016 RTP/SCS would contribute to cumulative significant impacts in regard to other potential changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use, as a result of agricultural land and forest land in the wildland-urban interface being developed (anticipated growth and land use pattern). Additionally, the loss of agricultural and forest land as an indirect result of climate change and related drought conditions associated with greenhouse gas emissions and projected population growth, the anticipated growth targeted in HTQAs near the wildland-urban interface, and potential impacts from related projects would exacerbate an ongoing loss of agricultural lands and forest lands to climate change.

3.2.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to agricultural and forestry resources are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by the Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT AF-1: Potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

SCAG Mitigation Measures

MM AF-1(a)(1): SCAG shall facilitate minimizing future impacts to Important Farmland resources through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online Training materials. Lead Agencies, such as county and city planning departments, shall be consulted during this update process.

MM AF-1(a)(2): SCAG shall work with member agencies and the region's farmland interests, through regional forums such as SCAG's Open Space Conservation Work Group, to develop regional best practices information for buffering farmland from urban encroachment, resolving conflicts that prevent farming on hillsides and other designated areas, and closing loopholes that allow conversion of non-farm uses without a grading permit.

MM AF-1(a)(3): SCAG shall expand on the Natural Resource Inventory Database and Conservation Framework & Assessment by incorporating strategic mapping layers to build the database and further refine the priority conservation areas by (1) further investing in mapping and farmland data tracking and (2) working with County Transportation Commissions (CTCs) to support their county-level efforts at data building. SCAG shall encourage CTCs to develop advanced mitigation programs or include them in future transportation measures by (1) funding pilot programs that encourage advance mitigation including data and replicable processes, (2) participating in state-level efforts that would support regional advanced mitigation planning in the SCAG region, and (3) supporting the inclusion of advance mitigation programs at county level transportation measures. SCAG shall align with funding opportunities and pilot programs to begin implementation of the Conservation Plan through acquisition and restoration through (1) seeking planning funds, such as cap and trade auction proceeds that could help prepare for local action on acquisition and restoration, (2) supporting CTCs and other partners, and (3) continuing support of the State Wildlife Action Plan 2015 Update and its implementation. SCAG shall provide incentives to jurisdictions that cooperate across county lines to protect and restore natural habitat corridors, especially where corridors cross county boundaries, as detailed in the Natural & Farm Lands Appendix strategies of the 2016 RTP/SCS.

Project-Level Mitigation Measures

MM AF-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects from the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses that are within the jurisdiction and responsibility of the Natural Resources Conservation Service, the California Resources Agency, other public agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential to convert substantial amounts of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses, Lead Agency can and should consider mitigation measures to ensure compliance with the Farmland Protection Act and implementing regulations, and the goals and policies established within the applicable adopted county and city general plans to protect agricultural resources consistent with the Farmland Mapping and Monitoring Program of the California Resources Agency. Such measures may include the following, other comparable measures identified by the Lead Agency taking into account project and site-specific considerations as applicable and feasible:

- For projects that require approval or funding by the USDOT, comply with Section 4(f) U.S. Department of Transportation Act of 1966 (USDOT Act).
- Project relocation or corridor realignment to avoid Prime Farmland, Unique Farmland, or Farmland of Local or Statewide Importance.
- Maintain and expand agricultural land protections such as urban growth boundaries.
- Support the acquisition or voluntary dedication of agriculture conservation easements and other programs that preserve agricultural lands, including the creation of farmland mitigation banks. Local governments would be responsible for encouraging the development of agriculture conservation easements or farmland mitigation banks, purchasing conservation agreements or farmland for mitigation, and ensuring that the terms of the conservation easement agreements are upheld.

- Provide for mitigation fees to support a mitigation bank that invests in farmer education, agricultural infrastructure, water supply, marketing, etc. that enhance the commercial viability of retained agricultural lands.
- Include underpasses and overpasses at reasonable intervals to maintain property access.
- Use berms, buffer zones, setbacks, and fencing to reduce conflicts between new development and farming uses and protect the functions of farmland.
- Ensure individual projects are consistent with federal, state, and local policies that preserve agricultural lands and support the economic viability of agricultural activities, as well as policies that provide compensation for property owners if preservation is not feasible.
- Contact the California Department of Conservation and each county's Agricultural Commissioner's office to identify the location of prime farmlands and lands that support crops considered valuable to the local or regional economy and evaluate potential impacts to such lands using the land evaluation and site assessment (LESA) analysis method (CEQA Guidelines §21095), as appropriate. Use conservation easements or the payment of in-lieu fees to offset impacts.

IMPACT AF-2: Potential to conflict with existing zoning for agricultural use, or a Williamson Act contract.

SCAG Mitigation Measures

MM AF-2(a): SCAG shall facilitate minimizing conflicts with existing zoning for agricultural use and Williamson Act contracts through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online training materials. Lead Agencies, such as county and city planning departments, shall be consulted during this update process.

MM-AF-1(a)(2) and MM-AF-1(a)(3).

Project-Level Mitigation Measures

MM AF-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects from conflict with existing zoning for agricultural use or a Williamson Act contract that are within the jurisdiction and responsibility of the California Department of Conservation, other public agencies, and Lead Agencies. Where the Lead Agency has identified that a project has the potential to conflict with existing zoning for agricultural use or convert Williamson Act contract land to non-agricultural uses, Lead Agency can and should consider mitigation measures to mitigate the significant effects of agriculture and forestry resources to ensure compliance with the goals and policies established within the applicable adopted county and city general plans to protect agricultural resources consistent with the California Land Conservation Act of 1965, the Farmland Security Zone Act, and county and city zoning codes, as applicable and feasible. Such measures may include the following, other comparable measures

identified by the Lead Agency taking into account project and site-specific considerations as applicable and feasible:

- Project relocation or corridor realignment to avoid lands in Williamson Act contracts.
- Establish conservation easements consistent with the recommendations of the Department of Conservation, or 20-year Farmland Security Zone contracts (Government Code Section 51296 et seq.), 10-year Williamson Act contracts (Government Code Section 51200 et seq.), or use of other conservation tools available from the California Department of Conservation Division of Land Resource Protection.
- Prior to final approval of each project, encourage enrollments of agricultural lands for counties that have Williamson Act programs, where applicable.

IMPACT AF-5: Potential to involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

SCAG Mitigation Measures

MM-AF-1(a)(1) through MM-AF-1(a)(3).

MM-GHG-1(a)(1) through MM-GHG-1(a)(11).

Project-Level Mitigation Measures

MM-AF-1(b) and MM-GHG-1(b).

3.2.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT AF-1: Potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

The loss and disturbance of agricultural lands would be significant. Implementation of Mitigation Measures MM-AF-1(a)(1), MM-AF-1(a)(2), MM-AF-1(a)(3), and MM-AF-1(b) would reduce impacts related to disturbance and/or loss of prime farmlands and/or grazing lands; however, direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT AF-2: Potential to conflict with existing zoning for agricultural use, or a Williamson Act contract.

Conflicts with existing zoning for agricultural use or a Williamson Act contract would be significant. Implementation of Mitigation Measures MM-AF-2(a), MM-AF-1(a)(2), MM-AF-1(a)(3), and MM-AF-2(b)

would reduce these impacts; however, direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT AF-5: Potential to involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

The conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use as a result of other changes in the environment would be significant. Implementation of Mitigation Measures MM-AF-1(a) through MM-AF-1(a)(3), MM-AF-1(b), MM-GHG-1(a)(1) through MM-GHG-1(a)(11), and MM-GHG-1(b) would reduce these impacts; however, direct, indirect, and cumulative impacts would remain significant and unavoidable.

3.3 AIR QUALITY

This section of the Program Environmental Impact Report (PEIR) describes the air quality in the SCAG region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategies (“2016 RTP/SCS,” “Project,” or “Plan”) on air quality, identifies mitigation measures for the impacts, and evaluates the residual impacts. Air quality was evaluated in accordance with Appendix G of the 2015 State California Environmental Quality Act (CEQA) Guidelines. Air quality within the SCAG region was evaluated at a programmatic level of detail, in relation to Air Quality Management Plans for the five air quality districts and the general plans of the six counties and 191 cities within the SCAG region; a review of published and unpublished literature germane to the SCAG region, as well as a review of SCAG’s 2012 RTP/SCS PEIR.¹ This analysis focuses on air pollution from on-road motor vehicles in two perspectives: daily emissions and pollutant concentrations. The analysis is based upon air quality modeling, performed by SCAG, using EMFAC2014. Air quality modeling that produces criteria pollutant emissions for the SCAG region and by county is based on SCAG’s transportation modeling and network built for the existing conditions and the Plan.

Air quality in the four air basins in the SCAG region—South Coast Air Basin (SCAB), Mojave Desert Air Basin (MDAB), Salton Sea Air Basin (SSAB), and South Central Coast Air Basin (SCCAB) (Ventura County portion)—is a function of the topography, climate, population, and land use. While improved from the 1970s, Southern California has some of the worst air quality in the nation. The American Lung Association’s *State of the Air Report*, released in 2015, ranks the Los Angeles-Long Beach metropolitan area as fifth worst in the nation for people at risk for 24-hour PM_{2.5}, fifth worst for annual PM_{2.5}, and worst for most ozone-polluted cities.² Air quality is discussed in greater detail in **Appendix C, *Air Quality and Greenhouse Gas and Climate Change Technical Report***.

Both ozone and particulate matter are known to have negative public health impacts especially for sensitive populations, like children, the elderly, and those with respiratory or cardiovascular health problems. Therefore, the potential for the 2016 RTP/SCS to adversely affect public health was evaluated using cancer risk from diesel particulate matter as a corollary for respiratory health. The analysis of cancer risk was evaluated using the Hot Spots Analysis and Reporting Program (HARP) (version 2) or HARP2 model, consistent with the guidance provided by the California Office of Environmental Health Hazard Assessment (OEHHA) for Human Health Risk Assessment (**Appendix D, *Health Risk Assessment [HRA]***).³ Similarly, the analysis acknowledges applicable California legislation and initiatives to improve public health, particularly respiratory health in light of *Research Results on Land Use, Transportation, and Community Design*.⁴

¹ Southern California Association of Governments. April 2012. Final Program Environmental Report: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy. Available at: <http://rtpscsc.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

² American Lung Association. 2015. *State of the Air 2015*. Available at: http://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf

³ Office of Environmental Health Hazard Assessment. Accessed 19 October 2015. *Air Toxicology and Epidemiology*. Available at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html

⁴ Active Living Research. Accessed 7 September 2015. *Research Results on Land Use, Transportation, and Community Design*. Available at: <http://activelivingresearch.org/land-use-transportation-and-community-design-research-summary-slides>

- Residents in walkable neighborhoods are more likely to meet physical activity guidelines.
- Public transit users are more likely to meet Surgeon General recommendations for physical activity. Greater health benefits can be achieved by increasing the amount (duration, frequency, or intensity) of physical activity.

Consistent with the environmental justice analysis in the 2016 RTP/SCS, this PEIR considers the potential benefits and impacts on sensitive receptors and low-income and minority populations located in the vicinity of transportation facilities (e.g., the potential to increase or decrease diesel particulate emissions).

Definitions

Concentrations: The amount of pollutant material per volumetric unit of air, measured in parts per million (ppm) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The following discussion identifies the pollutants included in this analysis.

Criteria Pollutants: Health-based air quality standards have been established by California and the federal government for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter 2.5 microns or less in diameter ($\text{PM}_{2.5}$), particulate matter 10 microns or less in diameter (PM_{10}), and lead (Pb). California also includes standards for hydrogen sulfide, vinyl chloride, sulfates, and visibility.

The following describes the criteria pollutants and summarizes the health effects of each criteria pollutant:⁵

Carbon Monoxide (CO): CO is a colorless, odorless, relatively inert gas. It is a trace constituent in the unpolluted troposphere, and is produced by both natural processes and human activities. In remote areas far from human habitation, carbon monoxide occurs in the atmosphere at an average background concentration of 0.04 ppm, primarily as a result of natural processes such as forest fires and the oxidation of methane. Global atmospheric mixing of CO from urban and industrial sources creates higher background concentrations (up to 0.20 ppm) near urban areas. The major source of CO in urban areas is incomplete combustion of carbon containing fuels, mainly gasoline. CO concentrations are generally highest in the vicinity of major concentrations of vehicular traffic.

CO is a primary pollutant, meaning that it is directly emitted into the air, not formed in the atmosphere by chemical reaction of precursors, as is the case with ozone and other secondary pollutants. Ambient concentrations of CO exhibit large spatial and temporal variations due to variations in the rate at which CO is emitted and in the meteorological conditions that govern transport and dilution. Unlike ozone, CO tends to reach high concentrations in the fall and winter months. The highest concentrations frequently occur on weekdays at times consistent with rush hour traffic and late night during the coolest, most stable portion of the day.

⁵ South Coast Air Quality Management District. February 2013. *Final Environmental Impact Report for the 2012 Air Quality Management Plan*. Available at: [http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2012-air-quality-management-plan/final-2012-aqmp-\(february-2013\)/final-ceqa-eir/2012-program-environmental-impact-report-ch-3-2.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2012-air-quality-management-plan/final-2012-aqmp-(february-2013)/final-ceqa-eir/2012-program-environmental-impact-report-ch-3-2.pdf?sfvrsn=2)

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart.

Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

Reductions in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO, resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels. These include preterm births and heart abnormalities.

Lead (Pb): Lead in the atmosphere is present as a mixture of a number of lead compounds. Leaded gasoline and lead smelters have been the main sources of lead emitted into the air. Due to the phasing out of leaded gasoline, there was a dramatic reduction in atmospheric lead in Southern California over the past three decades.

Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

Lead poisoning can cause anemia, lethargy, seizures, and death. It appears that there are no direct effects of lead on the respiratory system. Lead can be stored in the bone from early age environmental exposure, and elevated blood lead levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland), and osteoporosis (breakdown of bone tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of previous environmental lead exposure of their mothers.

Nitrogen Dioxide and Nitric Oxide (NO_x): NO₂ is a reddish-brown gas with a bleach-like odor. Nitric oxide (NO) is a colorless gas, formed from the nitrogen and oxygen in air under conditions of high temperature and pressure which are generally present during combustion of fuels; NO reacts rapidly with the oxygen in air to form NO₂. NO₂ is responsible for the brownish tinge of polluted air. The two gases, NO and NO₂, are referred to collectively as NO_x. In the presence of sunlight, NO₂ reacts to form nitric oxide and an oxygen atom. The oxygen atom can react further to form ozone, via a complex series of chemical reactions involving hydrocarbons. Nitrogen dioxide may also react to form nitric acid (HNO₃), which reacts further to form nitrates, components of PM_{2.5} and PM₁₀.

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO₂ at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO₂ in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma and/or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals,

indicating a greater susceptibility of these subgroups. More recent studies have found associations between NO₂ exposures and cardiopulmonary mortality, decreased lung function, respiratory symptoms, and emergency room asthma visits.

In animals, exposure to levels of NO₂ considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO₂.

Ozone (O₃): Ozone, a colorless gas with a sharp odor, is a highly reactive form of oxygen. High ozone concentrations exist naturally in the stratosphere. Some mixing of stratospheric ozone downward through the troposphere to the earth's surface does occur; however, the extent of ozone transport is limited. At the earth's surface in sites remote from urban areas, ozone concentrations are normally very low (e.g., from 0.03 ppm to 0.05 ppm).

While ozone is beneficial in the stratosphere because it filters out skin-cancer-causing ultraviolet radiation, it is a highly reactive oxidant. It is this reactivity that accounts for its damaging effects on materials, plants, and human health at the earth's surface.

The propensity of ozone for reacting with organic materials causes it to be damaging to living cells. Ozone enters the human body primarily through the respiratory tract and causes respiratory irritation and discomfort, makes breathing more difficult during exercise, and reduces the respiratory system's ability to remove inhaled particles and fight infection.

Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible subgroups for ozone effects. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high-ozone communities. Elevated ozone levels are also associated with increased school absences.

Ozone exposure under exercising conditions is known to increase the severity of the abovementioned observed responses. Animal studies suggest that exposures to a combination of pollutants that includes ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

Particulate Matter: Of great concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. Respirable particles (particulate matter less than about 10 micrometers in diameter [PM₁₀]) consists of suspended particles or droplets 10 micrometers or smaller in diameter. Some sources of PM₁₀, like pollen and windstorms, are naturally occurring. However, in populated areas, most PM₁₀ is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities. Sources of fine particulate matter (particulate matter less than about 2.5 micrometers in diameter [PM_{2.5}]) include fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel-powered vehicles such as buses and trucks. These fine particles

are also formed in the atmosphere when gases such as sulfur dioxide, NO_x , and ROG are transformed in the air by chemical reactions.

$\text{PM}_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $\text{PM}_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of PM_{10} and $\text{PM}_{2.5}$.

A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $\text{PM}_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks, and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. Studies have reported an association between long-term exposure to air pollution dominated by fine particles ($\text{PM}_{2.5}$) and increased mortality, reduction in lifespan, and an increased mortality from lung cancer.

Daily fluctuations in fine particulate matter concentration levels have also been related to hospital admissions for acute respiratory conditions, to school and kindergarten absences, to a decrease in respiratory function in normal children and to increased medication use in children and adults with asthma. Studies have also shown lung function growth in children is reduced with long-term exposure to particulate matter. In addition to children, the elderly, and people with preexisting respiratory and/or cardiovascular disease appear to be more susceptible to the effects of PM_{10} and $\text{PM}_{2.5}$.

Sulfates: Sulfates (SO_x) are chemical compounds which contain the sulfate ion and are part of the mixture of solid materials which make up PM_{10} . Most of the sulfates in the atmosphere are produced by oxidation of SO_2 . Oxidation of sulfur dioxide yields sulfur trioxide (SO_3) which reacts with water to form sulfuric acid, which contributes to acid deposition. The reaction of sulfuric acid with basic substances such as ammonia yields sulfates, a component of PM_{10} and $\text{PM}_{2.5}$.

Most of the health effects associated with fine particles and SO_2 at ambient levels are also associated with SO_x . Thus, both mortality and morbidity effects have been observed with an increase in ambient SO_x concentrations. However, efforts to separate the effects of SO_x from the effects of other pollutants have generally not been successful.

Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure. Animal studies suggest that acidic particles such as sulfuric acid aerosol and ammonium bisulfate are more toxic than nonacidic particles like ammonium sulfate. Whether the effects are attributable to acidity or to particles remains unresolved.

A key criteria pollutant, SO_2 (sulfur dioxide), is a type of sulfate. SO_2 is a colorless gas with a sharp odor. It reacts in the air to form sulfuric acid (H_2SO_4), which contributes to acid precipitation, and sulfates, which are components of PM_{10} and $\text{PM}_{2.5}$. Most of the SO_2 emitted into the atmosphere is produced by burning sulfur containing fuels.

Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics. All asthmatics are sensitive to the effects of SO_2 . In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, is observed after acute higher

exposure to SO₂. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO₂.

Animal studies suggest that despite SO₂ being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO₂ levels. In these studies, efforts to separate the effects of SO₂ from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

Vinyl Chloride: Vinyl chloride is a colorless, flammable gas at ambient temperature and pressure. It is also highly toxic and is classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as A1 (confirmed carcinogen in humans) and by the International Agency for Research on Cancer (IARC) as 1 (known to be a human carcinogen). At room temperature, vinyl chloride is a gas with a sickly sweet odor that is easily condensed. However, it is stored as a liquid. Due to the hazardous nature of vinyl chloride to human health there are no end products that use vinyl chloride in its monomer form. Vinyl chloride is a chemical intermediate, not a final product. It is an important industrial chemical chiefly used to produce polymer polyvinyl chloride (PVC). The process involves vinyl chloride liquid fed to polymerization reactors where it is converted from a monomer to a polymer PVC. The final product of the polymerization process is PVC in either a flake or pellet form. Billions of pounds of PVC are sold on the global market each year. From its flake or pellet form, PVC is sold to companies that heat and mold the PVC into end products such as PVC pipe and bottles.

Visibility: With the exception of Lake County, which is designated in attainment, all of the air districts in California are currently designated as unclassified with respect to the California Ambient Air Quality Standards (CAAQS) for visibility reducing particles. (A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.)

Since deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality, the state of California has adopted a standard for visibility or visual range. Until 1989, the standard was based on visibility estimates made by human observers. The standard was changed to require measurement of visual range using instruments that measure light scattering and absorption by suspended particles. The visibility standard is based on the distance that atmospheric conditions allow a person to see at a given time and location. Visibility reduction from air pollution is often due to the presence of sulfur and nitrogen oxides, as well as particulate matter. Visibility degradation occurs when visibility reducing particles are produced in sufficient amounts such that the extinction coefficient is greater than 0.23 inverse kilometers (to reduce the visual range to less than 10 miles) at relative humidity less than 70 percent, 8-hour average (from 10:00 a.m. to 6:00 p.m.) according to the state standard.

Volatile organic compounds (VOCs): Reactive organic gases (ROGs) are referred to as reactive organic compounds (ROCs) or volatile organic compounds (VOCs). ROGs are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary air pollutants, including ozone. ROGs themselves are not criteria pollutants; however, they contribute to formation of ozone. It should be noted that there are no

state or national ambient air quality standards for VOCs because they are not classified as criteria pollutants. VOCs are regulated, however, because limiting VOC emissions reduces the rate of photochemical reactions that contribute to the formation of ozone. VOCs are also transformed into organic aerosols in the atmosphere, contributing to higher PM₁₀ and lower visibility levels.

Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOCs because of interference with oxygen uptake. In general, ambient VOC concentrations in the atmosphere are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis, even at low concentrations. Some hydrocarbon components classified as VOC emissions are thought or known to be hazardous. Benzene, for example, one hydrocarbon component of VOC emissions, is known to be a human carcinogen.

Emissions: The quantity of pollutants released into the air, measured in pounds per day (ppd) or tons per day (tpd).

Toxic Air Contaminants (TACs): TACs, also referred to as hazardous air pollutants (HAPs), are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. TACs are also defined as an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Other factors, such as the amount of the chemical, its toxicity, how it is released into the air, the weather, and the terrain, all influence whether the emission could be hazardous to human health. Toxic air contaminants can result from manufacturing industries, automobile repair facilities, and diesel particulate emissions associated with heavy-duty equipment operations. TACs are emitted by a variety of industrial processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust and may exist as PM₁₀ and PM_{2.5} or as vapors (gases). TACs include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources.

TACs increase the likelihood of health problems and can cause ecological impacts. The resultant health effects depend on the pollutant, exposure level, site conditions, and characteristics of the populations affected. Human exposure to these pollutants at sufficient concentrations and durations can result in cancer, poisoning, and rapid onset of sickness, such as nausea or difficulty in breathing. Other less measurable effects include immunological, neurological, reproductive, developmental, and respiratory problems. Pollutants deposited onto soil or into lakes and streams affect ecological systems and eventually human health through consumption of contaminated food. The carcinogenic potential of TACs is a particular public health concern because many scientists currently believe that there is no "safe" level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of contracting cancer.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule in 2007 on the Control of Hazardous Air Pollutants from Mobile Sources,⁶ and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://www.epa.gov/iris/>). In addition, EPA identified seven

⁶ *Federal Register*. 26 February 2007. 72(37): 8430.

compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (<http://www.epa.gov/ttn/atw/nata1999/>). These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While the Federal Highway Administration (FHWA) considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules. The 2007 EPA rule mentioned above requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines.⁷

Air Dispersion: Air dispersion is defined as how air pollutants travel through ambient air. Toxic Air Contaminants/Mobile Source Air Toxics (TACs/MSATs) impact those located closest to the emission sources more than those located further away. A California law passed in 2003 (Public Resources Code Section 21151.8) prohibits the siting of a school within 500 feet of a freeway unless “the school district determines, through analysis based on appropriate air dispersion modeling, that the air quality at the proposed site is such that neither short-term nor long-term exposure poses significant health risks to pupils.” The U.S. EPA has issued a number of regulations that will dramatically decrease MSATs through cleaner fuels and cleaner engines.

Diesel Particulate Matter (diesel PM): According to the California Air Resources Board (CARB), most toxic air emissions are from motor vehicles and the particulate matter from the exhaust of diesel-fueled engines.⁸ In 1998, the OEHHA completed a comprehensive health assessment of diesel exhaust. This assessment formed the basis for a decision by the CARB to formally identify particles in diesel exhaust as a TAC that may pose a threat to human health.⁹

Diesel particulate matter is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is commonly found throughout the environment and is estimated by EPA’s National Scale Assessment to contribute to the human health risk in New England. Diesel exhaust is composed of two phases, either gas or particle, and both phases contribute to the risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, and polycyclic aromatic hydrocarbons. The particle phase also has many different types of particles that can be classified by size or composition. The size of diesel particulates that are of greatest health concern are those that are in the categories of fine, and ultra-fine particles. The composition of these fine and ultrafine particles may be composed of elemental carbon with absorbed compounds such as organic compounds, sulfate, nitrate, metals, and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines: the on-road diesel engines of trucks, buses, and cars and the off-road diesel engines that include locomotives, marine vessels, and heavy-duty equipment.¹⁰ People living and working in urban and industrial areas are more likely to be exposed to this pollutant. Those spending time on or near roads and freeways, truck loading and unloading operations, operating diesel-powered

⁷ Federal Highway Administration. 6 December 2012. *Memorandum. Information: Interim Guidance on Mobile Source Air Toxic Analysis in NEPA*. Available at: http://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/airtoxguidmem.cfm

⁸ California Air Resources Board. Accessed 8 September 2015. *Reducing Toxic Air Pollutants in California’s Communities*. Available at: <http://www.arb.ca.gov/toxics/brochure.pdf>

⁹ Office of Environmental Health Hazard Assessment. Accessed 8 September 2015. *Health Effects of Diesel Exhaust*. Available at: http://oehha.ca.gov/public_info/facts/dieselfacts.html

¹⁰ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

machinery, or working near diesel equipment face exposure to higher levels of diesel exhaust and face higher health risks.¹¹

The most common exposure pathway is breathing the air that contains the diesel particulate matter. The fine and ultrafine particles are respirable, which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lung. In the National Scale Assessment, there are several steps used to characterize public health risks. For diesel particulate matter, not all of the steps could be completed but a qualitative assessment was provided that provided modeling estimates of population exposures. The estimated population exposure concentrations for diesel particulate matter were the highest exposure concentrations in all of the New England states. EPA has medium confidence in the overall NATA estimate for diesel particulate exposure based on the emissions and exposure modeling. Exposure to diesel particulate matter comes from both on road and off road engine exhaust that is either directly emitted from the engines or aged through lingering in the atmosphere.¹²

Diesel exhaust causes health effects from both short-term or acute exposures and also long-term chronic exposures, such as repeated occupational exposures. The type and severity of health effects depends upon several factors including the amount of chemical you are exposed to and the length of time you are exposed. Individuals also react differently to different levels of exposure. There is limited information on exposure to just diesel particulate matter but there is enough evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects.¹³

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat, and lungs and some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic exposure in experimental animal inhalation studies have shown a range of dose-dependent lung inflammation and cellular changes in the lung, and there are also diesel exhaust immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.¹⁴ The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. Numerous studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks and premature deaths among those suffering from respiratory problems. Because children's lungs and respiratory systems are still developing, they are also more susceptible than healthy adults to fine particles. Exposure to fine particles is associated with increased frequency of childhood illnesses and can also reduce lung function in children. For the average Californian, 70 percent of cancer risk from breathing toxic air pollutants stem from diesel exhaust particles.¹⁵

¹¹ Office of Environmental Health Hazard Assessment. Accessed 8 September 2015. *Health Effects of Diesel Exhaust*. Available at: http://oehha.ca.gov/public_info/facts/dieselfacts.html

¹² U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

¹³ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

¹⁴ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

¹⁵ Office of Environmental Health Hazard Assessment. Accessed 8 September 2015. *Health Effects of Diesel Exhaust*. Available at: http://oehha.ca.gov/public_info/facts/dieselfacts.html

EPA's National Scale Assessment uses several types of health hazard information to provide a quantitative "threshold of concern" or a health benchmark concentration at which it is expected that no adverse health effects occur at exposures to that level. Health effects information on carcinogenic, short- and long term non-carcinogenic end points are used to establish selective protective health levels to compare to the modeled exposures levels. Unfortunately the exposure response data in human studies are considered too uncertain to develop a carcinogenic unit risk for EPA's use. There is a Reference Concentration (RFC) that is used as a health benchmark protective of chronic noncarcinogenic health effects, but it is for diesel exhaust and not specifically set for diesel particulate matter, which is what was modeled in NATA. The RFC for diesel exhaust, which includes diesel particulate matter is 5 $\mu\text{g}/\text{m}^3$. This value is similar to the National Ambient Air Quality Standard established for fine particulate matter, which is 15 $\mu\text{g}/\text{m}^3$.¹⁶

3.3.1 REGULATORY FRAMEWORK

Federal

Federal Clean Air Act

Congress passed the first major Clean Air Act (CAA) in 1970 (42 U.S. Code [USC] Sections 7401 et seq.). This Act gives the EPA broad responsibility for regulating motor vehicle emissions from many sources of air pollution from mobile to stationary sources. Pursuant to the CAA, the EPA is authorized to regulate air emissions from mobile sources like heavy-duty trucks, agricultural and construction equipment, locomotives, lawn and garden equipment, and marine engines; and stationary sources such as power plants, industrial plants, and other facilities. The CAA sets National Ambient Air Quality Standards (NAAQS) for the six most common air pollutants to protect public health and public welfare. These pollutants include particulate matter, ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. For each pollutant, the EPA designates an area as attainment for meeting the standard or nonattainment for not meeting the standard. A maintenance designation entails an area that was previously designated as nonattainment but is currently designated as attainment. The CAA directs states to develop state implementation plans (SIPs), applicable to appropriate industrial sources in the state, in order to achieve these standards.

CAA Section 112(f) and 112(d): National Emission Standards for Hazardous Air Pollutants (NESHAPs)

Section 112 of the CAA addresses emissions of hazardous air pollutants. Prior to 1990, CAA established a risk-based program under which only a few standards were developed. The 1990 CAAA revised Section 112 to first require issuance of technology-based standards for major sources and certain area sources. "Major sources" are defined as a stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year or more of a hazardous air pollutant or 25 tons per year or

¹⁶ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

more of a combination of hazardous air pollutants. An “area source” is any stationary source that is not a major source.¹⁷

For major sources, Section 112 requires that EPA establish emission standards that require the maximum degree of reduction in emissions of hazardous air pollutants. These emission standards are commonly referred to as “maximum achievable control technology” or MACT standards. Eight years after the technology-based MACT standards are issued for a source category, EPA is required to review those standards to determine whether any residual risk exists for that source category and, if necessary, revise the standards to address such risk.¹⁸

The Risk and Technology Review (RTR) is a combined effort to evaluate both risk and technology as required by the CAA after the application of MACT standards. Section 112(f) of the CAA requires EPA to complete a report to Congress that includes a discussion of methods the EPA would use to evaluate the risks remaining after the application of MACT standards. These are known as residual risks. EPA published the Residual Risk Report to Congress (PDF) in March 1999. Section 112(f)(2) directs EPA to conduct risk assessments on each source category subject to MACT standards, and to determine if additional standards are needed to reduce residual risks. Section 112(d)(6) of the CAA requires EPA to review and revise the MACT standards, as necessary, taking into account developments in practices, processes and control technologies.¹⁹

National Ambient Air Quality Standards (NAAQS)

The federal CAA required the U.S EPA to establish NAAQS. The NAAQS set primary standards and secondary standards for specific air pollutants (Table 3.3.1-1, ***National Ambient Air Quality Standards***). Primary standards define limits for the intention of protecting public health, which include sensitive populations such as asthmatics, children, and the elderly. Secondary Standards define limits to protect public welfare to include protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

¹⁷ U.S. Environmental Protection Agency. 13 March 2015. *Summary of the Clean Air Act*. Available at: <http://www2.epa.gov/laws-regulations/summary-clean-air-act>

¹⁸ U.S. Environmental Protection Agency. 13 March 2015. *Summary of the Clean Air Act*. Available at: <http://www2.epa.gov/laws-regulations/summary-clean-air-act>

¹⁹ U.S. Environmental Protection Agency. Accessed 18 August 2015. *Risk and Technology Review*. Available at: <http://www.epa.gov/ttn/atw/rrisk/rtrpg.html>

**TABLE 3.3.1-1
NATIONAL AMBIENT AIR QUALITY STANDARDS**

Pollutant		Primary/Secondary	Averaging Time	Level
Carbon monoxide		Primary	8 hours	9 ppm
			1 hour	35 ppm
Lead		Primary and secondary	Rolling 3-month average	0.15 µg/m ³
Nitrogen dioxide		Primary	1 hour	100 ppb
		Primary and secondary	Annual	53 ppb
Ozone		Primary and secondary	8 hours	0.075 ppm
Particulate matter	PM _{2.5}	Primary	Annual	12 µg/m ³
		Secondary	Annual	15 µg/m ³
		Primary and secondary	24 hours	35 µg/m ³
	PM ₁₀	Primary and secondary	24 hours	150 µg/m ³
Sulfur dioxide		Primary	1 hour	75 ppb
		Secondary	3 hours	0.5 ppm

SOURCE:

California Air Resources Board. 4 June 2013. *Ambient air quality standards*. Available at: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>

State Implementation Plan (SIP)/ Air Quality Management Plans (AQMPs)

A SIP is required by the EPA to ensure compliance with the NAAQS. States must develop a general plan to maintain air quality in areas of attainment and a specific plan to improve air quality for areas of nonattainment. SIPs are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. The SIP verifies that the state has a proper air quality management program that adheres to or strives to reach the most up to date emissions requirements. The 1990 amendments to the federal CAA set deadlines for attainment based on the severity of an area’s air pollution problem. In adherence to CAA Section 172, states must adopt additional regulatory programs for nonattainment areas. Particularly in California, the SIP not only complies with NAAQS, but also the more stringent CAAQS.

AQMPs are required to ensure compliance with the state and federal requirements. AQMPs contain scientific information and use analytical tools to demonstrate a pathway towards achieving attainment for the criteria air pollutants. Within the SCAG region, five air districts—SCAQMD, Mojave Desert Air Quality Management District (MDAQMD), Imperial County Air Pollution Control District (ICAPCD), Antelope Valley Air Quality Management District (AVAQMD), and the Ventura County Air Pollution Control District (VCAPCD)—are responsible for developing the AQMPs.²⁰ The approval process begins when the regional air districts submit their AQMPs to the CARB. CARB is the lead agency and responsible agency for submitting the SIP to the EPA. CARB forwards SIP revisions to the EPA for

²⁰ Southern California Association of Governments. Accessed 7 April 2015. *Air Quality Management Plans*. Available at: <http://www.scag.ca.gov/programs/Pages/ManagementPlans.aspx>

approval and publication in the *Federal Register*. The Code of Federal Regulations Title 40, Chapter I, Part 52, Subpart F, Section 52.220, lists all of the items included in the California SIP.

Transportation Conformity

Transportation conformity is required under federal CAA Section 176(c) to ensure that federally supported highway and transit project activities are consistent with (“conform to”) the purpose and requirements of the SIP. Conformity currently applies to areas that are designated nonattainment, and those redesignated to attainment after 1990 (“maintenance areas” with plans developed under CAA Section 175A) for the following transportation-related criteria pollutants: ozone, particulate matter (PM_{2.5} and PM₁₀), CO, and NO₂. Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS. The transportation conformity regulation is found in 40 CFR Part 93. Conformity requires reporting on the timely implementation of Transportation Control Measures (TCMs) in ozone nonattainment areas designated as serious or worse, thus reinforcing the link between AQMP/SIPs and the transportation planning process. TCMs are expected to be given funding priority and to be implemented on schedule, and in the case of any delays, any obstacles to implementation have been or are being overcome. In the SCAG region, there are two areas for which the ozone SIPs contain TCMs: SCAB and the Ventura County portion of SCCAB. (It is noted that the Ventura County SIP does not claim emission reduction credits from TCM projects. They have been included to assist transportation and air quality agencies to identify projects that have the potential of reducing vehicle emissions, vehicle trips, and vehicle miles traveled.)

Federal CAA Rules

The mobile and stationary sources of emissions are subject to different rules and regulations. For the mobile sources, the rules apply to cars, trucks, buses, recreational vehicles, engines, generators, farm and construction machines, lawn and garden equipment, marine engines, and locomotives. In addition, the compositions of fuels used to operate mobile sources are regulated to help reduce harmful emissions. For stationary resources including factories and chemical plants, pollution control equipment are installed to meet specific emission limits set under the CAA. The New Source Review (NSR) and Prevention of Significant Deterioration (PSD) require large industrial operators such as coal-fired power, acid, glass, and cement plants and petroleum refineries to make modifications to existing facilities or install new controls resulted in emissions of pollutants on new facilities to reduce degradation and harm against public health. EPA works with its federal partners through CAA to ensure compliance with rules through active monitoring and to make sure that the regulated community obeys environmental laws/regulations through on-site inspections and record reviews that lead to enforcement in order to meet environmental regulatory requirements.

Mobile Source Air Toxics (MSAT) Modeling and Programs

MOVES2014. In 2010, the EPA released the emission model, the Motor Vehicle Emissions Simulator (MOVES). On February 8, 2011, EPA issued guidance on “Using the MOVES and Emission Factors (EMFAC) Models in NEPA Evaluation” that recommended a two-year grace period be applied to project-level emissions analysis for NEPA purposes. At the end of this grace period, that is, beginning December 20, 2012, Lead Agencies should use MOVES to conduct emissions analysis for NEPA purposes. To prepare for this transition, FHWA is updating the September 2009 Interim Guidance to incorporate the

analysis conducted using MOVES. Based on FHWA's analysis using MOVES2010 diesel particulate matter (diesel PM) has become the dominant MSAT of concern. MOVES2014, the latest version of MOVES, was released in October 2014, and incorporates the Tier 3 Rule and other EPA rulemakings since the last MOVES release.

The U.S. EPA has adopted several mobile source emission control programs such as:²¹

Control of Hazardous Air Pollutants from Mobile Sources. In February 2007, EPA finalized this rule to reduce hazardous air pollutants from mobile sources. The rule limits the benzene content of gasoline and reduces toxic emissions from passenger vehicles and gas cans. EPA estimates that in 2030 this rule would reduce total emissions of mobile source air toxics by 330,000 tons and VOC emissions (precursors to ozone and PM_{2.5}) by over 1 million tons.

Heavy-Duty Onboard Diagnostic Rule (74 FR 8310). In February 2009, the EPA published a final rule, requiring that these advanced emissions control systems be monitored for malfunctions via an onboard diagnostic system (OBD), similar to those systems that have been required on passenger cars since the mid-1990s. This final rule will require manufacturers to install OBD systems that monitor the functioning of emission control components and alert the vehicle operator to any detected need for emission related repair.

Small SI and Marine SI Engine Rule (73 FR 25098). Published October 2008, these exhaust emission standards applied starting in 2010 for new marine spark-ignition (SI) engines, including first-time EPA standards for sterndrive and inboard engines. The exhaust emission standards applied starting in 2011 and 2012 for different sizes of new land based, spark-ignition engines at or below 19 kilowatts (kW). These small engines are used primarily in lawn and garden applications. Estimated annual nationwide reductions are anticipated to be 604,000 tons of volatile organic hydrocarbon emissions, 132,200 tons of NO_x emissions, and 5,500 tons of directly emitted particulate matter (PM_{2.5}) emissions.

Locomotive and Commercial Marine Rule (66 FR 5002). Published May 2008, the controls apply to all types of locomotives, including line-haul, switch, and passenger, and all types of marine diesel engines below 30 liters per cylinder displacement, including commercial and recreational, propulsion and auxiliary. The near-term program, which started in 2009, includes new emission limits for existing locomotives and marine diesel engines that apply when they are remanufactured, and take effect as soon as certified remanufacture systems are available. The long-term emissions standards for newly-built locomotives and marine diesel engines are based on the application of high-efficiency catalytic after-treatment technology. These standards take effect in 2015 for locomotives and in 2014 for marine diesel engines.

Clean Air Nonroad Diesel Rule (65 FR 6698). Published June 2004, this comprehensive national program regulates nonroad diesel engines and diesel fuel as a system. New engine standards took effect in the 2008 model year, phasing in over a number of years. These standards are based on the use of advanced exhaust emission control devices.

Heavy-duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements (66 FR 5002). Published January 2001, the EPA established a comprehensive national control program to

²¹ U.S. Environmental Protection Agency. 26 June 2014. *Mobile Source Air Toxics*. Available at: <http://www.epa.gov/otaq/toxics.htm>

regulate the heavy-duty vehicle and its fuel as a single system. As part of this program, new emission standards took effect in model year 2007, and apply to heavy-duty highway engines and vehicles. These standards are based on the use of high-efficiency catalytic exhaust emission control devices or comparably effective advanced technologies.

New Source Performance Standards (NSPS) for Stationary Engines. Nonroad diesel engines are used in excavators and other construction equipment, farm tractors and other agricultural equipment, heavy forklifts, airport ground service equipment, and utility equipment such as generators, pumps, and compressors.²² The first set of emission regulations, known as Tier 1, was published in 1996. With each successive tier of regulations, the permitted levels of nitrogen oxides and particulate matter, the two main pollutants from diesel engines, have gone down significantly. Tier 4 is a more than 95 percent reduction in tailpipe emission levels compared with nonregulated amounts. Tier 4 final requirements, which require manufactures to produce new engines with advanced emission control technologies, will be phased-in for all engines by 2017.²³

State

California Clean Air Act of 1988

The California CAA of 1988 (Chapter 1568, Statutes of 1988) requires all air pollution control districts in the state to aim to achieve and maintain state ambient air quality standards for ozone, carbon monoxide, and nitrogen dioxide by the earliest practicable date and to develop plans and regulations specifying how the districts will meet this goal. There are no planning requirements for the state PM₁₀ standard. The CARB, which became part of the California Environmental Protection Agency (Cal/EPA) in 1991, is responsible for meeting state requirements of the federal CAA, administrating the California CAA, and establishing the CAAQS. The California CAA, amended in 1992, requires all AQMDs in the state to achieve and maintain the CAAQS. The CAAQS are generally stricter than national standards for the same pollutants, but there is no penalty for nonattainment. California has also established state standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles, for which there are no national standards.

California Ambient Air Quality Standards

The federal CAA permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants, such as particulate matter and ozone, which are more protective of public health than respective federal standards (**Table 3.3.1-2, California Ambient Air Quality Standards**). California has also set standards for some pollutants that are not addressed by federal standards.

²² U.S. Environmental Protection Agency. 11 August 2014. *Nonroad Diesel Engines*. Available at: <http://www.epa.gov/otaq/nonroad-diesel.htm>

²³ Natekar, Aniruddha, and Matthew Menzel. Accessed 8 September 2015. *The Impact of Tier 4 Emission Regulations on the Power Generation Industry*. Available at: <https://www.cumminspower.com/www/literature/technicalpapers/PT-9010-Tier4EmissionRegImpact.pdf>

**TABLE 3.3.1-2
CALIFORNIA AMBIENT AIR QUALITY STANDARDS**

Pollutant		Averaging Time	Level
Carbon monoxide		8 hours	9 ppm
		1 hour	20 ppm
Lead		30-day average	1.5 µg/m ³
Nitrogen dioxide		1 hour	0.18 ppm
		Annual	0.03 ppm
Ozone		8 hours	0.07 ppm
		1 hour	0.09 ppm
Particulate matter	PM _{2.5}	Annual	12 µg/m ³
	PM ₁₀	24 hours	50 µg/m ³
		Annual	20 µg/m ³
Sulfur dioxide		1 hour	0.25 ppm
		24 hours	0.04 ppm
Sulfates		24 hours	25 µg/m ³
Hydrogen sulfide		1 hour	0.03 ppm
Vinyl chloride		24 hours	0.01 ppm
Visibility Reducing Particles		Extinction coefficient of 0.23 per km – visibility of 10 miles or more due to particles when relative humidity is less than 70 percent ²⁴	

SOURCE:

California Air Resources Board. 4 June 2013. *Ambient air quality standards*. Available at: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>

Toxic Air Contaminant Identification and Control Act

The Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) created the California Air Toxics Program in 1983. It established a two-step process of risk identification and risk management to address potential health effects associated with public exposure to toxic substances in the air. In the risk identification step, CARB and the OEHHA determine if a substance should be formally identified, or “listed,” as a TAC in California. Since inception of the program, a number of such substances have been identified and listed. In 1993, legislative amendments were enacted for the program to identify the 189 federal hazardous air pollutants (HAPs) as TACs.

In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce the risk. Based on results of that review, CARB has promulgated a number of airborne toxic control measures (ATCMs), both for mobile and stationary sources. In 2004,

²⁴ South Coast Air Quality Management District. February 2013. *Final 2012 AQMP*. Available at: <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan>

CARB adopted an ATCM to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time. These diesel-related measures are critical in reducing the statewide cancer risk and creating healthier communities.

CARB Air Toxics “Hot Spots” Information and Assessment Act of 1987

The California Air Toxics Program is supplemented by the Air Toxics “Hot Spots” program, which became law (AB 2588, Statutes of 1987) in 1987. In 1992, the AB 2588 program was amended by Senate Bill 1731 to require facilities that pose a significant health risk to the community to perform a risk reduction audit and reduce their emissions through implementation of a risk management plan. Under this program, which is required under the Air Toxics “Hot Spots” Information and Assessment Act (Section 44363 of the California Health and Safety Code), facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks when present. In March 2015, the OEHHA adopted “The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments” in accordance with the Health and Safety Code, Section 44300. The Final Guidance Manual incorporates the scientific basis from three earlier developed Technical Support Documents to assess risk from exposure to facility emissions. The 2015 OEHHA Final Guidance has key changes including greater age sensitivity in particular for children, decreased exposure durations, and higher breathing rate profiles. Because cancer risk could be up to three times greater using this new guidance, it may result in greater mitigation requirements, more agency backlog, and increased difficulty in getting air permits. Regardless of the change in calculation methodology, actual emissions and cancer risk within South Coast Air Basin has declined by more than 50 percent since 2005.

The CARB provides a computer program, the Hot Spots Analysis and Reporting Program (HARP), to assist in a coherent and consistent preparation of an HRA. HARP2, an update to HARP, was released in March 2015. HARP2 has a more refined risk characterization in HRA and CEQA documents and incorporates the 2015 OEHHA Final Guidance. As of June 2015, HARP2 is not required by OEHHA on the state level, but it is required by SCAQMD.²⁵

Multiple Air Toxics Exposure Study (MATES-IV)

To date, the most comprehensive study of air toxics in the South Coast Air Basin (SCAB) is the Multiple Air Toxics Exposure Study (MATES-IV), conducted by Southern California Air Quality Management District (SCAQMD) in 2015. MATES combines monitoring of ambient air toxics, emissions inventories, and computer modeling to estimate the cancer risk from air pollution. The monitoring program measured over 30 air pollutants, including both gases and particulates. SCAQMD’s MATES IV found that the average cancer risk from air pollution across the region declined from 1,194 in 1 million during MATES III in 2005 to 418 in 1 million in 2012–2013 using similar methods of analysis. The risk reduction follows a trend of declining toxic emissions in the region since the first MATES study was conducted in 1987. MATES IV found that mobile sources are responsible for 90 percent of the risk.

²⁵ South Coast Air Quality Management District. Risk Assessment Procedures for Rules 1401, 1401.1 and 212. June 5, 2015. Available at: <http://www.aqmd.gov/docs/default-source/planning/risk-assessment/riskassprocjune15.pdf?sfvrsn=2>

California Air Resources Board Mobile Source Programs

Emission Reduction Plan for Ports and Goods Movement

The CARB approved the 2006 Emission Reduction Plan for Ports and Goods Movement in California. The Plan is an essential component of California's effort to reduce community exposure to air pollution and to meet new federal air quality standards for ozone and fine particulate matter (PM_{2.5}). The plan goals are to:²⁶

- (1) Reduce total statewide international and domestic goods movement emissions to the greatest extent possible and at least back to 2001 levels by year 2010.
- (2) Reduce the statewide diesel PM health risk from international and domestic goods movement 85 percent by year 2020.
- (3) Reduce NO_x emissions from international goods movement in the South Coast 30 percent from projected year 2015 levels, and 50 percent from projected year 2020 levels based on preliminary targets for attaining federal air quality standards.
- (4) Apply the emission reduction strategies for ports and goods movement statewide to aid all regions in attaining air quality standards.
- (5) Make every feasible effort to reduce localized risk in communities adjacent to goods movement facilities as expeditiously as possible.

CARB Small Offroad Engine (SORE) Exhaust Emission Standards

SORE engines include off-road spark-ignition engines that produce 19 kW gross power or less (less than 25 horsepower), including lawn and garden, industrial, logging, airport ground support, and commercial utility equipment; golf carts; and specialty vehicles. These emission standards apply to HC, NO_x, CO, and PM emissions with increasingly stricter standards from 1995 to 2013.²⁷

CARB Offroad Compression-Ignition Diesel Engine Exhaust Emission Standards

These engines include new compression-ignition engines (a.k.a. diesel engines) that are found in a wide variety of off-road applications such as farming, construction, and industrial. Some familiar examples include tractors, excavators, dozers, scrapers, portable generators, transport refrigeration units (TRUs), irrigation pumps, welders, compressors, scrubbers, and sweepers. This category, however, does not include locomotives, commercial marine vessels, marine engines over 37 kW, or recreational vehicles. These standards adhere to the tier system as set by the U.S. EPA.²⁸

²⁶ California Air Resources Board. 20 April 2006. *Emission Reduction Plan for Ports Goods Movement in California*. Available at: http://www.arb.ca.gov/planning/gmerp/plan/final_plan.pdf

²⁷ California Air Resources Board. Accessed 28 August 2015. *Small Off-Road Engine Exhaust Emission Standards*. Available at: <http://www.arb.ca.gov/msprog/offroad/sore.pdf>

²⁸ California Air Resources Board. 30 November 2012. *New Off-Road Compression-Ignition (Diesel) Engines and Equipment*. Available at: <http://www.arb.ca.gov/msprog/offroad/orcomp/orcomp.htm>

CARB On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

This regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet PM filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. The regulation applies to nearly all privately and federally owned diesel fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. Amendments were approved in April 2014.²⁹

CARB Smartway/Phase I Heavy Duty Vehicle Greenhouse Gas Regulation

This regulation applies to GHG emissions from heavy-duty trucks and engines sold in California. It establishes GHG emissions limits on truck and engine manufacturers and harmonizes with the recently adopted U.S. EPA rule for new trucks and engines nationally. Existing heavy-duty vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation.³⁰

Executive Order (EO) B-32-15, Sustainable Freight Transport Initiative

On July 17, 2015, Governor Brown issued Executive Order B-32-15, which directs the Secretary of the California State Transportation Agency, the Secretary of Cal/EPA, and the Secretary of the Natural Resources Agency to lead other relevant state departments including the CARB, the California Department of Transportation, the California Energy Commission, and the Governor's Office of Business and Economic Development to improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California's freight system. These state agencies will develop an integrated freight action plan by July 2016.³¹

California Wellness Plan (2014)

The California Department of Public Health published a statewide Wellness Plan in 2014. The Plan acknowledges that many factors contribute to an individual's health. These factors include the physical environment (housing, neighborhood, healthy food access and environment), educational attainment and employment, economic status, social support, social norms and attitudes, culture, literacy, race/ethnicity. The physical environment is also an indicator of exposure to toxins and transportation where individuals are affected on a daily basis by the air quality of their surroundings.³²

²⁹ California Air Resources Board. 11 May 2015. *Truck and Bus Regulation*. Available at: <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>

³⁰ California Air Resources Board. 9 December 2014. *Phase 1 GHG*. Available at: <http://www.arb.ca.gov/msprog/onroad/phase1ghg/phase1ghg.htm>

³¹ California Air Resources Board. 10 August 2015. *Sustainable Freight Transport*. Available at: <http://www.arb.ca.gov/gmp/sfti/sfti.htm>

³² California Department of Public Health. 2014. *Wellness Plan*. Available at: [http://www.cdph.ca.gov/programs/cdcb/Documents/CDPH-CAWellnessPlan2014%20\(Agency%20Approved\).FINAL.2-27-14\(Protected\).pdf](http://www.cdph.ca.gov/programs/cdcb/Documents/CDPH-CAWellnessPlan2014%20(Agency%20Approved).FINAL.2-27-14(Protected).pdf)

CARB Air Quality and Land Use Handbook

In April 2005, the California Air Resources Board published the Air Quality and Land Use Handbook as a informational and advisory guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. Studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. Reducing diesel particulate emissions is one of CARB's highest public health priorities and the focus of a comprehensive statewide control program that is reducing diesel PM emissions each year. This document highlights the potential health impacts associated with proximity to air pollution sources so planners explicitly consider this issue in planning processes.³³

Regional

The SCAG region is comprised of four air basins and five air districts. The four air basins are SCAB, MDAB, SSAB, and the Ventura County portion of SCCAB. The five air districts are MDAQMD, AVAQMD, VCAPCD, SCAQMD, and ICAPCD.

MDAQMD Federal 8-hour Ozone Attainment Plan (2008)

The U.S. EPA designated the Western Mojave Desert non-attainment area as non-attainment for the 8-hour ozone NAAQS pursuant to the provisions of the CAA. A portion of the MDAQMD is included in the Western Mojave Desert non-attainment area. The MDAQMD has adopted state and federal attainment plans for the region within its jurisdiction. The portion of the MDAQMD designated as a federal 8-hour ozone non-attainment area will be in attainment of the 8-hour NAAQS for ozone by 2021.³⁴

AVAQMD Federal 8-hour Ozone Attainment Plan (2008)

The AVAQMD has adopted a single attainment plan for ozone. The AVAQMD Federal 8-hour Ozone Attainment Plan, adopted in May 2008, demonstrates that the AVAQMD will meet the primary required federal ozone planning milestones by June 2021, presents the progress the AVAQMD will make towards meeting all required ozone planning milestones, and discusses the newest 0.075 part per million 8-hour ozone NAAQS.³⁵

VCAPCD Air Quality Management Plan (2008)

This plan presents a strategy for attaining the federal 8-hour ozone standard of 0.08 parts per million. It contains control measures to reduce emissions and bring the County into attainment of the standard.

³³ California Air Resources Board. April 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. Available at: <http://www.arb.ca.gov/ch/handbook.pdf>

³⁴ Mojave Desert Air Quality Management District. 2008. *MDAQMD Federal 8-hour Ozone Attainment Plan*. Available at: <http://www.mdaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=40>

³⁵ Antelope Valley Air Quality Management District. 20 May 2008. *AVAQMD Federal 8-hour Ozone Attainment Plan*.

The County is designated as an ozone nonattainment area for both the state and federal standards. New plans are updated and written as required by federal law.³⁶

SCAQMD 2012 Air Quality Management Plans (AQMP)

The most recent update to the AQMP was adopted in 2012 by the SCAQMD Board and the CARB.³⁷ The AQMP demonstrates attainment of the federal 24-hour PM_{2.5} standard by 2014 in the SCAB through adoption of all feasible measures. The current AQMP also updates the EPA-approved 8-hour ozone control plan with new measures designed to reduce reliance on the CAA Section 182(e)(5) long-term measures for NO_x and VOC reductions. In addition, the AQMP addresses several state and federal planning requirements, incorporating new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and new meteorological air quality models.

SCAQMD is in the development process for the 2016 AQMP, which will be a comprehensive and integrated plan primarily focused on addressing the ozone standards. The Plan will be a regional and multiagency effort (SCAQMD, CARB, SCAG, and U.S. EPA). State and federal planning requirements include developing control strategies, attainment demonstrations, reasonable further progress, and maintenance plans. The 2016 AQMP will incorporate the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, transportation control measures and strategies, and updated emission inventory methodologies for various source categories.³⁸

ICAPCD Air Plans

At a public meeting held on December 18, 2014, CARB approved the Imperial County 2013 SIP for the 2006 24-hour PM_{2.5} Moderate Nonattainment Area. At a public meeting held on November 18, 2010, CARB approved the 2009 Imperial County 1997 8-Hour Ozone Modified Air Quality Management Plan and 2009 Reasonably Available Control Technology SIP. In 2009, the EPA determined that the County attained the 1997 8-hour ozone standard.³⁹

Fugitive Dust Regulations: SCAQMD, AVAQMD, and MDAQMD Rule 403; VCAPCD Rule 55, Fugitive Dust; ICAPCD Rule 800, ICAPCD Rule 801

The SCAQMD, AVAQMD, and MDAQMD have adopted Rule 403, *Fugitive Dust*, which requires the implementation of best available fugitive dust control measures during construction and operational activities capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and mobile equipment traveling on paved and unpaved roads. Similarly, VCAPCD has adopted Rule 55, *Fugitive Dust*, and ICAPCD has adopted Rule 800, *General*

³⁶ Ventura County Air Pollution Control District. Accessed 8 September 2015. *Destination Clean Air*. Available at: <http://www.vcapcd.org/pubs/PublicInformation/DestinationCleanAir.pdf>

³⁷ South Coast Air Quality Management District. 2014. *Air Quality Management Plan (AQMP)*. Available at: <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan>

³⁸ South Coast Air Quality Management District. 2014. *Air Quality Management Plan (AQMP)*. Available at: <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan>

³⁹ California Air Resources Board. 21 April 2015. *Imperial County Air Quality Management Plans*. Available at: <http://www.arb.ca.gov/planning/sip/planarea/imperial/imperialsip.htm>

Requirements for Control of Fine Particulate Matter (PM₁₀), and Rule 801, Construction and Earthmoving Activities, to reduce fugitive dust.

SCAQMD, AVAQMD Rule 1401; MDAQMD Rule 1320; VCAPCD Rule 36; ICAPCD Rule 207 and SCAQMD, AVAQMD Rule 1402; MDAQMD Rule 1520; VCAPCD Rule 73; ICAPCD Rule 403

The SCAQMD has adopted two rules for TACs to limit cancer and non-cancer health risks from facilities located within its jurisdiction. Rule 1401, New Source Review of Toxic Air Contaminants, regulates new or modified facilities; and Rule 1402, Control of Toxic Air Contaminants from Existing Sources, regulates facilities that are already in operation. Rule 1402 incorporates requirements of the AB 2588 program, including implementation of risk reduction plans for significant risk facilities. In 2015, SCAQMD revised Rule 1401 and 1402 to include more equipment types and industry categories. Under the revised Rule 1401, no permit would be issued for new and modified equipment unless the cancer risk is less than ten in a million using Toxics Best Available Control Technology (TBACT) or less than one in a million without TBACT or if near a school. For Rule 1402, existing facilities under AB 2588 must reduce facility-wide risk if maximum individual cancer risk is greater than 25 in a million. AVAQMD, MDAQMD, VCAPCD, and ICAPCD have adopted similar rules to limit health risks from toxic air contaminants from new, modified, and existing sources.

3.3.2 EXISTING CONDITIONS

While improved from the 1970s, Southern California has some of the worst air quality in the nation. The American Lung Association's *State of the Air Report*, released in 2015, ranks the Los Angeles-Long Beach metropolitan area as fifth worst in the nation for people at risk for 24-hr PM_{2.5}, fifth worst for annual PM_{2.5}, and worst for most ozone-polluted cities.⁴⁰ Both ozone and particulate matter are known to have negative public health impacts especially for sensitive populations, children, the elderly, and those with respiratory or cardiovascular health problems. Cancer risk from diesel particulate matter is evaluated in the HRA (**Appendix D**). Low-income and minority populations are more at risk because they are more likely to live near major sources of pollution such as power plants or large freeways.

This section provides the environmental setting for air quality in the SCAG region, which encompasses a population exceeding 18 million persons in an area of more than 38,000 square miles within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The section includes information on topography, climate, and meteorology for the air basins in the SCAG region and existing air quality. As previously discussed, the SCAG region includes four air basins and five air districts.

Topography, Climate, and Meteorology

The SCAG region has a greatly varied topography from lakes to mountains, valleys, hills, basins, and urban areas. The topography and meteorological conditions define the climate of the region because air quality is a function of the rate and location of pollutant emissions. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, influence the

⁴⁰ American Lung Association. 2015. *State of the Air 2015*. Available at: http://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf

movement and dispersal of pollutants and thereby provide the link between air pollutant emissions and air quality. Southern California has strong temperature inversions in the lower atmosphere that can trap pollutants near the surface. Meteorology affects air quality trends that may mask emission reduction benefits. Meteorology also affects different pollutants differently. Warm and sunny weather, which is typical of Southern California, leads to higher ozone days because sunlight aids the chemical reactions that form ozone. On the other hand, windy weather will spread primary particulate matter from direct emissions leading to high PM concentrations in the air. Secondary PM, including particulate nitrates and sulfates, is more prevalent in the air during cold, calm, and humid weather conditions. Rain and wind reduce PM concentration in the air.⁴¹ The local topography and climate conditions are described in greater detail specific to each air basin as listed below. These air basins are geographically defined because the travel of air pollution can be trapped by natural barriers like mountains unless the prevailing winds are powerful enough to disperse it to other areas.⁴²

South Coast Air Basin (SCAB)

The SCAB incorporates approximately 12,000 square miles, consisting of Orange County and the urbanized areas of San Bernardino, Riverside, and Los Angeles Counties. In May 1996, the boundaries of the SCAB were changed by the CARB to include the Beaumont-Banning area. The distinctive climate of the SCAB is determined by its terrain and geographic location. The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around the rest of its perimeter. The general region lies in the semipermanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.⁴³

The vertical dispersion of air pollutants in the SCAB is hampered by the presence of persistent temperature inversions. High-pressure systems, such as the semipermanent high-pressure zone in which the SCAB is located, are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface, and resulting in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog. The basin-wide occurrence of inversions at 3,500 feet above sea level or less averages 191 days per year.⁴⁴

The atmospheric pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 miles per hour, smog potential is greatly reduced.⁴⁵

⁴¹ *The California Almanac of Emissions and Air Quality*. 2013. Available at: <http://www.arb.ca.gov/aqd/almanac/almanac13/almanac2013all.pdf>

⁴² South Coast Air Quality Management District. Accessed 24 August 2015. *Southern California Air Basins*. Available at: <http://www.aqmd.gov/docs/default-source/default-document-library/map-of-jurisdiction.pdf>

⁴³ South Coast Air Quality Management District. April 1993. *CEQA Air Quality Handbook*. P. A8-1.

⁴⁴ South Coast Air Quality Management District. April 1993. *CEQA Air Quality Handbook*. P. A8-2.

⁴⁵ South Coast Air Quality Management District. April 1993. *CEQA Air Quality Handbook*. P. A8-2.

Mojave Desert Air Basin (MDAB)

The MDAB encompasses approximately 21,480 square miles and includes the desert portions of San Bernardino County, Palo Verde Valley, Palmdale, and Lancaster in the Antelope Valley. The MDAB is bordered by the SCAB and the Riverside County line to the south, Kern County line to the west, the Arizona and Nevada borders to the north and east, and the eastern portion of Riverside County to the southeast. The Kern County portion of MDAB is not in the SCAG region.

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes.⁴⁶ Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north; air masses pushed onshore in Southern California by differential heating are channeled through the MDAB. The MDAB is separated from the Southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevada in the north by the Tehachapi Pass (3,800 feet elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 feet). The Mojave Desert is bordered in the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 feet). A lesser channel lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley).

The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley) whose primary channel is the San Geronio Pass (2,300 feet) between the San Bernardino and San Jacinto Mountains.

During the summer, the MDAB is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB averages between 3 and 7 inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least three months have maximum average temperatures over 100.4 degrees Fahrenheit (° F).

Salton Sea Air Basin (SSAB)

The SSAB includes all of Imperial County and the desert portion of Riverside County between the SCAB and the MDAB (known as the Coachella Valley area). Imperial County extends over 4,597 square miles, bordering on Mexico to the south, Riverside County to the north, San Diego County on the west, and the State of Arizona on the east.⁴⁷

⁴⁶ Mojave Desert Air Quality Management District. February 2009. *CEQA and Federal Conformity Guidelines*.

⁴⁷ Imperial County Air Pollution Control District. 13 July 2010. *Final 2009 1997 8-Hour Ozone Modified Air Quality Management Plan*.

The southern portion of the SSAB is a part of the larger physiographic province of the Salton Trough. This province is a very flat basin surrounded by mountains: the Peninsular Ranges to the west and the Chocolate, Orocochia, and Cargo Muchaco Mountains to the east. Most of the trough is below sea level and consists generally of desert, with agricultural land uses located at the north and south of the Salton Sea.

Climatic conditions in the SSAB are governed by the large-scale sinking and warming of air in the semipermanent subtropical high-pressure center of the Pacific Ocean. The high-pressure ridge blocks out most mid-latitude storms except in the winter when the high is weakest and farthest south. Similarly, the coastal mountains prevent the intrusion of any cool, damp marine air found in California coastal environs. Because of the weakened storms and the orographic barrier, the SSAB experiences clear skies, very low humidity, extremely hot summers, mild winters, and little rainfall. The flat terrain of the valley and the strong temperature differentials created by intense solar heating produce moderate winds and deep thermal convection.

The combination of subsiding air, protective mountains, and distance from the ocean severely limits precipitation. Rainfall is highly variable, with heavy precipitation occurring from single storms followed by periods of dry air. Humidity is typically low throughout the year, ranging from 28 percent in summer to 52 percent in winter.

The SSAB occasionally experiences periods of high winds. Wind speeds exceeding 31 mph occur most frequently in April and May. On an annual basis, strong winds over 31 mph are observed 0.6 percent of the time, and speeds of less than 6.8 mph account for more than one-half of the observed winds. Wind statistics indicate prevailing winds are from the west-northwest through southwest; a secondary flow maximum from the southeast is also evident. Imperial County, in particular, experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken, allowing pollutants to more easily disperse. Weak surface inversions are caused by cooling of air in contact with the cold surface of the earth at night. In valleys and low-lying areas, this condition is intensified by the addition of cold air flowing downslope from the hills and pooling on the valley floor.

The presence of the Pacific high-pressure cell can cause the air mass aloft to sink. As the air descends, compressional heating warms it to a temperature higher than the air below. This highly stable atmospheric condition, termed a subsidence inversion, can act as a nearly impenetrable lid to the vertical mixing of pollutants. The strength of these inversions makes them difficult to disrupt. Consequently, they can persist for one or more days, causing air stagnation and the buildup of pollutants. Highest or worst-case ozone levels are often associated with the presence of this type of inversion. Subsidence inversions are common from November through June, but appear to be relatively absent July through October.

South Central Coast Air Basin (SCCAB)

The SCAG region includes the Ventura County portion of the SCCAB. Ventura County is made up of coastal mountain ranges, the coastal shore, the coastal plain, and several inland valleys.⁴⁸ The northern half of the county (Los Padres National Forest) is extremely mountainous with altitudes up to 8,800 feet. Consequently, the climate in the northern half of the county varies a great deal depending on elevation.

⁴⁸ Ventura County Air Pollution Control District. November 1996. *1994 Air Quality Management Plan*.

Therefore, the climatological and meteorological description presented for Ventura County focuses on the southern half of the county where violations of federal and state ozone standards occur. In the winter, low-pressure systems originating in the northern Pacific Ocean bring clouds, rain, and wind into Ventura County.

The average annual temperature in the coastal and inland valleys of the southern half of Ventura County ranges from the upper 50s at the coast (Point Mugu) to the mid-60s in Simi Valley. The difference between the maximum and minimum temperatures becomes greater as the distance increases from the coast. The average minimum and maximum temperatures at Point Mugu are 50° F and 60° F, respectively, while at the inland location of Simi Valley, the averages are 52° F and 77° F. The smaller range of temperatures at Point Mugu demonstrates the moderating influence of the ocean on air temperature. The ocean's ability to warm and cool the air while its temperature remains relatively unchanged produces the moderating effect. Inland area temperatures are more prone to rapid fluctuations. Almost all rainfall in Ventura County falls during the winter and early spring (November through April). Summer rainfall is normally restricted to scattered thundershowers in lower elevations and somewhat heavier activity in the mountains. Humidity levels vary throughout the County. The range of humidity is primarily influenced by proximity to the ocean. Although the County's climate is semiarid, average humidity levels are relatively high due to the marine influence. Coastal areas are more humid than inland areas during typical fair weather. The reverse is true during stormy periods. The lowest humidity levels are recorded during Santa Ana wind conditions.

Ventura County winds are dominated by a diurnal land-sea breeze cycle. The land-sea breeze regime is broken only by occasional winter storms and infrequent strong northeasterly Santa Ana wind flows. Since the sea breeze is stronger than the land breeze, the net wind flow during the day is from west to east. Under light land-sea breeze regimes, recirculation of pollutants can occur as emissions move westward during morning hours, and eastward during the afternoon. This can cause a buildup of pollutants over several days.

The vertical dispersion of air pollutants in Ventura County is limited by the presence of persistent temperature inversions. Approximately 60 percent of all inversions measured at Point Mugu are surface-based, with most occurring during the morning hours.

Regional Air Quality

In Southern California, the American Lung Association consistently gives counties within the SCAG region failing grades in the amount of ozone and particulate pollution in the air. The American Lung Association has assigned grades to each of the Counties in the SCAG region for 2015 (**Table 3.3.2-1, *American Lung Association Report Card for SCAG Region***). Grades were calculated from a weighted average based on the total number of days in each air quality index level. The weighted average was derived by counting the number of days in each unhealthy range in each year (2011–2013), multiplying the total in each range by the assigned standard weights, and calculating the average. All six counties in the SCAG region received a failing grade for ozone, which means there were a significant number of unhealthy air days relative to the ozone standard. For ozone, an "F" grade was set to generally correlate with the number of unhealthy air days that would place a county in nonattainment for the ozone standard. For short-term particle pollution, fewer unhealthy air days are required for an F than for nonattainment under the PM_{2.5} standard. For PM_{2.5}, the national standard allows 2 percent of days in a three-year period to exceed 35 µg/m³, which is roughly 21 unhealthy days in three years, but the

American Lung Association uses a more restrictive 1 percent or 99th percentile limit to protect the public from short term spikes in pollution.

**TABLE 3.3.2-1
AMERICAN LUNG ASSOCIATION REPORT CARD FOR SCAG REGION**

County	Ozone Grade	Particle Pollution Grade
Imperial	F	D
Los Angeles	F	F
Orange	F	F
Riverside	F	F
San Bernardino	F	D
Ventura	F	B

SOURCE:

American Lung Association. 2015. *State of the air 2015*. Available at:
http://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf

Particle Pollution

In December 2009, the U.S. EPA linked fine particle pollution (PM_{2.5}) to public health impacts. The U.S. EPA determined that fine particle pollution could cause early death, cardiovascular harm, respiratory harm, cancer, and reproductive and developmental harm. In the short term, particle pollution reduces lung function and increases lung tissue inflammation in young, healthy adults. Short-term exposure increases emergency room visits for patients with acute respiratory illnesses, increases number of heart attacks, increases school absenteeism, increases hospitalization of children with asthma, and can even result in deaths on days of high levels of particle pollution.⁴⁹ Asthma in the SCAG region ranges from 28 to 74 per 10,000 people (Table 3.3.2-2, *Population-Weighted Asthma Rate per 10,000*). Asthma rates are a good indicator of population sensitivity to environmental stressors because asthma is both caused by and exacerbated by pollutants.

**TABLE 3.3.2-2
POPULATION WEIGHTED ASTHMA RATE PER 10,000**

County	Asthma Rate per 10,000
Imperial	74
Los Angeles	44
Orange	28
Riverside	40
San Bernardino	57
Ventura	34
SCAG region	42

SOURCE:

CalEnviroScreen - age-adjusted rate of emergency department (ED) visits for asthma per 10,000 (averaged over 2007-2009).

⁴⁹ American Lung Association. 2015. *State of the Air 2015*. Available at:
http://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf

In 2013, the World Health Organization's International Agency for Research on Cancer linked long-term exposure to particle pollution to increased risk of developing lung cancer. Other studies have shown long-term particle pollution exposure increases hospitalization of children with asthma living near busy roads with heavy truck traffic, reduces lung function in children and teenagers, damages small airways of the lungs, increases risk of death from cardiovascular disease, and increases risk of lower birth weight and infant mortality.⁵⁰

Particle pollution particularly has a detrimental effect on sensitive populations including children, elderly, and those with respiratory or cardiovascular illnesses. In March 2015, OEHHA amended their Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments to consider the impact of age, breathing rates, and exposure levels into their cancer risk calculation methodology.

Figure 3.3.2-1, *Annual Average Concentration of PM_{2.5}*, shows the average annual exposure to PM_{2.5} in the SCAG region for years 2009 to 2011. Similar to the 2012 RTP/SCS PEIR, south Los Angeles County, northeast Orange County, southwest San Bernardino County, and northwest Riverside County experienced the highest average annual exposure to PM_{2.5}. The metropolitan area by El Centro and Calexico in Imperial County also show high average annual exposure to PM_{2.5}. Average concentrations in these high exposure areas range from 11.0 to 13.9 micrograms of PM_{2.5} per cubic meter of air. This is below the federal 15 µg/m³ standard, but partially above the state standard of 12 µg/m³, hence resulting in the nonattainment designations in parts of Imperial, Los Angeles, and Riverside Counties and complete nonattainment for PM_{2.5} in Orange and San Bernardino Counties.

Ozone

Ozone is formed when sunlight reacts with NO_x, VOCs, and/or CO. These compounds are typically found in vehicle exhaust, but can also be released into the atmosphere from other sources like chemical solvents, power plants, gas stations, paints, and refineries. In February 2013, the U.S. EPA published the "Integrated Science Assessment for Ozone and Related Photochemical Oxidants." The report concluded that ozone pollution causes respiratory harm, is likely to cause early death and cardiovascular harm, may cause harm to the central nervous system, and may cause reproductive and developmental harm.⁵¹ High levels of ozone can result in premature death and stroke, acute breathing problems like shortness of breath, wheezing, and coughing, asthma attacks, increase in risk of respiratory infection, increase susceptibility to pulmonary inflammation, and increase in hospitalization and emergency room visits for those with asthma, chronic obstructive pulmonary disease, cardiovascular disease and lung disease. Long term ozone exposure is connected to higher risk of death from respiratory diseases, higher risk of hospitalization for children with asthma especially those that are also low income, higher risk of developing asthma, lower birth weight and decreased lung function in newborns.⁵² Similar to particle pollution, ozone has a detrimental effect on sensitive populations including children, elderly, and those with respiratory or cardiovascular illnesses.

⁵⁰ American Lung Association. 2015. *State of the Air 2015*. Available at: http://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf

⁵¹ American Lung Association. 2015. *State of the Air 2015*. Available at: http://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf

⁵² American Lung Association. 2015. *State of the Air 2015*. Available at: http://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf

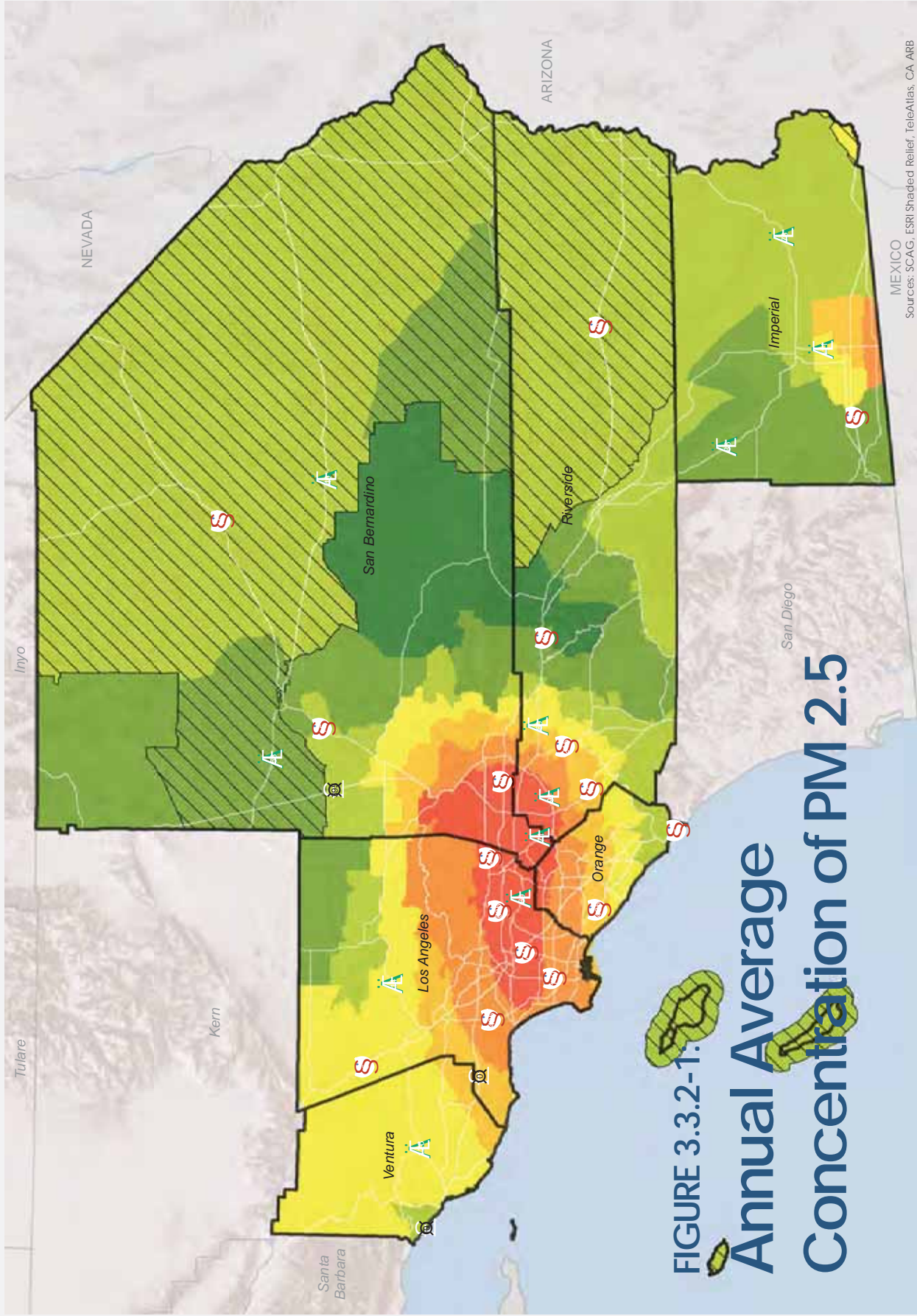


FIGURE 3.3.2-1:
Annual Average Concentration of PM 2.5

Areas Greater than 50 km from Nearest Monitoring Station: Values Should be Regarded as Speculative.

PM 2.5 Exposure (2009-2011) Annual Average Concentration (ug/m3)
3.78 - 5.22
5.23 - 6.67
6.68 - 8.11
8.12 - 9.55
9.56 - 11.00
11.01 - 12.44
12.45 - 13.89

Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CA ARB

Scale: 0 5 10 20 Miles

Figure 3.3.2-2, *Average Daily Ozone Exposure in Excess of the National 8 Hour Standard*, shows the average daily O₃ exposure in the SCAG region that is in excess of the national 8-hour standard (0.075 ppm) in the SCAG region for years 2009 to 2011. Although the region as a whole largely experiences average daily ozone exposure exceeding the federal standard, the highest concentration of ozone exposure can be seen mostly in southwest San Bernardino and northwest Riverside Counties, and also in northwest Los Angeles County.

Sensitive Receptors

There are many sensitive receptors located throughout the SCAG region (Figure 3.3.2-3, *Sensitive Receptors*, and Table 3.2.2-3, *Sensitive Receptors by County*). Some persons, such as those with respiratory illnesses or impaired lung function due to other illnesses, people with cardiovascular diseases or diabetes, the elderly over 65 years of age, and children under 14 years of age, can be particularly sensitive to emissions of criteria pollutants. These are the populations most at risk to poor air quality. Facilities and structures where sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses identified by SCAQMD in the CEQA Air Quality Handbook to be sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

**TABLE 3.3.2-3
SENSITIVE RECEPTORS BY COUNTY**

County	Total Sensitive Receptors Count
Imperial	37,329
Los Angeles	1,749,992
Orange	589,844
Riverside	621,196
San Bernardino	556,706
Ventura	219,644

SOURCE:

Sapphos Environmental, Inc. GIS modeling, 2015.

Attainment Status

NAAQS

The federal CAA sets NAAQS for the main criteria air pollutants: NO_x, VOC, PM_{2.5}, PM₁₀, SO_x, CO, and lead. Attainment and nonattainment of the NAAQS is variable throughout the counties within the SCAG region (Table 3.3.2-4, *2015 Nonattainment in Counties in the SCAG Region for All Criteria Pollutants by County by NAAQS*).

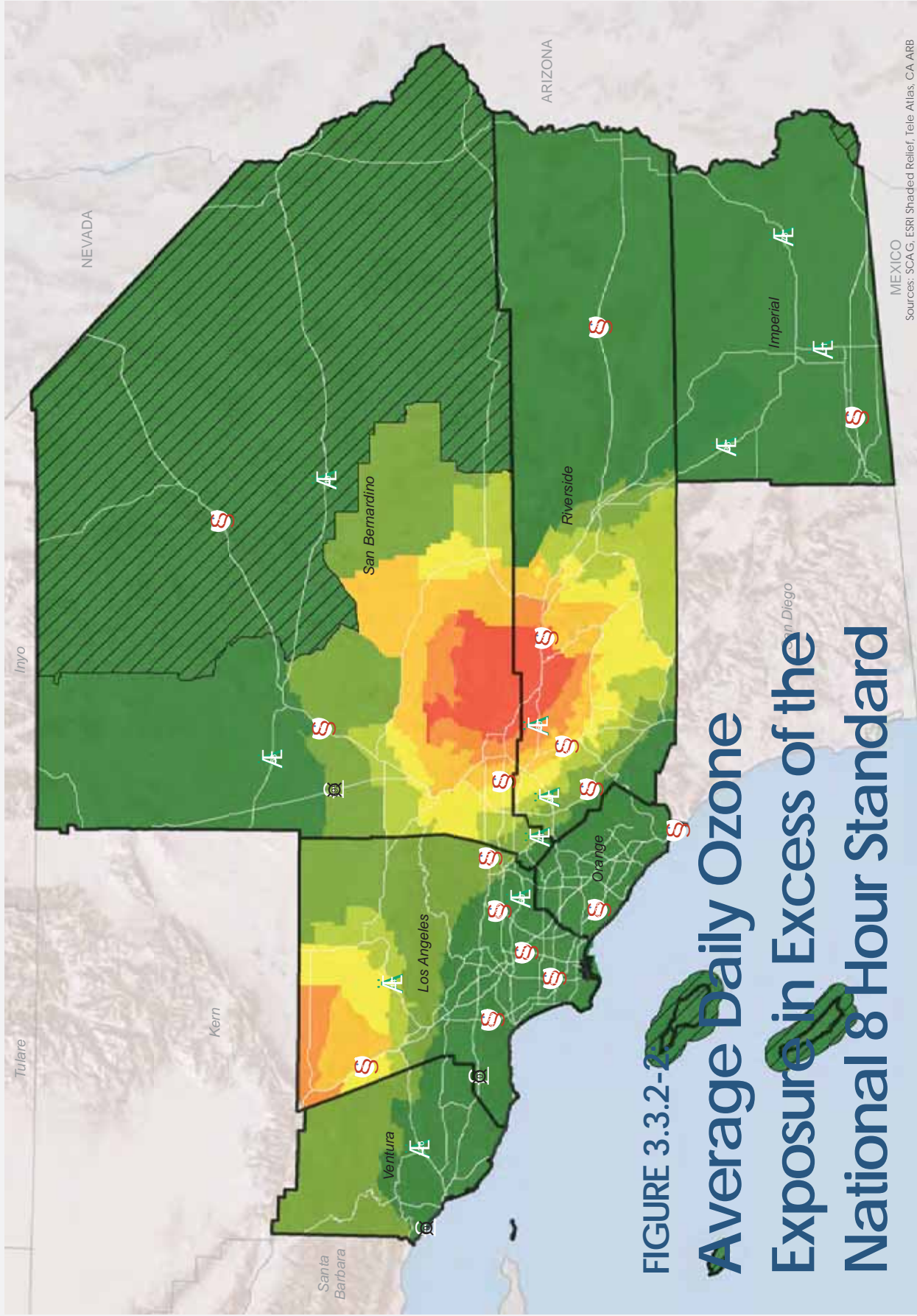


FIGURE 3.3.2-2:
Average Daily Ozone Exposure in Excess of the National 8 Hour Standard

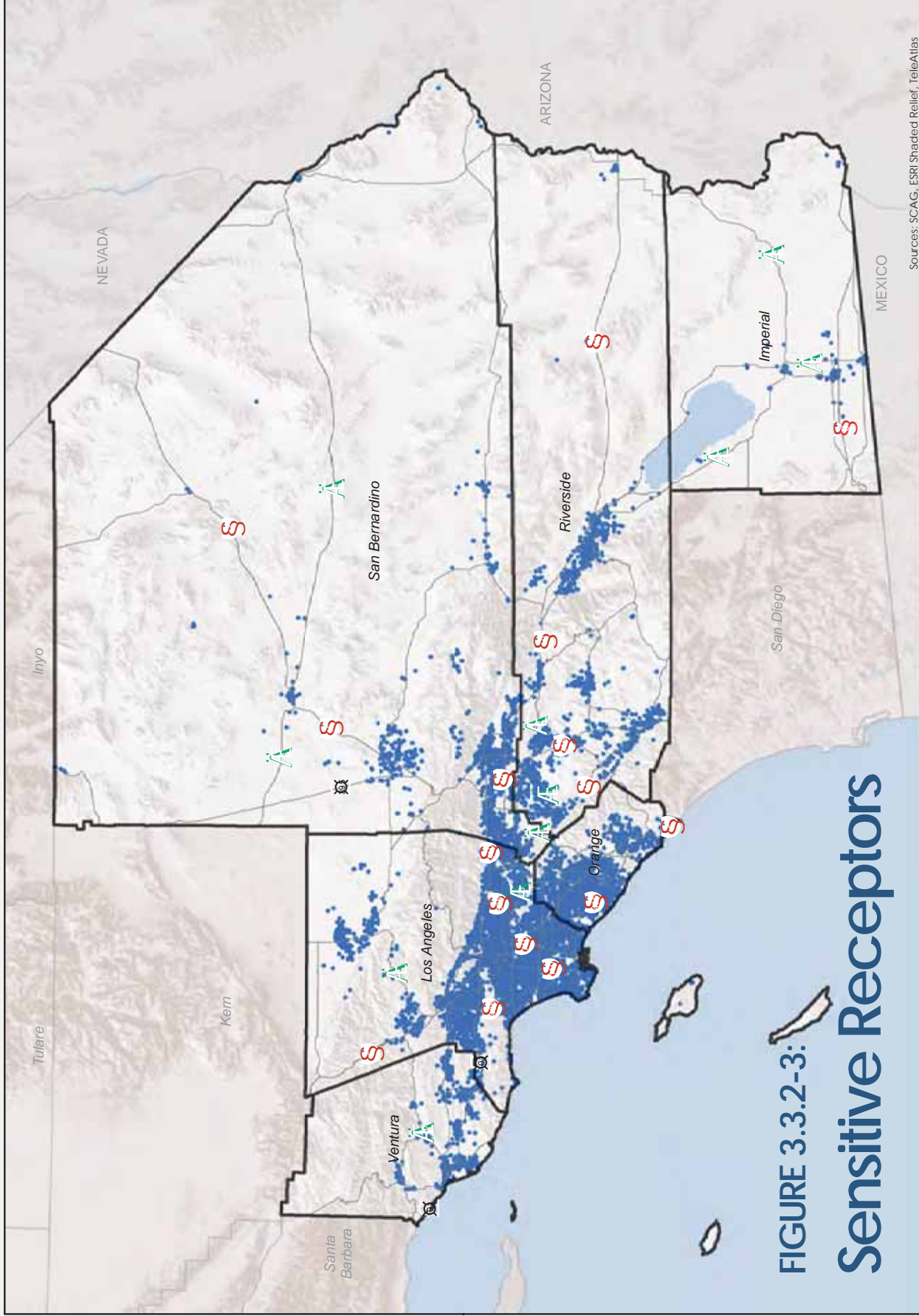


FIGURE 3.3.2-3:
Sensitive Receptors

1 Sensitive Receptors

Sources: SCAG, ESRI Shaded Relief, TeleAtlas



**TABLE 3.3.2-4
2015 NONATTAINMENT AREAS IN THE SCAG REGION FOR ALL CRITERIA POLLUTANTS BY
COUNTY BY NAAQS**

Imperial County	
<i>PM-10 (1987)</i>	Imperial Valley, CA - (Serious)
<i>PM-2.5 (2006)</i>	Imperial Co, CA - (Moderate)
<i>PM-2.5 (2012)</i>	Imperial Co, CA - (Moderate)
<i>8-Hr Ozone (2008)</i>	Imperial County, CA - (Marginal) (Proposed by U.S. EPA to be reclassified to Moderate)
Los Angeles County	
<i>Lead (2008)</i>	Los Angeles County-South Coast Air Basin, CA
<i>PM-2.5 (1997)</i>	Los Angeles-South Coast Air Basin, CA - (Moderate)
<i>PM-2.5 (2006)</i>	Los Angeles-South Coast Air Basin, CA - (Moderate) (requested by SCAQMD to be reclassified to Serious)
<i>PM-2.5 (2012)</i>	Los Angeles-South Coast Air Basin, CA - (Moderate)
<i>8-Hr Ozone (2008)</i>	Los Angeles-San Bernardino Counties (West Mojave Desert), CA - (Severe 15)
<i>8-Hr Ozone (2008)</i>	Los Angeles-South Coast Air Basin, CA - (Extreme)
Orange County	
<i>PM-2.5 (1997)</i>	Los Angeles-South Coast Air Basin, CA - (Moderate)
<i>PM-2.5 (2006)</i>	Los Angeles-South Coast Air Basin, CA - (Moderate)
<i>PM-2.5 (2012)</i>	Los Angeles-South Coast Air Basin, CA - (Moderate)
<i>8-Hr Ozone (2008)</i>	Los Angeles-South Coast Air Basin, CA - (Extreme)
Riverside County	
<i>PM-10 (1987)</i>	Coachella Valley, CA - (Serious)
<i>PM-2.5 (1997)</i>	Los Angeles-South Coast Air Basin, CA - (Moderate)
<i>PM-2.5 (2006)</i>	Los Angeles-South Coast Air Basin, CA - (Moderate)
<i>PM-2.5 (2012)</i>	Los Angeles-South Coast Air Basin, CA - (Moderate)
<i>8-Hr Ozone (2008)</i>	Los Angeles-South Coast Air Basin, CA - (Extreme)
<i>8-Hr Ozone (2008)</i>	Riverside Co, (Coachella Valley), CA - (Severe 15)
San Bernardino County	
<i>PM-10 (1987)</i>	San Bernardino Co, CA - (Moderate)
<i>PM-10 (1987)</i>	Trona, CA - (Moderate)
<i>PM-2.5 (1997)</i>	Los Angeles-South Coast Air Basin, CA - (Moderate)
<i>PM-2.5 (2006)</i>	Los Angeles-South Coast Air Basin, CA - (Moderate)
<i>PM-2.5 (2012)</i>	Los Angeles-South Coast Air Basin, CA - (Moderate)
<i>8-Hr Ozone (2008)</i>	Los Angeles-San Bernardino Counties (West Mojave Desert), CA - (Severe 15)
<i>8-Hr Ozone (2008)</i>	Los Angeles-South Coast Air Basin, CA - (Extreme)
Ventura County	
<i>8-Hr Ozone (2008)</i>	Ventura County, CA - (Serious)

SOURCE:

U.S. Environmental Protection Agency. 30 January 2015. *U.S. EPA green book. Current nonattainment counties for all criteria pollutants.* Available at: <http://www.epa.gov/oaqps001/greenbk/ancl.html>

CAAQS

CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. California has set standards for certain pollutants, such as particulate matter and ozone, which are more protective of public health than respective federal standards. California has also set standards for some pollutants that are not addressed by federal standards such as visibility reducing particles and vinyl chloride (Table 3.3.2-5, *CAAQS Area Designations*).

**TABLE 3.3.2-5
CAAQS AREA DESIGNATIONS**

County	Ozone	PM _{2.5}	PM ₁₀	CO	NO ₂	SO ₂	Sulfates	HS	Pb	Visibility Reducing Particles
Imperial	N	City of Calexico (N), Remainder of County (A)	N	A	A	A	A	U	A	U
Los Angeles	N	South Coast Air Basin (N), Mojave Desert Air Basin (U)	N	A	A	A	A	U	A	U
Orange	N	N	N	A	A	A	A	U	A	U
Riverside	N	South Coast Air Basin (N), Mojave Desert Air Basin (U), Salton Sea Air Basin (A)	N	A, Mojave Desert Air Basin (U)	A	A	A	U	A	U
San Bernardino	N	N	N	A	A	A	A	U, Searles Valley Planning Area (N)	A	U
Ventura	N	A	N	A	A	A	A	U	A	U

NOTE:

Designation Categories: A = Attainment; N = Nonattainment; T = Nonattainment-Transitional; U = Unclassified

SOURCE:

California Air Resources Board. 9 January 2015. *Area designations (activities and maps)*. Available at: <http://www.arb.ca.gov/desig/changes.htm#summaries>

Existing Criteria Pollutant Emissions

The existing conditions (base year 2012) of the criteria pollutant emissions for the six counties in the SCAG region are shown in Table 3.3.2-6, *Criteria Pollutant Emissions by County—Existing Conditions (Base Year 2012)*.

**TABLE 3.3.2-6
CRITERIA POLLUTANT EMISSIONS BY COUNTY—EXISTING CONDITIONS (BASE YEAR 2012)**

County	(Tons/Day)								
	ROG		NOx			CO	PM10	PM2.5	SOx
	Summer	Annual	Summer	Annual	Winter	Winter	Annual	Annual	Annual
Imperial	4	4	10	11	11	28	1	0	0
Los Angeles	103	101	179	194	190	851	17	9	1
Orange	28	28	42	46	45	225	5	2	0
Riverside	26	23	66	70	69	183	5	3	0
San Bernardino	32	28	81	86	84	225	6	3	0
Ventura	9	8	12	14	14	70	1	1	0

SOURCE:

SCAG Transportation Modeling, 2015.

The SCAG region is encompassed by the CARB’s air quality monitoring program. The air monitoring stations collect ambient level measurements for criteria pollutants. The data generated are used to define the nature and severity of pollution in California; determine which areas of California are in attainment or non-attainment; identify pollution trends in the state; support agricultural burn forecasting; and develop air models and emission inventories.⁵³ There are 64 active air monitoring stations in the SCAG region: nine in Imperial County, 15 in Los Angeles County, five in Orange County, 15 in Riverside County, 14 in the San Bernardino County, and six in Ventura County. These monitoring stations are shown in *Figure 3.3.2-4, Air Quality Basins and Monitoring Stations*.⁵⁴

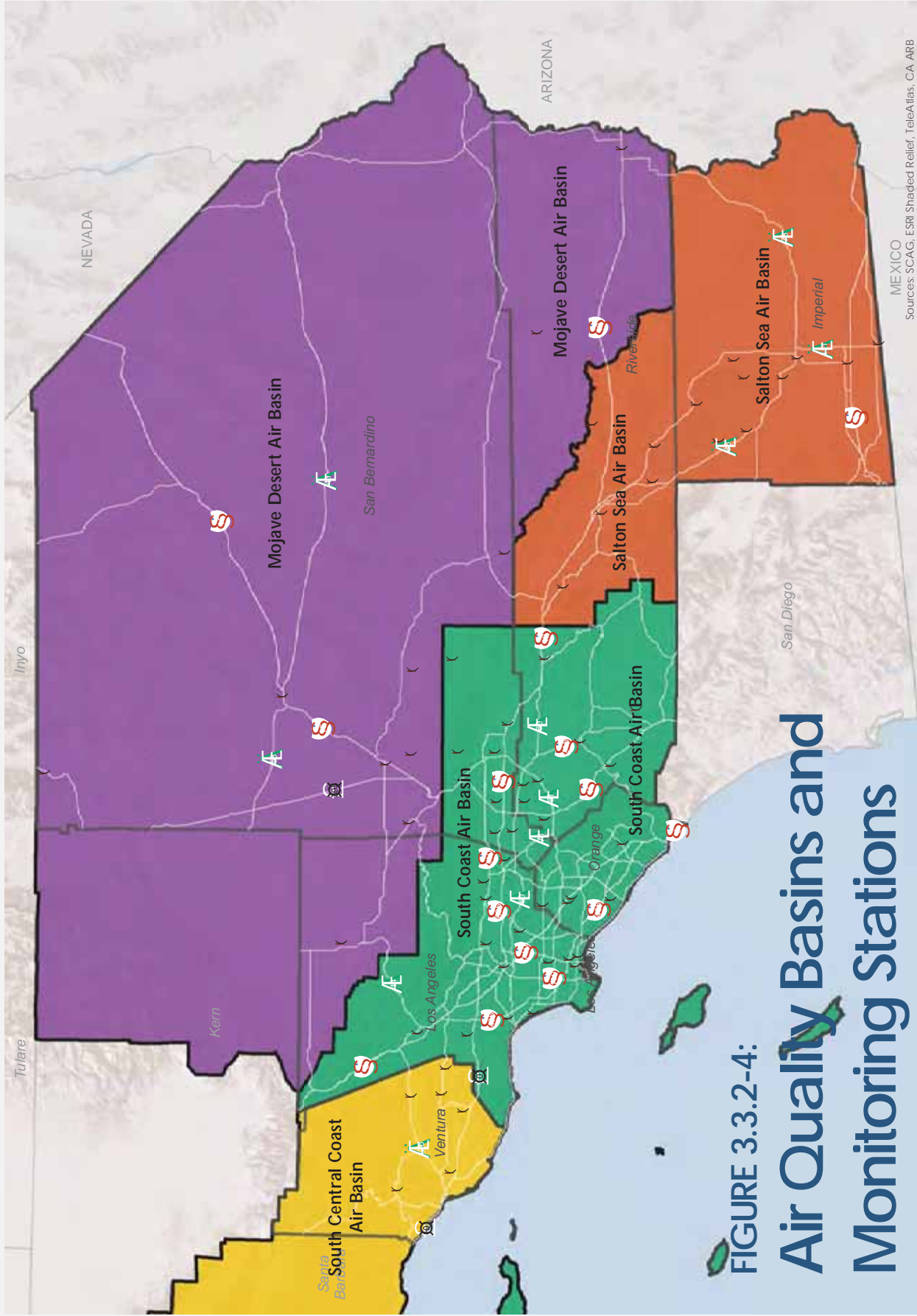
Health Risk Assessment

The HRA (**Appendix D** to the PEIR) assesses the potential carcinogenic risk to persons potentially exposed to harmful diesel exhaust emissions near freeways within the SCAG region. Using EMFAC 2014, only exhaust diesel particulate matter (DPM, modeled as PM_{2.5} and PM₁₀) and select toxics (i.e., acetaldehyde, benzene, 1,3-butadiene, and formaldehyde) are modeled because these pollutants have carcinogenic health effects. Cancer risk will be used as a corollary for overall health effects in this assessment. Discussed in more detail in **Appendix D** and **Section 4.0, Alternatives**, of this PEIR, and the *Air Quality and Greenhouse Gas Emissions Technical Report (Appendix C)*, the model simulates five conditions: a base year condition representing Existing Conditions, a future condition with the 2016 RTP/SCS, and three future conditions assuming if the 2016 RTP/SCS were not adopted. Comparison between the existing conditions and Plan is described in **Section 3.3.4, Impact Analysis**.

The emissions and cancer risk are evaluated along 16 different transportation corridors that were determined according to proximity to sensitive receptors and population, traffic, and vehicle miles traveled (VMT). Heavy duty diesel trucks (HDDT) comprise the majority of DPM emissions. An AERMOD

⁵³ California Air Resources Board. 1 July 2015. *Ambient Air Quality Monitoring*. Available at: <http://www.arb.ca.gov/aaqm/aaqm.htm>

⁵⁴ California Air Resources Board. 24 September 2014. *Quality Assurance Air Monitoring Site Information*. Available at: <http://www.arb.ca.gov/qaweb/site.php>



**FIGURE 3.3.2-4:
Air Quality Basins and
Monitoring Stations**

- Air Monitoring Stations
- Mojave Desert Air Basin
- South Central Coast Air Basin
- Salton Sea Air Basin
- South Coast Air Basin

0 5 10 20
Miles

Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CA ARB

dispersion model was used to project the DPM concentrations are pre-identified receptors out to 1,000 meters away from the freeway. Cancer risk from the DPM was escalated by 5 percent to account for other select toxics. (This percentage was identified as a good approximation in a MOVES2014 analysis.) Risk calculations are included for worker, residential, and sensitive receptors. **Table 1-1, *Summary Maximum Exposed Individual Residential 30-year Exposure Cancer Risk***, in the HRA (**Appendix D**), contains a summary of the cancer risk per million exposed persons for each of the five scenarios and 16 freeway segments.

Ambient Air Quality

The five air districts in the SCAG region each monitor air quality conditions in their region. The characterization of the ambient air quality in relation to criteria pollutants was based on peak readings of criteria pollutants in the SCAG air basins (**Table 3.3.2-7, *Peak Criteria Pollutants Readings for the SCAG Region Air Basins***). The data shows that O₃, PM_{2.5}, and PM₁₀ readings consistently exceeded the standards in each of the air basins.

**TABLE 3.3.2-7
PEAK CRITERIA POLLUTANTS READINGS FOR THE SCAG REGION AIR BASINS**

Pollutant	Period	Pollutant Standards		2011 Peak		Days in Excess of Standards 2011		2012 Peak		Days in Excess of Standards 2012		2013 Peak		Days in Excess of Standards 2013	
		CA	Federal	Criteria Reading		CA	Federal	Criteria Reading	CA	Federal	Criteria Reading	CA	Federal		
South Coast Air Basin															
Ozone (O ₃)	1-hour	0.09 ppm (180 µg/m ³)	—	0.160	90	16	0.147	97	12	0.151	70	5			
	8-hour	0.07 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	0.136	125	106	0.112	140	111	0.122	119	88			
Respirable Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	150 µg/m ³	CA 119.7 Federal 152.9	23	0	CA 90.9 Federal 104.8	97	0	CA 199.2 Federal 286	86	2			
	24-hour	—	35 µg/m ³	CA 97.4 Federal 94.6	—	17	CA 182.2 Federal 58.7	—	17	CA 170.8 Federal 60.3	—	13			
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	4.67	0	0	3.96	0	0	—	0	0			
	1-hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	CA 109 Federal 109.6	0	1	CA 97 Federal 97.8	0	0	CA 104 Federal 104.6	0	1			
Mojave Desert Air Basin															
Ozone (O ₃)	1-hour	0.09 ppm (180 µg/m ³)	—	0.132	57	1	0.119	44	0	0.120	22	0			

TABLE 3.3.2-7
PEAK CRITERIA POLLUTANTS READINGS FOR THE SCAG REGION AIR BASINS

Pollutant	Period	Pollutant Standards		2011 Peak		Days in Excess of Standards 2011		2012 Peak		Days in Excess of Standards 2012		2013 Peak		Days in Excess of Standards 2013	
		CA	Federal	Criteria Reading	Federal	CA	Federal	Criteria Reading	CA	Federal	Criteria Reading	CA	Federal		
		$\mu\text{g}/\text{m}^3$													
	8-hour	0.070 ppm (137 $\mu\text{g}/\text{m}^3$)	0.075 ppm (147 $\mu\text{g}/\text{m}^3$)	CA 0.114	Federal 0.113	138	95	CA 0.108	Federal 0.108	123	81	CA 0.097	Federal 0.097	105	66
Respirable Particulate Matter (PM ₁₀)	24-hour	50 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$	CA 138.7	Federal 143.4	18	0	CA 96.6	Federal 181.6	18	1	CA 173.4	Federal 305.2	26	1
Fine Particulate Matter (PM _{2.5})	24-hour	—	35 $\mu\text{g}/\text{m}^3$	CA 50	Federal 50	—	1	CA 49.5	Federal 67.7	—	2	CA 76.2	Federal 76.2	—	6
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	1.51		0	0	1.83		0	0	—		0	0
Nitrogen Dioxide (NO ₂)	1-hour	0.18 ppm (339 $\mu\text{g}/\text{m}^3$)	100 ppb (188 $\mu\text{g}/\text{m}^3$)	CA 77	Federal 77	0	0	CA 146	Federal 146	0	7	CA 84	Federal 84.9	0	0
Salton Sea Air Basin															
Ozone (O ₃)	1-hour	0.09 ppm (180 $\mu\text{g}/\text{m}^3$)	—	0.124		29	0	0.126		27	1	0.113		20	0

**TABLE 3.3.2-7
PEAK CRITERIA POLLUTANTS READINGS FOR THE SCAG REGION AIR BASINS**

Pollutant	Period	Pollutant Standards		2011 Peak Reading		Days in Excess of Standards 2011		2012 Peak Reading		Days in Excess of Standards 2012		2013 Peak Reading		Days in Excess of Standards 2013	
		CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal
Respirable Particulate Matter (PM ₁₀)	8-hour	0.070 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	CA 0.099	Federal 0.098	81	59	CA 0.101	Federal 0.100	93	58	CA 0.104	Federal 0.104	89	53
		50 µg/m ³	150 µg/m ³	CA 324	Federal 396.9	93	2	CA 387.3	Federal 406.2	103	2	CA 385.7	Federal 255.2	144	3
Fine Particulate Matter (PM _{2.5})	24-hour	—	35 µg/m ³	CA 103.5	Federal 80.3	—	3	CA 78.5	Federal 64.7	—	2	CA 70.8	Federal 36.3	—	1
		9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	9.01	9.01	0	0	4.47	4.47	0	0	—	—	0	0
Carbon Monoxide (CO)	8-hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	CA 130	Federal 130	0	2	CA 91	Federal 91	0	0	CA 156	Federal 156.9	0	2
		0.070 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	CA 0.091	Federal 0.090	30	11	CA 0.088	Federal 0.087	52	22	CA 0.089	Federal 0.089	23	7
South Central Coast Air Basin															
Ozone (O ₃)	1-hour	0.09 ppm (180 µg/m ³)	—	0.110	0.110	4	0	0.106	0.106	4	0	0.104	0.104	3	0
		0.070 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	CA 0.091	Federal 0.090	30	11	CA 0.088	Federal 0.087	52	22	CA 0.089	Federal 0.089	23	7

**TABLE 3.3.2-7
PEAK CRITERIA POLLUTANTS READINGS FOR THE SCAG REGION AIR BASINS**

Pollutant	Period	Pollutant Standards		2011 Peak Reading		Days in Excess of Standards 2011		2012 Peak Reading		Days in Excess of Standards 2012		2013 Peak Reading		Days in Excess of Standards 2013	
		CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal
Respirable Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	150 µg/m ³	CA 140.4	Federal 134.2	68	0	CA 186.4	Federal 180.9	69	3	CA 595.6	Federal 218.1	95	1
Fine Particulate Matter (PM _{2.5})	24-hour	—	35 µg/m ³	CA 34.6	Federal 34.6	—	0	CA 41.9	Federal 41.9	—	4	CA 39.6	Federal 39.6	—	2
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	1.89		0	0	1.11		0	0	—		0	0
Nitrogen Dioxide (NO ₂)	1-hour	0.18 ppm (338 µg/m ³)	100 ppb (190 µg/m ³)	CA 90	Federal 90	0	0	CA 58	Federal 58	0	0	CA 139	Federal 139	0	1

SOURCE:

California Air Resources Board. Accessed 8 May 2015. Top 4 summary: select pollutant, years, & area. Available at: <http://www.arb.ca.gov/adam/topfour/topfour1.php>

3.3.3 THRESHOLDS OF SIGNIFICANCE

The 2016 RTP/SCS would have a significant impact related to air quality if it would have the potential to:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable NAAQS or CAAQS
- Expose sensitive receptors to substantial pollutant concentrations and harm public health outcomes substantially
- Expose a substantial number of people to objectionable odors

The methodology for determining the significance of air quality impacts compares the existing conditions to the future conditions with the Project (2016 RTP/SCS), as required in CEQA Section 15126.2(a).

Analysis of the potential air quality impacts of the Plan was conducted based on SCAG's Regional Travel Demand Model, evaluation of relevant AQMPs/SIPs, and a mobile source HRA (**Appendix D**).

3.3.4 IMPACT ANALYSIS

Even though public health is not a CEQA issue area, this impact analysis was conducted from a public health lens as air quality is closely related to public health. The analysis relies primarily on the results of the HRA, as a corollary for public health. EPA has established a cancer risk threshold that has been accepted by the air districts within the SCAG region. Diesel particulate matter has been documented to affect respiratory health especially in the very young and senior populations. OEHHA has established a model for calculating the cancer risk that is primarily driven by diesel particulate matter. Therefore, SCAG prepared an HRA to evaluate the cancer risk associated with the Plan. Particular emphasis was placed on selecting transportation corridors that evaluated impacts to at risk populations. The results of that analysis have been used to characterize the impacts to public health with respect to the changes in air quality.

IMPACT Air-1: Potential to conflict with or obstruct implementation of the applicable air quality plan.

Less than Significant Impact

The 2016 RTP/SCS would result in a less than significant impact to air quality related to the potential to conflict with or obstruct implementation of the adopted SIPs/AQMPs/Attainment Plans in the SCAG region because the projected long-term emissions are in alignment with the local SIPs/AQMPs as demonstrated in the transportation conformity analysis, found in the appendices to the 2016 RTP/SCS. The emissions resulting from the Plan are within the applicable emissions budgets as stated in the SIPs/AQMPs for each nonattainment or maintenance area for all milestone, attainment, and planning horizon years.

As described in the Regulatory Framework, above, when a region is in nonattainment for any of the six criteria air pollutants relative to the NAAQs, the federal CAA requires states to develop SIPs to achieve the federal standard. The AQMPs are required as part of the SIP. Within the SCAG region, the 8-hour federal ozone standard is designated nonattainment for all the six counties. The only other of the six criteria pollutants designated nonattainment are PM_{2.5} and PM₁₀. As a result, all the SIPs in the SCAG region focus on reducing ozone emissions and may also focus on particle pollution. The following air quality plans applicable to the 2016 RTP/SCS are: 2012 SCAQMD Air Quality Management Plans (AQMP), MDAQMD Federal 8-hour Ozone Attainment Plan (2008), Imperial County 2013 SIP, ICAPCD 1997 8-Hour Ozone Modified Air Quality Management Plan (2009), AVAQMD Federal 8-hour Ozone Attainment Plan (2008), and the VCAPCD Air Quality Management Plan (2008).

The goals of the air quality management plans and attainment plans are to establish a strategy for achieving the standards by a set date by listing all feasible control measures, including transportation control measures. These control measures help advance the attainment date and are financially, economically, and socially feasible. As standards become more stringent with time, achieving the standards becomes a moving target that the air quality districts and air-related plans must continue to chase. At this current snapshot in time (2015), the Plan would be not in conflict with the existing air-related plans if it was aligned with the feasible control measures. For example, the 2012 SCAQMD AQMP was written in alignment with the 2012 RTP/SCS, incorporating the latest scientific, technological, and regulatory information and planning assumptions as of December 7, 2012.

The 2016 RTP/SCS would result in more aggressive regional transportation and land use strategies than the 2012 RTP/SCS with respect to achieving emission reductions as it has a greater emphasis on more compact development in existing urbanized areas and opportunity areas, higher investments and more integrated strategies for active transportation, higher investments for transit and passenger rail, and a greater emphasis on building a balanced regional blueprint for improving public health and ensuring quality of life (as discussed in **Section 2.0, Project Description**, of this PEIR). This is evident by the 2016 RTP/SCS transportation project types that allocate funding and planning efforts on trail access, regional greenway network, regional and local bikeway network, and pedestrian improvements by using a “complete street” approach; transit (rail, bus) improvements and new facilities; rideshare/vanpool programs; high-occupancy vehicle (HOV) lanes; traffic calming and signal improvements; and streetscape/landscape projects. The mission and resultant project list from the 2016 RTP/SCS strive to reduce emissions in both mobile and stationary sources by increasing density and reducing VMT. Additionally, land use strategies proposed in the Plan seek to balance the region’s strategic transportation investments and land use choices and are coordinated with the committed and projected transportation investments in the region that emphasize system preservation and enhancement, active transportation, and land use integration. These efforts are in alignment with the attainment plans and air quality management plans’ goals to reduce emissions of pollutants in nonattainment areas. Therefore, the Plan is expected to have a less than significant impact to conflict with or obstruct implementation of the applicable air quality plan, and the consideration of mitigation measures is not warranted.

IMPACT Air-2: Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Significant Impact

The construction and operation of individual transportation projects and anticipated development as result of the proposed transportation and land use strategies in the 2016 RTP/SCS are expected to have the potential to violate air quality standards or contribute substantially to an air quality violation, thus requiring the consideration of mitigation measures.

Long Term. Under the 2016 RTP/SCS, air emissions were estimated in 2040 (with the Plan) and compared to existing conditions (2012 base year). The calculated emissions were compiled for ROG, NO_x, CO, PM₁₀, PM_{2.5}, and SO_x for each county in the SCAG region. For every criteria pollutant in every county in the SCAG region, there are air pollutant emission reductions or no change between the Plan in 2040 and existing conditions (Table 3.3.4-1 *Criteria Pollutant Emission by County— Plan [2040] vs. Existing Conditions [2015]*). There is a less than significant impact to Impact Air-2 in the long term.

**TABLE 3.3.4-1
CRITERIA POLLUTANT EMISSION BY COUNTY— PLAN (2040) VS. EXISTING CONDITIONS (2015)**

County		(Tons/Day)								
		ROG		NO _x			CO	PM ₁₀	PM _{2.5}	SO _x
		Summer	Annual	Summer	Annual	Winter	Winter	Annual	Annual	Annual
Imperial	Existing	4	4	10	11	11	28	1	0	0
	Plan	2	2	3	3	3	13	1	0	0
	Difference	-2	-2	-7	-7	-7	-14	0	0	0
Los Angeles	Existing	103	101	179	194	190	851	17	9	1
	Plan	21	21	35	37	36	141	14	6	1
	Difference	-81	-80	-144	-157	-154	-711	-3	-3	0
Orange	Existing	28	28	42	46	45	225	5	2	0
	Plan	7	7	8	8	8	44	5	2	0
	Difference	-21	-21	-35	-38	-37	-181	0	-1	0
Riverside	Existing	26	23	66	70	69	183	5	3	0
	Plan	8	7	14	15	15	42	5	2	0
	Difference	-19	-17	-52	-55	-55	-141	0	-1	0
San Bernardino	Existing	32	28	81	86	84	225	6	3	0
	Plan	8	7	22	22	22	46	6	2	0
	Difference	-24	-21	-59	-64	-63	-179	0	-1	0
Ventura	Existing	9	8	12	14	14	70	1	1	0
	Plan	2	2	2	2	2	11	1	0	0
	Difference	-7	-7	-10	-11	-11	-59	0	0	0

SOURCE:

SCAG Transportation Modeling, 2015.

NOTE: Please note that 2012 base year network includes projects in the 2015 Federal Transportation Improvement Program (FTIP) adopted in September 2014 and projects in the 2012 RTP/SCS as last amended in September 2014.

The analysis of air quality also includes a comparison between the expected future conditions with the Plan and the expected future conditions if no Plan (No Project Alternative) were adopted. This evaluation is not included in the determination of the significance of impacts (which is based on a comparison of future conditions with the Plan to existing conditions); however, it provides a meaningful perspective on the effects of the Plan. **Figure 3.3.4-1, *PM_{2.5} Emissions Change***, and **Figure 3.3.4-2, *CO Emissions Change***, compare the Baseline (2040) emissions with the Plan (2040) emissions for PM_{2.5} and CO. The classification in the figures range from ≤ 2.5 standard deviations (SD), -2.5 to -1.5 SD, -1.5 to -0.5 SD, -0.5 to 0.5 SD, 0.5 to 1.5 SD, 1.5 to 2.5 SD, and >2.5 SD. CO and PM_{2.5} emissions mainly originate from vehicle exhaust, so their emissions are closely tied to transportation patterns and total VMT. In 2040, the Plan has less PM₁₀, PM_{2.5}, and CO emissions relative to Baseline, which could be attributed to policies that increase density in urban areas and active transportation (e.g., walking and biking) in the urban areas. Additionally, heavy duty vehicles which would incorporate emission reducing technology would also result in reduced emissions in nearby sensitive receptors. Since urban areas are responsible for most of the CO and PM_{2.5} emissions, the Plan has less PM_{2.5} and CO emissions relative to the No Project Alternative.

Short Term. The 2016 RTP/SCS would result in construction of transportation projects, buildings, and general development as the region grows. These construction activities would result in short-term emissions of air pollutants including ROG, NO_x, PM₁₀, PM_{2.5} and fugitive dust. The sources associated with these emissions include construction equipment, employee and vendor vehicles, demolition, grading and other ground-disturbing activities, application of paint and other coatings, paving, and others. Typically larger projects are associated with larger emissions during construction.

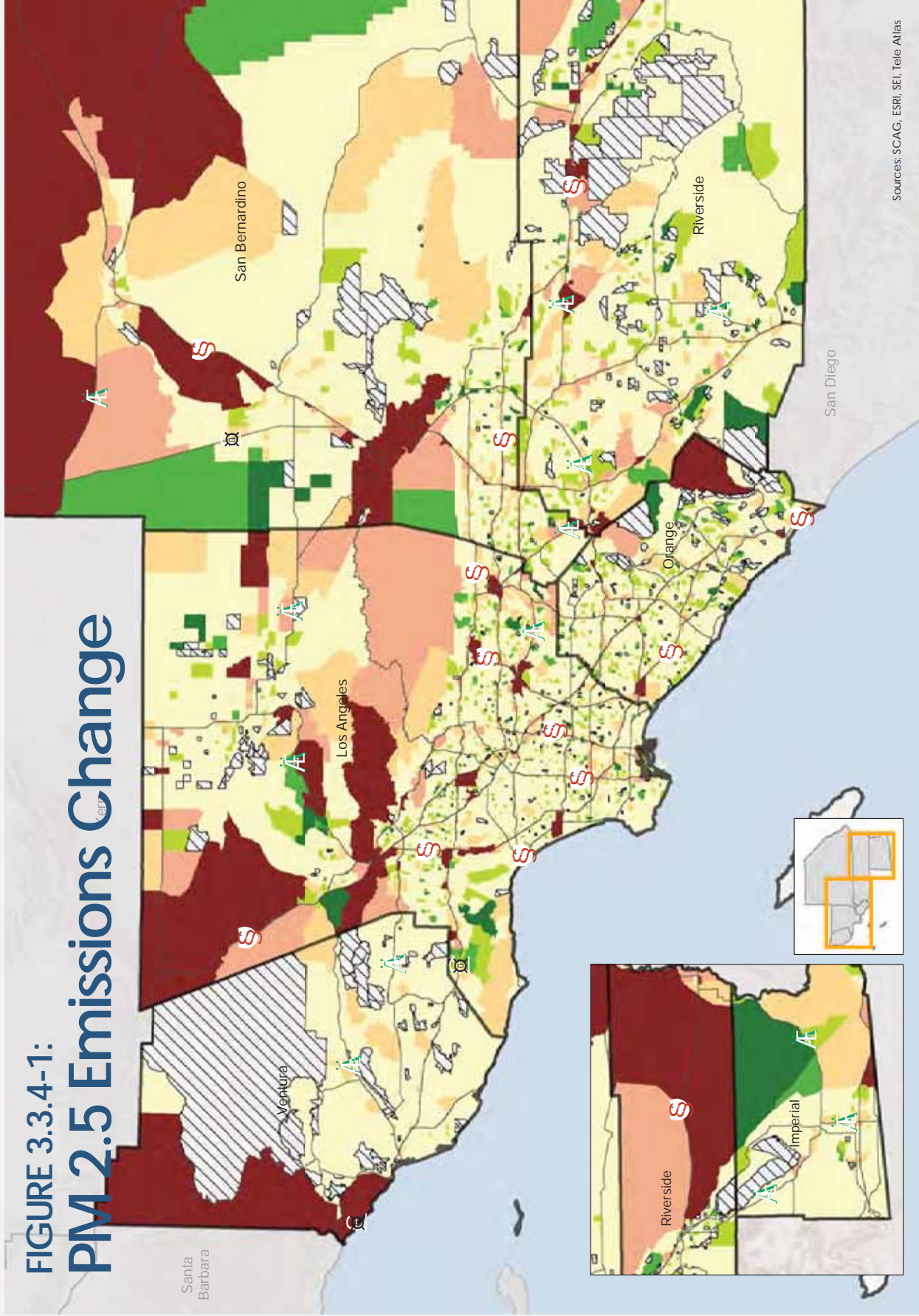
Since the 2016 RTP/SCS documents transportation projects in the six-county area, it is more than likely that multiple simultaneous construction projects would occur, resulting in greater cumulative emissions. While construction is transient in nature, short-term emissions from construction have the potential to contribute substantially to localized and daily thresholds. The SCAQMD sets mass daily thresholds for both construction and operation for the six main criteria pollutants and lead. All the air districts in the SCAG region also have a relevant fugitive dust rule that applies to construction activities. Therefore, the 2016 RTP/SCS would have the potential to result in a significant impact in the short term.

IMPACT Air 3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable NAAQS or CAAQS

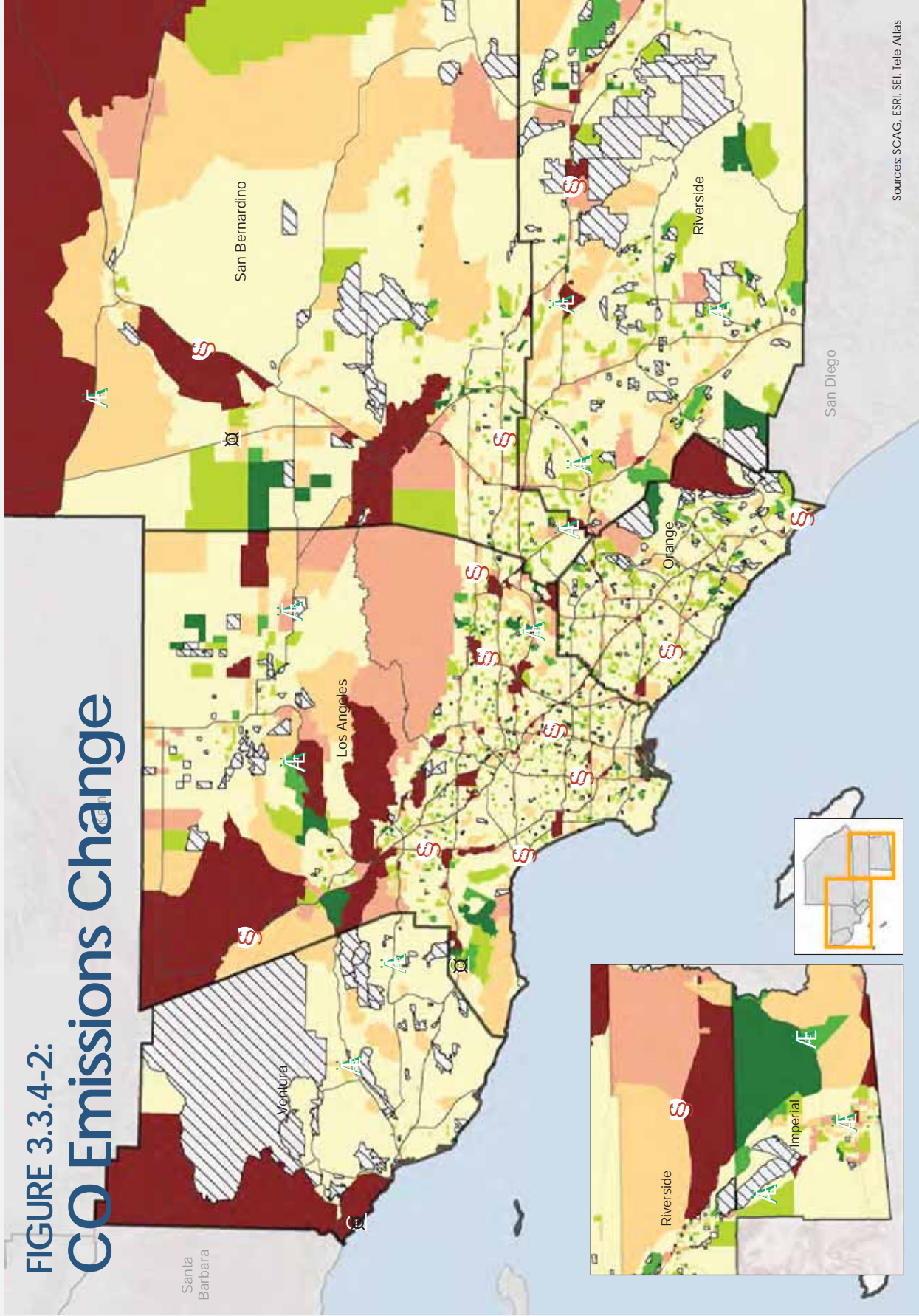
Less than Significant Impact

The 2016 RTP/SCS would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is designated nonattainment because the projected long-term emissions are in alignment with the local AQMPs/SIPs as demonstrated in the conformity analysis. The criteria pollutants that have a violation under the NAAQS are summarized in **Table 3.3.2-4, *2015 Nonattainment Areas in the SCAG Region for All Criteria Pollutants by County by NAAQS***. The SCAG region is currently in nonattainment for PM_{2.5}, PM₁₀, and ozone. These pollutants are the same ones that violate the CAAQS as well (**Table 3.3.2-5, *CAAQS Area Designations***). The Plan when compared to existing conditions, would result in either no change or a decrease for PM_{2.5} and PM₁₀ (**Table 3.3.4-1**). Ozone is assessed using the emissions for the ozone precursors which include ROG and NO_x. Since ROG and NO_x emissions

**FIGURE 3.3.4-1:
PM_{2.5} Emissions Change**



**FIGURE 3.3.4-2:
CO Emissions Change**



- CO Emission Change**
(Plan 2040 Minus Baseline)
- -0.198798 to -0.119998
 - -0.119997 to -0.041198
 - -0.041197 to 0.037603
 - 0.037604 to 0.116404
 - 0.116405 to 0.195204
 - 0.195205 to 1.418439
 - No Data

Sources: SCAG, ESRI, SEI, Tele Atlas

0 3 6 12 Miles

show a decrease from the existing conditions to the Plan, they will not contribute to a net increase in ozone.

Pursuant to the U.S. EPA's Transportation Conformity Regulations, the regional emissions tests are met if plan emissions are within the applicable emissions budgets for each nonattainment or maintenance area for all milestone, attainment, and planning horizon years and, if no emissions budgets have been established, the Plan/build emissions are less than the no-build emissions or the base-year emissions. The emissions budgets that were established in the AQMPs/SIPs in the SCAG region and have been approved by the U.S. EPA function as the applicable emission budgets for the conformity analysis for the respective nonattainment and maintenance areas. Federal conformity regulations also require the regional emissions analysis to be based on the Latest Planning Assumptions that include the latest vehicle data (fleet, age, activity) and latest socioeconomic growth forecast. A conformity determination must be made for each nonattainment and maintenance area in the region. In addition to the regional emissions analysis, the Plan is also required to pass (1) the timely implementation of the Transportation Control Measures (TCM) test, (2) the Financial Constraint test, and (3) the Interagency Consultation and Public Involvement test.

The regional emissions analysis serves as a reasonable analysis of cumulative air quality impacts of the Plan. The 2016 RTP/SCS meets the regional emissions tests for each nonattainment and maintenance area and for all milestone, attainment, and planning horizon years. The Transportation Conformity analysis can be found in the appendices of the 2016 RTP/SCS. The analysis concludes that the Plan meets all federal and state requirements for meeting attainment goals throughout the SCAG region as demonstrated by no net increase in any of the criteria pollutants that are currently in non-attainment according to the Plan (Table 3.3.4-1). Therefore, there would be less than significant impact, and the consideration of mitigation measures is not warranted.

IMPACT Air-4: Expose sensitive receptors to substantial pollutant concentrations and harm public health outcomes substantially.

Significant Impact

Despite diesel emission reductions, the cancer risk as measured along the freeways is above the threshold with the 2016 RTP/SCS, a significant impact to sensitive receptors and public health exists, thus requiring the consideration of mitigation measures.

Sensitive Receptors. Substantial concentrations of air pollutants are linked to adverse health effects especially when located in proximity to sensitive receptors. Because certain populations such as children and elderly are more sensitive to air pollution, it is critical to identify the effect of the 2016 RTP/SCS has on these populations. Sensitive receptors are identified as locations where people reside as they spend a significant amount of time in that location as well as schools, medical facilities, senior centers, nursing homes, etc. CARB recommends that local governments avoid locating new sensitive land uses within 500 feet of freeways. Consistent with CARB and public input, the 2016 RTP/SCS aims to limit placing new growth within 500 feet.

As shown in Table 3.3.4-2, *Sensitive Receptors by County*, only a small portion of the total number of existing sensitive receptors in the six counties are affected by the transportation projects listed in the 2016 RTP/SCS.

**TABLE 3.3.4-2
SENSITIVE RECEPTORS BY COUNTY**

County	Sensitive Receptors Count within 500-Foot Buffer of Major Transportation Projects	Total Sensitive Receptors Count	% Sensitive Receptors within 500-Foot Buffer of Major Transportation Projects
Imperial	829	37,329	2%
Los Angeles	92,491	1,749,992	5%
Orange	31,516	589,844	5%
Riverside	14,311	621,196	2%
San Bernardino	11,910	556,706	2%
Ventura	2,839	219,644	1%

SOURCE:

SCAG GIS modeling and data, 2015.

To assess public health risks caused by emissions, a Health Risk Assessment (HRA) was prepared (**Appendix D**) for this PEIR. The HRA evaluates potential carcinogenic health risks from emissions of diesel particulate matter (DPM) and other air toxics from motor vehicles on major freeways and transportation corridors. Ambient PM₁₀ and PM_{2.5}, of which DPM is one component. These emissions of diesel particulate emissions have been associated with acute (short-term) and chronic (long-term) health effects, such as the worsening of heart and lung diseases. Elevated levels of ambient particulate matter have also been identified as one of many aggravating factors for childhood asthma. PM₁₀ and PM_{2.5} are a health concern, particularly at levels above the federal and State ambient air quality standards. PM_{2.5} is thought to have greater effects on health because smaller particles are able to penetrate to the deepest parts of the lungs.

Scientific studies have suggested links between fine particulate matter and numerous health problems, including asthma, bronchitis, and acute and chronic respiratory symptoms such as shortness of breath and painful breathing.⁵⁵ Children are more susceptible to the health risks of PM_{2.5} because their immune and respiratory systems are still developing. Very small particles of certain substances (e.g., sulfates and nitrates) can also directly cause lung damage or can contain absorbed gases (e.g., chlorides or ammonium) that may be injurious to health.⁵⁶

The HRA quantitatively analyzed the potential to expose people to increased cancer and other health risks, based on using the potential for increased cancer risk from diesel particulate matter from heavy-duty diesel trucks traveling on major freeways. Cancer risk is used as a corollary for general respiratory health. Only motor vehicle emissions on freeways were quantitatively evaluated because emissions from other transportation corridors are much less than emissions on major freeways. The declines in cancer risk across all freeway segments are the result of continued decreases in per-vehicle mile fleet emissions projected to occur due to continued emission control technology improvements in new vehicles.

The HRA evaluated 16 freeway segments (as shown on **Figure 3.3.4-3, Overview Freeway Segments to Be Evaluated**). Emissions of DPM from each segment were calculated using the SCAG Transportation

⁵⁵ Active Living Research. Accessed 7 September 2015. *Research Results on Land Use, Transportation, and Community Design*. Available at: <http://activelivingresearch.org/land-use-transportation-and-community-design-research-summary-slides>

⁵⁶ Id.

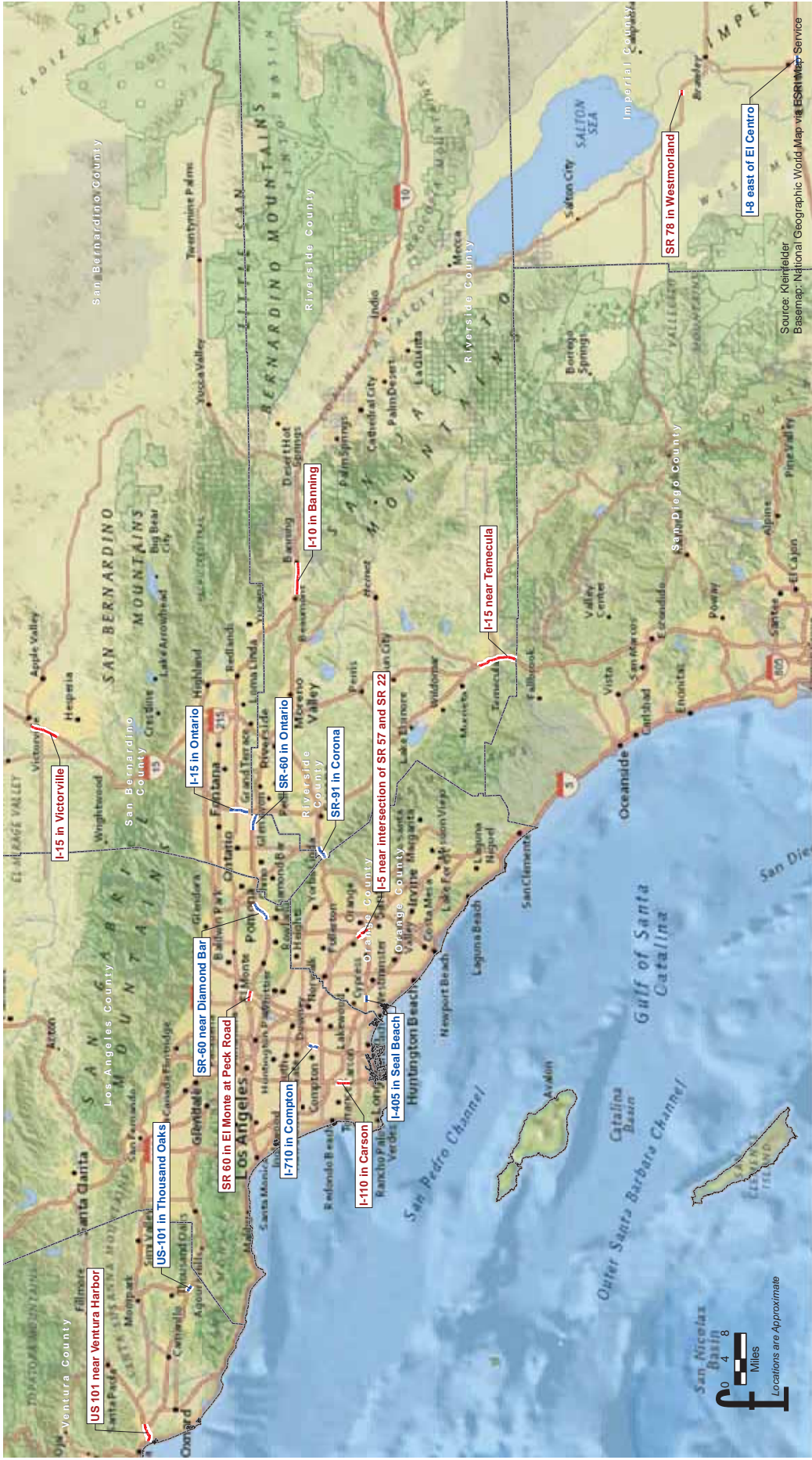


FIGURE 3.3.4-3:

Overview Freeway Segments to Be Evaluated

Demand Model VMT data for 2012 base year and projections for 2040 Plan. The potential cancer risk for residences was evaluated for a 30-year exposure, 9-year exposure and 70-year exposure. SCAG VMT data was provided for heavy duty vehicles and light/medium duty vehicles. The most current version of the California Air Resources Board (CARB) mobile source emissions model (EMFAC 2014) was used to obtain emission factors of particulate matter less than 10 microns diameter in diesel-fueled vehicles, which were assumed equal to DPM emission factors.

The potential impacts of emissions from a representative 1-mile long portion of the freeway segment were evaluated with CARB-approved AERMOD dispersion model (Version 15181) and meteorological data obtained from South Coast, Imperial, and Ventura Air District monitoring sites. The calculated DPM concentration was then used to calculate the potential carcinogenic risk using the most current HRA guidelines published by the California Office of Environmental Health Hazard Assessment (OEHHA). The potential cancer risk calculated for DPM was increased by 5 percent to account for the additional organic gases of acetaldehyde, benzene, 1-3-butadiene, and formaldehyde based on observations of past data.

To analyze potential cancer risk with respect to DPM, a baseline threshold of 10 per one million was utilized.⁵⁷ To clarify, the cancer risk in a given area is a measure of any one person's likelihood (chance) of contracting cancer due to exposure from a particular carcinogen; it is not a measure of how many people would actually contract cancer. This threshold is supported by air quality management districts in California, CARB and OEHHA. A 30-year exposure cancer risk was used in this analysis for a highly conservative scenario. This timeframe was selected as the typical resident lives in a home for approximately 30 years. Additionally, the analysis also assumed that the person would stay in the same place for 30 years, 7 days a week, 24 hours a day. As shown on Table 3.3.4-3, *Summary Maximum Exposed Individual Residential 30-Year Exposure Cancer Risk* (see also Appendix D), the maximum 30-year exposure to residential cancer risk for each transportation segment is significantly reduced when compared to existing conditions. While the VMT would rise under the Plan, the maximum potential cancer risk is on the order of 50 to 90 percent less than existing conditions. This is due to the dramatic reduction in emissions that are expected due to the federal and state regulations that require reduced emissions from on-road heavy-duty diesel trucks (HDDT). It is important to note that despite the reduction in cancer risk compared to existing conditions, the Plan would still result in minor exposure sensitive receptors to substantial pollutant concentrations and would slightly exceed the cancer risk threshold (10 in a million). As shown on Table 3.3.4-3, 15 of the 16 freeway segments exceeds the 10 in a million threshold, with the exception of Segment 2 (IMP SR-78, Imperial/Westmoreland), which is at 9 in a million. Despite the significant reduction in DPM emissions, impacts are still above the cancer risk threshold and are significant.

⁵⁷ South Coast Air Quality Management District. March 2015. *SCAQMD Air Quality Significance Thresholds*. Available at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>

**TABLE 3.3.4-3
SUMMARY MAXIMUM EXPOSED INDIVIDUAL RESIDENTIAL 30-YEAR EXPOSURE CANCER
RISK**

Segment No.	Transportation Segment	County/Region	Existing Conditions	2016 RTP/SCS	Exceed Thresholds?
1	IMP I-8	Imperial / El Centro	125	19	Yes
2	IMP SR-78	Imperial / Westmoreland	82	9	No
3	LA I-110	Los Angeles / Carson	664	46	Yes
4	LA I-710	Los Angeles / Compton	847	55	Yes
5	LA SR-60 DB	Los Angeles / Diamond Bar	1,101	60	Yes
6	LA SR-60 SEM	Los Angeles / South El Monte	763	44	Yes
7	ORA I-5	Orange / Orange	455	33	Yes
8	ORA I-405	Orange / Seal Beach	1,142	78	Yes
9	RIV I-10	Riverside / Banning	152	15	Yes
10	RIV I-15	Riverside / Temecula	366	38	Yes
11	RIV SR-91	Riverside / Corona	937	55	Yes
12	SB I-15 ONT	San Bernardino / Ontario	236	25	Yes
13	SB I-15 VIC	San Bernardino / Victorville	524	64	Yes
14	SB SR-60	San Bernardino / Ontario	810	39	Yes
15	VEN US-101 SB	Ventura / San Buenaventura	165	11	Yes
16	VEN US-101 TO	Ventura / Thousand Oaks	832	48	Yes

SOURCE:

Health Risk Assessment (Appendix D).

NOTE:

Cancer Risk Threshold is 10 per 1 million.

Public Health. In addition to emissions, multiple social, economic, and lifestyle factors could contribute to the detriment to the public health of a region. Built upon the public health emphasis of the 2012 RTP/SCS, the 2016 RTP/SCS places an even greater emphasis on public health. SCAG has evaluated social determinants including the community context, availability of health care, neighborhood and surrounding built environment, education, and economic health to see how these factors shape public health. With nearly half of U.S. adults living with a chronic disease, SCAG recognizes improving public health is vital to the community. The Surgeon General promotes increasing physical activity as one strategy to improve public health. While VMT from heavy duty trucks would increase, SCAG's Plan would decrease personal vehicle usage and increase active transportation. There is a growing support for increasing active transportation throughout the communities in the region. These changes can only be met if there is also a change in the built environment that enables people to walk safely in their communities. Proposed land use strategies and transportation investments such as provision of additional investments in active transportation networks including first/last mile improvements, Safe Routes to School projects, and regional bikeways infrastructures are expected to increase the number of short trips and improve physical activity outcomes. The statewide Affordable Housing and Sustainable Communities (AHSC) program, as noted in the Plan, would help to lower VMT traveled and AQ/GHG emissions by funding housing and transportation improvements. The program focuses on creating HQTAs.

The 2016 SCAG RTP/SCS includes regional strategies that may contribute to improving public health. As discussed in **Section 2.0, Project Description**, of this PEIR, these strategies include, for example, increased transportation investments in active transportation opportunities and facilities, transit and

passenger rail use, and land use strategies that create more opportunities for walking and biking or other physical activities. The RTP/SCS projects that daily VMT will increase in all counties above baseline conditions in the 2040 Plan Year (Table 3.3.4-4, *Daily VMT by County*). While per capita VMT is expected to decline, the net increase in population results in net increases in VMT in all counties. These strategies are linked to relevant performance measures in the outcome categories of economic wellbeing, investment effectiveness, environmental quality, location efficiency, mobility and accessibility, safety and health, system sustainability, and environmental justice. Incorporation of active transportation modes such as expanded regional greenway network and local and regional bikeway networks for biking and walking allow for more physical activities and greater health.

**TABLE 3.3.4-4
DAILY VMT BY COUNTY**

County	2012 Base Year	2040 Baseline	2040 Plan
Imperial	5,000	9,000	9,000
Los Angeles	226,000	249,000	228,000
Orange	77,000	84,000	79,000
Riverside	58,000	86,000	80,000
San Bernardino	62,000	89,000	86,000
Ventura	20,000	23,000	21,000
SCAG total	448,000	540,000	504,000

SOURCE:

SCAG GIS modeling and data, 2015.

In addition, SCAG is working on its community outreach and leadership through its Public Health Work Program. This program, expressed in the 2016 SCAG RTP/SCS, relies on leadership and collaboration, policy and analysis, and regional support. SCAG would build partnerships among government agencies, nonprofits, educational institutions, foundations, and other stakeholders to increase regional engagement. Synergies developed among the stakeholders improve data sharing and resource pooling for more comprehensive and integrated regional policy planning. This regional-level cooperation will lead to more standardized metrics and in turn help assist local agencies take advantage of Sustainability Planning Grants and other grant funding to promote public health.

The 2016 RTP/SCS would provide strategies to improve public health and develop walkable and transit friendly communities. The cancer risk would exceed thresholds, though it would be significantly reduced when compared to existing conditions. Impacts would remain significant and unavoidable.

IMPACT Air-5: Expose a substantial number of people to objectionable odors.

Less than Significant Impact

The 2016 RTP/SCS would result in a less than significant impact to air quality in relation to exposing a substantial number of people to objectionable odors. Odor sources within the SCAG region, such as wastewater treatment facilities, landfills, and agricultural operations, are controlled by county and city odor ordinances and air district rules that prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. These ordinances and rules are enforced by the air pollution control districts and local law enforcement. For example, SCAQMD/MDAQMD/AVAQMD Rule 1113, VCAPCD Rule 74.2 and ICAPCD Rule 101, Rule 424, *Architectural Coatings*, limit the amount of volatile

organic compounds from architectural coatings and solvents to further reduce the potential for odiferous emissions. However, transportation improvement projects in 2040 would not be expected to result in substantial odor emissions or affect a substantial number of people when compared to existing conditions. Therefore, the impact would be less than significant, and the consideration of mitigation measures is not warranted.

Construction. In accordance with federal and state regulations, diesel emissions from heavy duty trucks are projected to decrease with the Plan (see the HRA, **Appendix D**), and construction activities associated with the Plan would occur away from sensitive receptors in adherence to CARB's guidelines and response to public input gathered during the public outreach period. Construction of transportation projects listed in the Plan, as well as anticipated growth and development in the SCAG region have the potential to cause an increase in construction activities. From 2015 to 2040, construction would occur from transportation network improvements and land use development projects. Activities associated with the operation of construction equipment, diesel, the application of asphalt, the application of architectural coatings and other interior and exterior finished, and roofing may produce discernible odors typical of most construction sites. SCAQMD/MDAQMD/AVAQMD Rule 1113, VCAPCD Rule 74.2 and ICAPCD Rule 101, Rule 424, *Architectural Coatings*, limit the amount of volatile organic compounds from architectural coatings and solvents to further reduce the potential for odiferous emissions. Similar odor reducing rules apply to the other air quality districts in the SCAG region. Although these odors could be a source of nuisance to adjacent uses, odors from construction are temporary and intermittent in nature. Construction-related emissions also decrease with distance from the project site and quickly dissipate.

Land Use. The regional growth and anticipated land use changes reflected in the RTP/SCS would have the potential to result in nuisance odors. The level of exposure and number of receptors affected can only be determined through project-level analysis once facility designs of individual projects are available. Therefore, odor analyses related to regional growth and land use change in 2020 would be analyzed at the project level. However, projects would be required to comply with applicable odor regulations. Regional growth and land use change projects in 2020 would not be expected to result in substantial odor emissions or affect a substantial number of people when compared to existing conditions. Therefore, the impact would be less than significant, and the consideration of mitigation measures is not warranted.

Transportation Improvements. Transportation projects that involve roadway expansions or realignments could result in the transfer of vehicle emissions and/or could result in odor emissions sources being located closer to receptors. In addition, some projects (e.g., rail stations) could result in localized traffic congestion that generates odor concentrations. The level of exposure and number of receptors affected can only be determined through project-level analysis once facility designs of individual projects are available. Therefore, the odor analyses related to transportation improvements in 2020 for the 2050 RTP/SCS would be completed at the project level. However, projects would be required to comply with applicable odor regulations. Transportation projects in 2040 would not be expected to result in substantial odor emissions or affect a substantial number of people when compared to existing conditions. Therefore, the impact would be less than significant, and the consideration of mitigation measures is not warranted.

3.3.5 CUMULATIVE IMPACTS

The 2016 RTP/SCS contains transportation projects and strategies to integrate transportation investments with land use. These transportation projects, provided by county transportation commissions during the bottom-up planning process, are included in SCAG's transportation model. Transportation projects and anticipated development as part of the forecasted regional growth and land use strategies of the Plan have the potential to generate emissions for all six criteria air pollutants during both construction and operation.

IMPACT Air-1: Potential to conflict with or obstruct implementation of the applicable air quality plan.

Less than Significant Cumulative Impact

The 2016 RTP/SCS includes transportation projects and strategies that are consistent with air-related plans in the region and would not result in a cumulative impact with respect to conflicting with or obstructing implementation of an applicable air quality plan. Air quality plans are written for the applicable air basin(s) it covers. Because air basins are distinct geographical areas, the pollutants emitted beyond those air basins analyzed in this PEIR would not conflict with or obstruct implementation of those air quality management plans or attainment plans in the SCAG region. The cumulative impact would then be less than significant with regard to conflicting with the applicable air quality plans.

IMPACT Air-2: Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Significant Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with other development and infrastructure projects within the SCAG region and surrounding areas, would have the potential to result in a significant cumulative impact to violating an air quality standard or contributing substantially to an existing or projected air quality violation in the short-term from construction emissions. Projected long-term emissions are considered to have a less than significant cumulative impact according to the SCAG Transportation Model because the Plan is consistent with the local air quality management plans and state implementation plans. The model is inclusive of all potential air emissions in the SCAG region that could occur as a result of the Plan. Violations to the air quality standard outside of the SCAG region would not affect significance determinations within the SCAG region because the air quality thresholds are bounded within the air districts. Because the construction of development projects, occurring within the same neighborhood, may result in significant air quality emissions in excess of the thresholds, there would be a significant impact and therefore also a significant cumulative impact to the potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation.

IMPACT Air 3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable NAAQS or CAAQS

Less than Significant Cumulative Impact

The 2016 RTP/SCS would result in a less than significant cumulative impact to increasing any criteria pollutant that is in nonattainment under applicable NAAQS or CAAQS. The region is in nonattainment for PM_{2.5}, PM₁₀, and ozone. The Plan would not contribute to a net increase in these pollutants and is within the emission budgets set by the AQMPs/SIPs in the SCAG region. As a result, the Plan has demonstrated compliance with the transportation conformity regulations set by the U.S. EPA that apply in non-attainment and maintenance areas. Increases in criteria pollutants outside the areas already analyzed in the SCAG region would have no bearing on the Plan's ability to achieve conformity. There would be a less than significant cumulative impact to a net increase of any criteria pollutant designated as non-attainment.

IMPACT Air-4: Expose sensitive receptors to substantial pollutant concentrations and harm public health outcomes substantially.

Significant Cumulative Impact

The 2016 RTP/SCS includes transportation projects and strategies to improve public health, but would result in a significant cumulative impact by exposing sensitive receptors to substantial pollutant concentrations that would harm public health outcomes. While the Plan aims to limit growth within the 500-foot buffers of freeways and high volume roadways, it places a small percentage of sensitive receptors within a 500 foot buffer of major transportation projects in HQTAs beyond those provided by local jurisdictions. The Plan also sets forth strategies to increase active transportation and physical activity to improve public health. However, the HRA analysis revealed that despite a 50 to 90 percent reduction in mobile source emissions, the cancer risk threshold as measured at the receptor locations would be exceeded in all but one of sixteen segments. Because the Plan and HRA considered the potential for sensitive receptors in the SCAG region to be affected by substantial pollutant concentrations, the analysis in the Plan and HRA is representative of all the impacts to sensitive receptors in the SCAG region. Impacts to sensitive receptors outside the SCAG region would be less than those already evaluated because the distance to the receptor would be much greater. Because the Plan already results in direct and indirect significant impacts to sensitive receptors, the Plan would result in a significant cumulative impact in exposing sensitive receptors to substantial pollutant concentrations and harming public health.

IMPACT Air-5: Expose a substantial number of people to objectionable odors.

Less than Significant Cumulative Impact

The 2016 RTP/SCS would not expose a substantial number of people to objectionable odors. Odors from construction are temporary and intermittent in nature. While odors would need to be evaluated on a project by project basis, there is a potential for multiple projects to occur simultaneously within the

same neighborhood and in close proximity of each other. However because all projects must comply with odor regulations as prescribed by the applicable air district, the Plan would result in a less than significant cumulative impact to exposing a substantial number of people to objectionable odors.

3.3.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to air quality are described below. Mitigation measures are categorized into two categories: SCAG mitigation measures and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by the Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT Air-2: Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation.

SCAG Mitigation Measures

MM-Air-2(a)(1): SCAG shall determine as part of its conformity finding pursuant to the federal CAA that the Plan and updates provide for timely implementation of transportation control measures (TCMs), as required in the CAA Section 108(f)(1)(A). TCMs are identified in the Transportation Conformity Appendix to the 2016 RTP/SCS. SCAG has identified 17 measures as illustrative of TCMs based on review information contained in CAA Section 108(f)(1)(A) and information provided by utilities that serve the SCAG region:

- I. Programs for improved use of public transit;
- II. Restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or HOV;
- III. Employer-based transportation management plans, including incentives;
- IV. Trip-reduction ordinances;
- V. Traffic flow improvement programs that achieve emission reductions;
- VI. Fringe and transportation corridor parking facilities, serving multiple occupancy vehicle programs or transit service;
- VII. Programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration, particularly during periods of peak use;
- VIII. Programs for the provision of all forms of high-occupancy, shared-ride services, such as the pooled use of vans;
- IX. Programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;
- X. Programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;
- XI. Programs to control extended idling of vehicles;
- XII. Programs to reduce motor vehicle emissions, consistent with Title II of the CAA, which are caused by extreme cold start conditions;
- XIII. Employer-sponsored programs to permit flexible work schedules;
- XIV. Programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and

- ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;
- XV. Programs for new construction and major reconstruction of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation, when economically feasible and in the public interest;
- XVI. Programs to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks.
- XVII. Programs to encourage the installation of personal electric vehicle charging stations, and other alternative fuel sources.

MM-Air-2(a)(2): During the 2016 to 2040 Planning Horizon, SCAG shall pursue activities to reduce the impacts associated with health risk for sensitive receptors within 500 feet of freeways and high-traffic volume roadways as follows:

- Participate in ongoing statewide deliberations on health risks near freeways and high-traffic-volume roadways. This involvement includes supporting the statewide process by providing available data and information such as the current and projected locations of sensitive receptors relative to transportation infrastructure.
- Continue to work with air agencies including ARB, SCAQMD, and all air districts in the SCAG region to support their work in monitoring the progress on reducing exposure to emissions of PM₁₀ and PM_{2.5} for sensitive receptors, including schools and residents within 500 feet of freeways and high-traffic-volume roadways.
- Work with stakeholders to identify planning and development practices that are effective in reducing health impacts to sensitive receptors.
- Share information on all of the above efforts with stakeholders, member cities, counties, and the public.

Project-Level Mitigation Measures

MM-Air-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures that are within the jurisdiction and authority of the CARB, air quality management districts and other regulatory agencies. Where the Lead Agency has identified that a project has the potential to violate an air quality standard or contribute substantially to an existing air quality violation, the Lead Agency can and should consider the measures that have been identified by CARB and air district(s) and other agencies as set forth below, or other comparable measures, to facilitate consistency with plans for attainment of the NAAQS and CAAQS, as applicable and feasible.

CARB, South Coast AQMD, Antelope Valley AQMD, Imperial County APCD, Mojave Desert AQMD, Ventura County APCD, and Caltrans have identified project-level feasible measures to reduce construction emissions:

- Minimize land disturbance.
- Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas.
- Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.
- Cover trucks when hauling dirt.

- Stabilize the surface of dirt piles if not removed immediately.
- Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
- Minimize unnecessary vehicular and machinery activities.
- Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
- Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.
- On Caltrans projects, Caltrans Standard Specifications 10-Dust Control, 17-Watering, and 18-Dust Palliative shall be incorporated into project specifications.
- Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.
- Ensure that all construction equipment is properly tuned and maintained.
- Minimize idling time to 5 minutes—saves fuel and reduces emissions.
- Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
- Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
- Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.
- As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.

IMPACT Air-4: Expose sensitive receptors to substantial pollutant concentrations and harm public health outcomes substantially.

SCAG Mitigation Measures

See MM-Air-2(a)(1) and MM-Air-2(a)(2).

Project-Level Mitigation Measures

MM-Air-4(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures that are within the jurisdiction and authority of the air quality management district(s) where proposed 2016 RTP/SCS projects or development projects resulting from

the land use patterns in the 2016 RTP/SCS would be located. Where the Lead Agency has identified that a project has the potential, to expose sensitive receptors to substantial pollutant concentrations and harm public health outcomes substantially, the Lead Agency can and should consider the measures that have been identified by CARB and air district(s), or other comparable measures, to reduce cancer risk pursuant to the Air Toxics “Hot Spots” Act of 1987 (AB2588), as applicable and feasible. Such measures include those adopted by CARB designed to reduce substantial pollutant concentrations, specifically diesel, from mobile sources and equipment. CARB’s strategy includes the following elements:

- Set technology forcing new engine standards.
- Reduce emissions from the in-use fleet.
- Require clean fuels, and reduce petroleum dependency.
- Work with US EPA to reduce emissions from federal and state sources.
- Pursue long-term advanced technology measures.

Proposed new transportation–related SIP measures include:

On-Road Sources

- Improvements and Enhancements to California’s Smog Check Program
- Expanded Passenger Vehicle Retirement
- Modifications to Reformulated Gasoline Program
- Cleaner In-Use Heavy-Duty Trucks
- Ship Auxiliary Engine Cold Ironing and Other Clean Technology
- Cleaner Ship Main Engines and Fuel
- Port Truck Modernization
- Accelerated Introduction of Cleaner Line-Haul Locomotives
- Clean Up Existing Commercial Harbor Craft
- Limited idling of diesel-powered trucks
- Consolidated truck trips and improve traffic flow
- Late model engines, Low emission diesel products, engine retrofit technology
- Alternative fuels for on-road vehicles

Off-Road Sources

- Cleaner Construction and Other Equipment
- Cleaner In-Use Off-Road Equipment
- Agricultural Equipment Fleet Modernization
- New Emission Standards for Recreational Boats
- Off-Road Recreational Vehicle Expanded Emission Standards

3.3.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT Air-2: Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Given SCAG's limited authority over the local jurisdictions and unforeseeable circumstances at the project level, whereas implementation of MM-Air-2(a)(1), MM-Air-2(a)(2), and MM-Air-2(b) would reduce the impact of short-term emissions, direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT Air-4: Expose sensitive receptors to substantial pollutant concentrations and harm public health outcomes substantially.

Implementation of MM-Air-2(a)(1), MM-Air-2(a)(2), and MM-Air-4(b) would reduce the impacts to sensitive receptors and public health, but direct, indirect, and cumulative impacts would remain significant and unavoidable.

3.4 BIOLOGICAL RESOURCES

This section of the Program Environmental Impact Report (PEIR) describes the biological resources in the SCAG region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategies (“2016 RTP/SCS,” “Plan,” or “Project”) on biological resources, identifies mitigation measures for the impacts, and evaluates the residual impacts. Biological resources were evaluated in accordance with Appendix G of the 2015 State California Environmental Quality Act (CEQA) Guidelines. Biological resources within the SCAG region were evaluated at a programmatic level of detail, in relation to the general plans of the six counties and 191 cities within the SCAG region; a query of the California Natural Diversity Database (CNDDDB)¹ for the SCAG region; a review of published and unpublished literature germane to the SCAG region including but not limited to: United States Geological Survey (USGS) Topographic Maps, USGS Blueline Drainage Maps, the National Wetlands Inventory, the California Native Plant Society Rare Plant Inventory, and Natural Community Conservation Plans and Habitat Conservation Plans; as well as a review of SCAG’s 2012 RTP/SCS PEIR.² This section characterizes the baseline conditions for species listed as rare, threatened and endangered pursuant to the Federal or California Endangered Species Acts (ESAs), and associated designated critical habitat; and other special status species, state-designated sensitive plant communities that occur in the SCAG region, including riparian and aquatic habitats afforded protection pursuant to Section 10 of the Rivers and Harbors Act, Section 404 of the Federal Clean Water Act, and Section 1600 of the State Fish and Game Code; regional Habitat Conservation Plans and Multi-species Natural Community Conservation Plans; and other biological resources afforded protection pursuant to county and city general plans.

The SCAG region encompasses two mountain ranges, the Transverse and Peninsular Ranges; two deserts, the Mojave and the Colorado Deserts; and approximately 150 miles of coastline where the western margin of California meets the Pacific Ocean. Elevation ranges from 0 feet above mean sea level (MSL) to more than 10,000 feet above MSL. The diverse topography, landforms, soil and rock types, and climate zones, create the most diverse array of ecosystems and habitats found in the Nation. This varied landscape contains a high diversity of species, including relatively recently-evolved species and localized habitats, some of which are limited to Southern California.

Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for biological resources are provided.

Critical Habitat: A designated area defined by the United States Fish and Wildlife Services (USFWS) as being important for the survival of species listed pursuant to the federal ESA. The USFWS evaluates the collection of the environmental conditions (i.e., plant communities, range, elevation, food source, etc.)

¹ California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

² Southern California Association of Governments. April 2012. Final Program Environmental Report: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy. Available at: <http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

essential to the continued conservation and preservation of each species listed as federally threatened and endangered.

Federally Designated Sensitive Species: Species that are not listed by the federal government as endangered, threatened, or candidate species but are categorized by the federal government as a federal species of concern. Federal species of concern is a term-of-art that describes a taxon (organism or group of organisms) whose conservation status may be of concern to the USFWS but does not have official status. In addition, federally designated sensitive species include those that are designated as such by the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) on lands that fall under their jurisdiction.

Federally Listed Species: Species provided with special legal protection under the federal ESA. A federally listed endangered species is a species that is in danger of extinction throughout all or a significant portion of its range. A federally threatened species is one likely to become endangered in the absence of special protection or management efforts provided by the listing. A candidate species is one that is proposed by the federal government for listing as endangered or threatened.

Federal Wetlands: Defined by the U.S. Army Corps of Engineers (USACOE) and the U.S. Environmental Protection Agency (EPA) as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."³

Habitat Conservation Plans (HCPs): Required by the USFWS as part of an application for an "incidental take" permit for species listed pursuant to the federal ESA. HCPs describe the anticipated effects of the proposed taking, how the impacts will be minimized and mitigated, and how the HCP is to be funded.

Locally Important Species: Species that are not monitored by the resource agencies, but monitored by private organizations or local municipal governments. For the purposes of this EIR, locally important species include those plant species recognized by the California Native Plant Society (CNPS), a private organization dedicated to the conservation of native plants, as well as those recognized by the Audubon Society.

Natural Community Conservation Plan (NCCP): Defined by CDFW as a plan for the conservation of natural communities that identifies and provides for the regional or areawide protection and perpetuation of plants, animals, and their habitats.

Nursery Site: Considered habitat in which native wildlife may establish nests, maternity roosts, dens, or otherwise engage in breeding and/or the rearing of offspring.

Sensitive Plant Community: A native plant community listed on CDFW Natural Communities List as being rare within California or threatened by human actions.

Special Status Species: Species that have been afforded special recognition by federal, state, and/or local resource agencies or jurisdictions, or recognized resource conservation organizations. Special status wildlife species include those that are federally or state-listed as endangered, threatened, or

³ U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetland Delineation Manual*. Vicksburg, MS.

candidate species pursuant to the federal ESA, the California ESA, or other regulations enforced by a federal or state agency; or those species considered by the scientific community to be rare. For this purposes of this analysis, special status species include listed, sensitive, and locally important species.

Species of Special Concern (SSC): Species, subspecies, or distinct population of an animal (bird, mammal, fish, reptile, and amphibian) native to California that currently satisfies one or more of the following criteria: (a) is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role; (b) is listed as federally-, but not state-, threatened or endangered; (c) meets the state definition of threatened or endangered but has not formally been listed; (d) is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status; (e) has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for state threatened or endangered status.

State-designated Sensitive Species: Species that are not listed by the state government as endangered, threatened, or candidate species but are categorized by the state as a species of special concern or fully protected species. A California species of special concern is defined by the California Department of Fish and Wildlife (CDFW) as being a wildlife species that has declining population levels, a limited range, and/or continuing threats that have made it vulnerable to extinction.

State-Listed Species: Species provided special legal protection under the California ESA. A state-listed endangered species is a species that is in danger of extinction throughout all or a significant portion of its range. A state-listed threatened species is one likely to become endangered in the absence of special protection or management efforts provided by the listing. A candidate species is one that is proposed by the federal or state government for listing as endangered or threatened.

State Wetlands/Streams: Defined by the California Fish and Game Code. A *stream* is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. *Wetlands* are defined as areas having riparian vegetation, without regard to wetland vegetation, soils, or hydrology.

Waters of the United States: Surface waters such as navigable waters and their tributaries, all interstate waters and their tributaries, natural lakes, all wetlands adjacent to other waters, and all impoundments of these waters. On April 21, 2014, the U.S. EPA proposed to refine the definition of waters of the United States to include all tributaries of traditional navigable waters, interstate waters, territorial seas, and impoundments of such tributaries; wetlands adjacent to the foregoing; and waters other than wetlands that are adjacent to other jurisdictional waters.⁴

Wildlife Movement Corridors: Characterized as areas of habitat that are used by wildlife for the purpose of moving between locations.

⁴ *Federal Register*. 21 April 2014. Proposed Rules. 79(76). Available at: <http://www.gpo.gov/fdsys/pkg/FR-2014-04-21/pdf/2014-07142.pdf>

3.4.1 REGULATORY FRAMEWORK

Federal

Section 10 of Rivers and Harbors Appropriation Act of 1899

Authorization from the USACOE must be obtained for construction of a structure in or over any navigable water of the U.S., pursuant to Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 United States Code [USC] 401, 403, 407). Authorization is also needed for structures built near navigable water if they would affect the course, location, condition, or capacity of the water body, as through re-channelization, disposal of fill, and so forth.

Migratory Bird Treaty Act of 1918 (MBTA)

The MBTA (16 USC §§ 703–712) makes it unlawful to pursue, capture, kill, or possess any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union. Similar to the federal ESA, the MBTA authorizes the Secretary of the Interior to issue permits for incidental take.

Fish and Wildlife Coordination Act, 1956

The objective of the Fish and Wildlife Coordination Act of 1956 (FWCA; 16 USC 661–666c) is to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. Under the FWCA, Federal agencies shall consider the effect that water-related projects would have on fish and wildlife resources, prevent loss or damage and develop and improve fish and wildlife resources. The FWCA requires consultation with USFWS and state fish and wildlife agencies to develop measures to protect, develop and improve fish and wildlife resources.

Section 401 of the Federal Clean Water Act (CWA) (1972)

Section 401 of the federal CWA (33 USC 1251) is administered by the State Water Resources Control Board and the Regional Water Quality Control Boards (RWQCBs). Section 401 requires that prior to any federal permit or license, any activity, including river or stream crossings during road, pipeline, or transmission line construction, which may result in discharges into waters of the United States, must be certified by the applicable RWQCB. This certification ensures that the proposed activity does not violate federal water quality standards. The SCAG region lies within the jurisdiction of five RWQCBs:

- Colorado River Basin
- Lahontan
- Los Angeles
- Santa Ana
- San Diego

Section 404 of the Federal CWA

Section 404 of the federal CWA (33 USC 1251), which is administered by the USACOE, regulates the discharge of dredged and fill material into waters of the United States. USACOE has established a series of nationwide permits that authorize certain activities in waters of the United States, provided that a proposed activity can demonstrate compliance with standard conditions. In general, USACOE requires an individual permit for an activity that will affect an area equal to or in excess of 0.3 acre of waters of the United States. Projects that result in impacts to less than 0.3 acre of waters of the United States can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. USACOE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.3 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

Marine Mammal Protection Act of 1972 (MMPA)

The MMPA (16 USC 31) protects all marine mammals, including cetaceans (whales, dolphins, and porpoises), pinnipeds (seals and sea lions), sirenians (manatees and dugongs), sea otters, and polar bears within the waters of the United States. The MMPA prohibits the “take” of marine mammals without a permit, with certain exceptions. The definition of “take” under the MMPA is consistent with that of the federal ESA. The MMPA is managed by the federal government. The National Marine Fisheries Service is responsible for managing cetaceans, otariids, and phocids. The USFWS is responsible for managing odobenids, sirenians, otters, and polar bears.

Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA)

The MPRSA (Public Law 92-532), also known as the Ocean Dumping Act, prohibits the dumping of material into the ocean that would unreasonably degrade or endanger human health or the marine environment. Ocean dumping cannot occur unless a permit is issued under the MPRSA. In the case of dredged material, the decision to issue a permit is made by the USACOE, using EPA’s environmental criteria and subject to EPA’s concurrence.

Federal Endangered Species Act of 1986 (the Federal ESA)

The federal ESA (16 USC 1531) defines species as endangered and threatened and provides regulatory protection for listed species. The federal ESA provides a program for conservation and recovery of threatened and endangered species, and conservation of designated critical habitat that the USFWS has determined is required for the survival and recovery of these listed species.

Section 7 of the federal ESA requires federal agencies to aid in the conservation of listed species and to ensure that the activities of federal agencies will not jeopardize the continued existence of listed species or adversely modify designated critical habitat. At the federal level, the USFWS and the National Oceanic and Atmospheric Administration (NOAA) are responsible for administration of the Endangered Species Act.

Section 9 of the federal ESA prohibits the take of species listed by USFWS as threatened or endangered. *Take* is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in such conduct.” In recognition that take cannot always be avoided, Section 10(a) of the

federal ESA includes provisions for take that is incidental to, but not the purpose of, otherwise lawful activities.

Section 10(a)(1)(B) permits may be issued if take is incidental and does not jeopardize the survival and recovery of the species. An HCP is required with Section 10 incidental take permits to ensure the minimization of impacts to listed species and to provide adequate mitigation for impacts to listed species.

Emergency Wetlands Resources Act of 1986 (EWRA)

The objective of the EWRA (16 USC 3901–3932), dated November 10, 1986, is to promote the conservation of wetlands and help fulfill obligations contained in various migratory bird treaties. Under the EWRA, the UUSFWS must provide leadership and take action to:

- Intensify cooperative efforts to manage and conserve wetlands
- Intensify efforts to protect wetlands

Bald and Golden Eagle Protection Act (BGEPA)

The purpose of the federal BGEPA (16 USC 668–668c, as amended) that is administered by the USFWS protects bald and golden eagles, their nests, eggs, and parts.⁵ The BGEPA states that no person shall take, possess, sell, purchase, barter, offer for sale, purchase or barter, transport, export, or import any bald or golden eagle alive or dead, or any part, nest, or egg without a valid permit to do so. The BGEPA prohibits the “take” of bald and golden eagles unless pursuant to regulations. *Take* is defined by the BGEPA as an action “to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.”

In addition to immediate impacts, this definition covers impacts that result from human-caused alterations initiated around a previously used nest site during a time when eagles were not present. Permits are issued to Native Americans to possess eagle feathers for religious purposes, and salvaged eagle carcasses can be sent to the National Eagle Repository in Colorado, where they are redistributed to Native Americans. Although the bald eagle was removed from the Endangered Species List in June 2007, it is still federally protected under the BGEPA and MBTA described above. In addition, the *National Bald Eagle Management Guidelines* were published in conjunction with delisting by the USFWS in May 2007 to provide provisions to continue to protect bald eagles from harmful actions and impacts.⁶

Under the BGEPA, a final rule was published in May 2008 in the *Federal Register* that proposed authorization for take of bald eagles for those with existing authorization under the federal ESA where the bald eagle is covered in an HCP or the golden eagle is covered as a non-listed species.⁷ The final rule also established a new permit category to provide expedited permits to entities authorized to take bald eagles through Section 7 Incidental Take Permits.

⁵ U.S. Fish and Wildlife Service. n.d. *Bald Eagle Management Guidelines and Conservation Measures: Bald and Golden Eagle Protection Act*. Available at: <http://www.fws.gov/midwest/Eagle/guidelines/bgepa.html>

⁶ U.S. Fish and Wildlife Service. May 2007. *National Bald Eagle Management Guidelines*. Available at: <http://www.fws.gov/pacific/eagle/NationalBaldEagleManagementGuidelines.pdf>

⁷ *Federal Register*. 20 May 2008. Notices. 73(98): 29075–84.

Wetlands – Executive Order Number 11990

Executive Order (EO) 11990 was issued in May 1977, as a furtherance of the National Environmental Policy Act (NEPA) providing protection of wetlands. Pursuant to the EO, all new construction should be designed to the greatest extent possible to avoid long- and short-term adverse impacts that would lead to the destruction or the modification of wetlands, in order to preserve and enhance the natural and beneficial values of wetlands. Federal agencies, such as the Federal Highway Administration (FHWA), cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds that: (1) there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm.

Invasive Species – Executive Order Number 13112

This EO was signed by President Clinton on February 3, 1999. It serves to prevent activities that may promote the introduction and spread of invasive species. The order states that federal agencies whose actions “may affect the status of invasive species shall ... use relevant programs and authorities to ... prevent the introduction of invasive species ... detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner...monitor invasive species populations accurately and reliably ... provide for restoration of native species and habitat conditions in ecosystems that have been invaded.” In order to implement EO 13112, the FHWA has established guidance to prevent the introduction and spread, and promote the control, of invasive plant species on highway rights-of-way. Under EO 13112, federal agencies are prohibited from authorizing, funding, or carrying out actions that are likely to promote or result in the introduction or spread of invasive species unless all feasible measures to minimize the impacts have been analyzed and considered.

State

Section 1600 of the State Fish and Game Code, Lake or Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California are subject to the regulatory authority of the CDFW pursuant to Sections 1600 through 1603 of the Code and require preparation of a Streambed Alteration Agreement. Pursuant to the Code, a stream is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that support or have supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial waterways valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water ephemerally during storm events.

Section 2080 of the State Fish and Game Code, California Endangered Species Act (California ESA)

The California ESA prohibits the take of listed species except as otherwise provided in state law. Unlike the federal ESA, the California ESA applies the take prohibitions to species petitioned for listing (state candidates). State lead agencies are required to consult with the CDFW to ensure that any actions

undertaken by the lead agency are not likely to jeopardize the continued existence of any state-listed species or result in destruction or degradation of required habitat. CDFW is authorized to enter into Memoranda of Understanding (MOUs) with individuals, public agencies, universities, zoological gardens, and scientific or educational institutions to import, export, take, or possess listed species for scientific, educational, or management purposes.

Pursuant to Section 2081 of the Code, the CDFW may authorize individuals or public agencies to import, export, take, or possess, any state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or MOUs if:

- The take is incidental to an otherwise lawful activity.
- The impacts of the authorized take are minimized and fully mitigated.
- The permit is consistent with any regulations adopted pursuant to any recovery plan for the species.
- The applicant ensures adequate funding to implement the measures required by CDFW.

CDFW shall make this determination based on available scientific information and shall include consideration of the ability of the species to survive and reproduce.

Sections 2800 through 2840 of the State Fish and Game Code, Natural Community Conservation Planning Act

Section 2800 through 2840 of the State Fish and Game Code provides a mechanism to conserve natural communities on an ecosystem level while accommodating compatible land use. Specifically, it is used to provide comprehensive management and conservation of multiple wildlife species and the natural communities in which they occur.

Sections 3503 and 3503.5 of the State Fish and Game Code, Resident and Migratory Birds

Sections 3503 and 3503.5 of the State Fish and Game Code provide regulatory protection to resident and migratory birds and all birds of prey within the State of California, including the regulation of the taking of nests and eggs, unless otherwise provided for by the State Fish and Game Code. Specifically, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, or destroy the nest or eggs of any bird of prey, except as otherwise provided.

Sections 3511, 4700, 5050, and 5515 of the State Fish and Game Code, Fully Protected Species

The classification of Fully Protected was the state's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under the state and/or federal Endangered Species Acts. Sections 3511, 4700, 5050 and 5515 of the Fish and Game Code state that Fully Protected species (birds, mammals, fish, reptiles, amphibians) or parts thereof may not be taken or possessed at any time and no licenses or permits may

be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Title 14, § 460 of the California Code of Regulations

The regulations of take of furbearing mammals are established within the California Code of Regulations (CCR), Title 14, Division 1 (Subdivision 2), Chapter 5. Take is prohibited for several furbearing mammals under Title 14, § 460 of the CCR, including, but not limited to, desert kit fox (*Vulpes macrotis arsipus*) and red fox (*Vulpes vulpes*). Title 14 § 460 is supported by Sections 200, 202, 203, and 4009.5 of the State Fish and Game Code.

California Porter-Cologne Water Quality Control Act (1969)

Pursuant to the California Porter-Cologne Water Quality Control Act (California Water Code, Division 7), the State Water Resources Control Board is granted ultimate authority over water quality policy for the State of California. The nine regional boards, the RWQCBs, oversee water quality at the local and regional levels, and regulate pollutant and nuisance discharges into waters of the state. Waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. Before allowing discharges that may affect the quality of waters of the state, a Report of Waste Discharge must be filed with the RWQCB.

California Wild and Scenic Rivers Act (1972)

The objective of the California Wild and Scenic Rivers Act of 1972 (Public Resources Code [PRC] 5093.50) is the preservation of certain rivers which possess extraordinary scenic, reaction, fishery, or wildlife values. The Act provides permanent protection for some of the state's most outstanding free flowing rivers and prohibits actions such as the construction of dams or other harmful instream activities, except to serve local needs.

California Coastal Act (1976)

Through the California Coastal Act (PRC Division 20), the California Coastal Commission has unusually broad authority to regulate development in the Coastal Zone. A permit is required for any project that might change the intensity of land use in the Coastal Zone including projects that would require a building or grading permit from the city or county, major vegetation clearing, or subdividing. The coastal zone generally extends three miles seaward and about 1,000 yards inland. In particularly important and generally undeveloped areas where there can be considerable impact on the coastline from inland development, the coastal zone extends to a maximum of five miles inland from mean high tide line. In developed urban areas, the coastal zone extends substantially less than 1,000 yards inland.

California Native Plant Protection Act (1977)

The Native Plant Protection Act (Fish and Game Code Section 1900–1913) includes measures to preserve, protect, and enhance rare and endangered native plants. The list of native plants afforded protection pursuant to the Native Plant Protection Act includes those listed as rare and endangered under the California ESA. The Native Plant Protection Act provides limitations by stating “no person will

import into this State, or take, possess, or sell within this State” any rare or endangered native plant, except in compliance with provisions of the act. Individual landowners are required to notify the CDFW at least 10 days in advance of changing land uses to allow the CDFW to salvage any rare or endangered native plant material.

California Desert Native Plant Act (1981)

The main purpose of the Desert Native Plant Act (Food and Agriculture Code Division 23) is to preserve and enhance desert native plants by protecting certain species from unlawful harvesting on both public and privately owned lands. The list of desert native plants afforded protection pursuant to the Desert Native Plant Act includes species within the Mojave Desert portions of Los Angeles, San Bernardino, and Riverside Counties. The Desert Native Plant Act provides limitations that no person will harvest, transport, or possession of certain native desert plants without authorization (i.e., valid permit or wood receipt). Authorization for take of native desert plants can be obtained through the sheriff or commissioner of the county where harvesting will occur and subject to county designated fees.

Natural Community Conservation Planning Act of 1991, as Amended

The Natural Community Conservation Planning Act of 1991, as amended in 2003 (Fish and Game Code Section 2800-2835) established the Natural Community Conservation Planning program for the protection and perpetuation of the state’s biological diversity. The CDFW established the program in order to conserve natural communities at the ecosystem level while accommodating compatible land use. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The CDFW provides support, direction, and guidance to participants in order to ensure that NCCPs are consistent with the state ESA.

State Senate Concurrent Resolution No. 17 – Relative to Oak Woodlands

The State Senate Concurrent Resolution No. 17, filed with the Secretary of State on September 1, 1989, states that any state agencies having land use planning duties and responsibilities shall assess the effects of their land use decisions or actions within any oak woodlands containing blue oak (*Quercus douglasii*), Engelmann oak (*Q. engelmannii*), valley oak (*Q. lobata*), or coast live oak (*Q. agrifolia*). The State Senate defines “oak woodland” as a five-acre circular area containing five or more oak trees per acre. This resolution requires that state agencies must preserve and protect native oak woodlands to the maximum extent feasible or provide for replacement plantings where blue, Engelmann, valley, or coast live oak are removed from oak woodlands.

State Wildlife Action Plan (SWAP)

Congress created the State and Tribal Wildlife Grants (SWG) program in 2000, recognizing the need to fund programs for the conservation of wildlife diversity.⁸ Congress mandated each state and territory to develop a SWAP by 2005 that provided a comprehensive wildlife conservation strategy to continue receiving federal funds through the SWG program. California’s first SWAP was completed by the

⁸ U.S. Fish & Wildlife Services. Accessed 29 October 2015. State Wildlife Grant Program – Overview. Available at: <http://wsfrprograms.fws.gov/Subpages/GrantPrograms/SWG/SWG.htm>

California Department of Fish and Game (now the CDFW) and approved by the U.S. Fish and Wildlife Services (USFWS) in 2005. California's SWAP 2005 identified and targeted Species of Greatest Conservation Need (SGCN) and the critical habitats on which they depend. The SWG program requires SWAP updates at least every 10 years. CDFW has recently prepared SWAP 2015, which is the first comprehensive update of SWAP 2005.⁹ Currently under USFWS review for approval, the SWAP 2015 focuses on conservation of the wildlife resources of the nation's most biologically diverse state using an approach that is in harmony with a growing human population and the need for resilience in the face of a changing climate. Employing an ecosystem approach to conserve and manage diverse habitats and species, SWAP 2015 provides a blueprint for actions necessary to address the highest priorities for conserving California's aquatic, marine, and terrestrial resources.

Local

In addition to federal, state, and county regulations described above, general plans and municipal codes of counties and cities in the SCAG region may include conservation elements that identify biological resources, including mature trees and locally important species that are afforded special consideration.

County General Plans and Ordinances

Per state general plan guidelines, county's general plan is required to contain a conservation element as well as an open space element. These elements are generally where discussions regarding biological resources can be found. Each county's general plan varies in level of detail and necessary measures to preserve biological resources. The counties within the SCAG area may each have individual codes or ordinances protecting biological resources. A commonly occurring ordinance is a native tree protection or oak tree protection ordinance. These codes and ordinances generally have a limited scope, in this case the removal of specific tree species, which are afforded some level of protection.

Imperial County

The Imperial County Code of Ordinances has established two codes related to biological resources (Chapter 12.44, Wildlife Protection, and Chapter 12.48 Wild Flowers and Trees). The Conservation and Open Space Element of the Imperial County General Plan has established one goal and two policies related to biological resources.¹⁰ The County's two codes, one goal and two supporting policies relevant to the SCAG projects provide protection to wildlife, wild flowers and trees as well as preservation of native plant communities and best restoration practices.

Los Angeles County

The Conservation and Natural Resources Element of the Los Angeles County General Plan 2035 Update has established two goals and 13 policies related to biological resources. Ten of the 13 policies are relevant to the SCAG projects.¹¹ The two goals and eight supporting policies that apply to SCAG

⁹ California Department of Fish and Wildlife. 2015. California State Wildlife Action Plan 2015 Update: A Conservation Legacy for Californians. Available at: <https://www.wildlife.ca.gov/SWAP/Final>

¹⁰ Imperial County Planning and Development Services. 1993. *Imperial County General Plan: Chapter 9: Conservation and Open Space Element*. Pp. 47, 54. Available at: <http://www.icpds.com/CMS/Media/Conservation-and-Open-Space-Element.pdf>

¹¹ Los Angeles County Department of Regional Planning. January 2014. *Los Angeles County General Plan Public Review Draft:*

activities provide protection to natural habitats, special status species, sensitive plant communities, wildlife corridors, watersheds and other sensitive biological resources. They also act to discourage development in natural or biologically sensitive areas. In addition, the Los Angeles County Code of Ordinances has established an ordinance to protect native oak trees.

Los Angeles County has designated several areas containing sensitive biological resources as Significant Ecological Areas (SEAs). SEAs are areas that warrant special management because they contain biotic resources that are considered to be rare or unique; are critical to the maintenance of wildlife; represent relatively undisturbed areas of Los Angeles County Habitat Types; or serve as linkages. Any development within SEAs is subject to the discretion and policies of the Significant Ecological Areas Technical Advisory Committee (SEATAC).

Orange County

The Resources Element of the Orange County General Plan has established one goal and one policy related to biological resources.¹² The one goal and one supporting policy relevant to SCAG projects provide protection to wildlife, plants and vegetation communities.

Riverside County

The Riverside County Code of Ordinances has established one ordinance related to biological resources (No. 559, Section 1). The Open Space and Conservation Element of the Riverside County General Plan has established two objectives and eight policies related to biological resources.¹³ The one ordinance, two goals, and eight supporting policies relevant to the SCAG projects provide protection to native trees, native plant communities, critical habitat, sensitive habitats, sensitive species and wildlife corridors. They also ensure continued participation and compliance with the County's Multi-Species HCP Program and the San Bernardino kangaroo rat HCP.

San Bernardino County

The San Bernardino County Development Code has established one code related to biological resources (Chapter 88.01.010(c)). The Conservation Element of the San Bernardino County General Plan has established one goal and six policies related to biological resources.¹⁴ The one code, two goals, and six supporting policies relevant to SCAG projects provide protection to native species, sensitive species and sensitive plant communities. They also warrant coordination with the appropriate resource management agencies and interested groups to maintain the County's biological resources.

Chapter 9: Conservation and Natural Resources Element. P. 146. Available at:
http://planning.lacounty.gov/assets/upl/project/gp_2035_Chapter9_2014.pdf

¹² Orange County Land Use Planning and Subdivision Services. 2005. *Orange County General Plan 2005: Chapter 6: Resources Element.* P. VI-32. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235>

¹³ Riverside County Planning Department. November 2012. *Riverside County General Plan 2025: Open Space and Conservation Element.* P. OS-40. Available at:
http://www.riversideca.gov/planning/gp2025program/GP/12_Open_Space_and_Conservation_Element.pdf

¹⁴ San Bernardino County Land Use Services. 2007. *San Bernardino County General Plan: Chapter 5: Conservation Element.* P. V-13. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

Ventura County

The Ventura County Code of Ordinances has established one ordinance related to biological resources. The Resources Element of the Ventura County General Plan has established one goal and two policies related to biological resources.¹⁵ The one code, one goal and six supporting policies relevant to SCAG projects provide protection to native trees, sensitive species, sensitive habitats, wildlife corridors and locally important species/communities.

City General Plan and Ordinances

In accordance with Sections 6530(c) and (d) of the California Government Code, like the six counties in the SCAG region, all cities are required to have a conservation element and an open space element, as mandatory elements of their general plans. The conservation element provides goals and policies related to conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. One of the six required aspects of the open space element is for planning, conservation and management of open space for the preservation of natural resources, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands. In addition, many of the cities have ordinances related to protection, conservation and management of natural habitats, and associated plant and animal resources.

3.4.2 EXISTING CONDITIONS

This section provides the environmental setting for sensitive biological resources in the SCAG region, which encompasses an area of more than 38,000 square miles within the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. This vast area includes millions of acres of open space and recreational land as well as large amounts of farmland and a population of approximately 19 million people.¹⁶ The SCAG region is composed of a complex pattern of land uses that may contain sensitive biological resources including residential, commercial/office, industrial, institutional, agricultural, and open space land uses. The SCAG region includes a rich assemblage of biological resources supported by a variety of elevation, landform, soil and rock types, and climate zones. This varied landscape contains a high diversity and abundance of species, including relatively recently-evolved species and localized habitats with species that occur only in Southern California. This section includes information on the following baseline conditions in the SCAG region: special-status species and associated critical habitat, state-sensitive and riparian plant communities, federally protected wetlands and waterways, migratory corridors and nursery sites for native Southern California wildlife, local policies and ordinances, and Habitat Conservation Plans and Natural Community Conservation Plans.

¹⁵ Ventura County Planning and Development Services. March 2015. *Ventura County General Plan: Goals, Policies and Programs*. P. 16. Available at: <http://www.ventura.org/rma/planning/pdf/plans/Goals-Policies-and-Programs.pdf>

¹⁶ SCAG projections for 2020 indicate a population total of 19,390,870.

Special-Status Species and Critical Habitat

Special-status species are species that have been afforded special recognition by federal, state, and/or local resource agencies or jurisdictions, or recognized resource conservation organizations. Special status wildlife species include those that are federally or state-listed as endangered, threatened, or candidate species pursuant to the federal ESA, the California ESA, or other regulations enforced by a federal or state agency; or those species considered by the scientific community to be rare. For this purposes of this analysis, special-status species include listed, sensitive, and locally important species.

State and Federally Listed Species

A search of relevant literature and databases for the six counties of the SCAG region was performed to develop a list of listed species and biological resources that could potentially occur in the SCAG region. Literature and database records reviewed were:

- CNDDDB information (RareFind 5), administered by CDFW. This database inventories the status and locations of rare plants, animals, and natural communities in California.
- California Native Plant Society (CNPS) On-Line Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPSEI 2015).
- Calflora. Information on wild California plants for conservation, education, and appreciation. <http://www.calflora.org/>.
- Consortium of California Herbaria. A gateway to information from California vascular plant specimens that are housed in participant herbaria. <http://ucjeps.berkeley.edu/consortium/>.
- State of California. The Natural Resources Agency. Department of Fish and Game. Biogeographic Data Branch. CNDDDB. Special Animals (898 taxa). January 2011.
- eBird. A real-time online bird watching checklist for reporting and accessing information about birds. <http://ebird.org>.

There are 66 federally or state-listed wildlife species and 76 plant species with historical records located within the six counties of the SCAG region as well as nearly 6 million acres of designated critical habitat (Table 3.4.2-1, *Summary of Federally and State-Listed Species Reported in the SCAG Region and Designated Critical Habitat*; Figure 3.4.2-1, *State and Federally Listed Species Reported in the SCAG Region*).¹⁷ Available information for the federally or State-listed species historically known from the SCAG region has been compiled, including counties that are known to be within the historic range of the species and whether designated critical habitat has been defined for the species (Table 3.4.2-2, *State and Federally Listed Species Reported in the SCAG Region and Designated Critical Habitat*).

¹⁷ California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

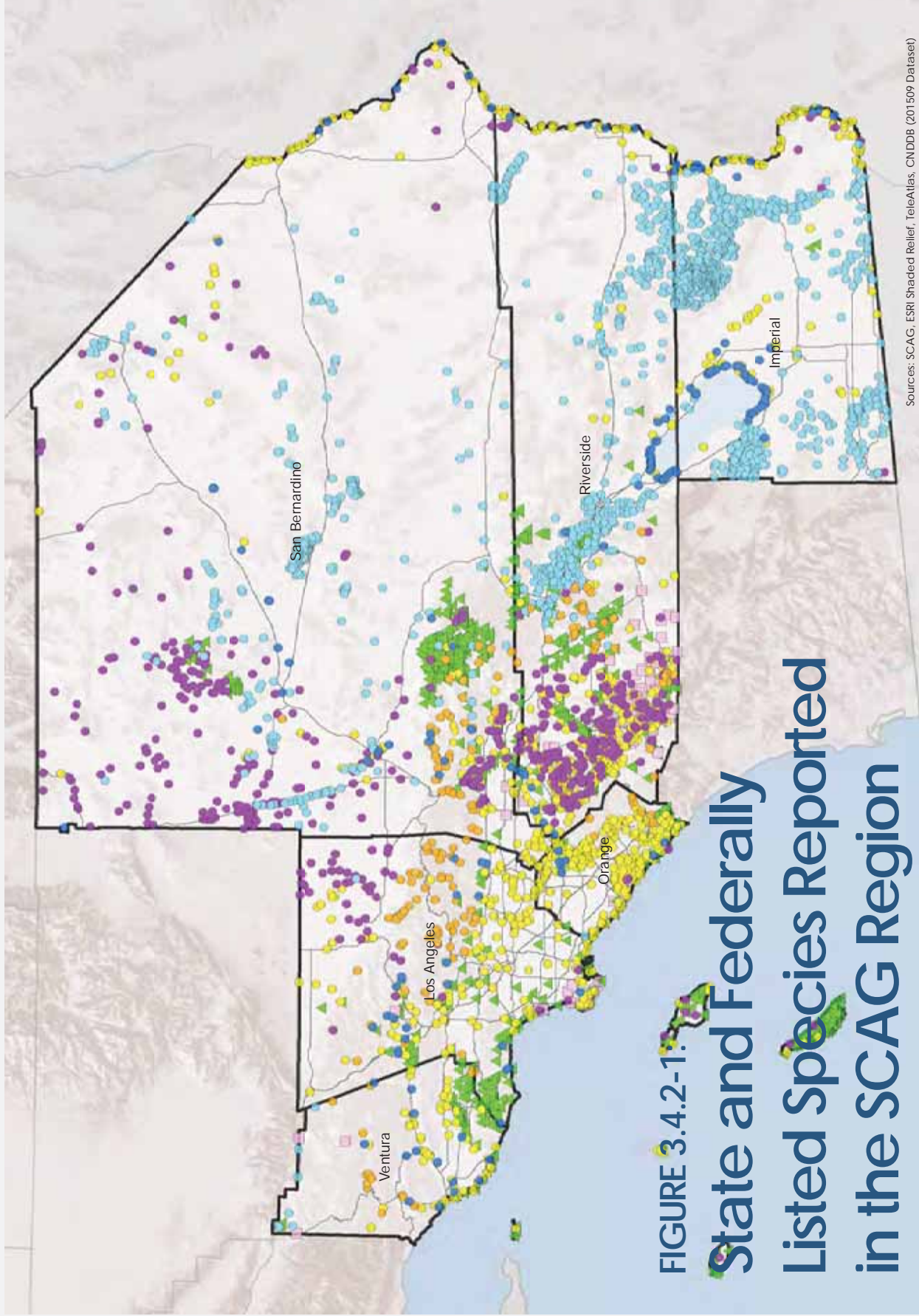


FIGURE 3.4.2-1.
State and Federally Listed Species Reported in the SCAG Region

- State and Federally Listed Species) Invertebrate
- (Amphibian) Mammal
 - (Bird) # Plant
 - (Fish) Reptile

**TABLE 3.4.2-1
SUMMARY OF FEDERALLY AND STATE-LISTED SPECIES REPORTED IN THE SCAG REGION
AND DESIGNATED CRITICAL HABITAT**

County	Resources Reported in the SCAG Region						
	Wildlife Species			Plant Species			Critical Habitat
	Number Solely Federally Listed	Number Federally and State-Listed	Number Solely State-Listed	Number Solely Federally Listed	Number Federally and State-Listed	Number Solely State-Listed	Acres of Critical Habitat
Imperial	1	11	8	1	2	2	510,830
Los Angeles	16	11	10	7	20	5	109,600
Orange	8	4	6	3	9	0	45,900
Riverside	12	12	11	9	10	5	1,246,280
San Bernardino	8	12	11	15	9	3	3,648,900
Ventura	11	9	7	8	7	5	346,730
Entire SCAG region	24	24	18	30	28	18	5,908,250

SOURCE:

California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

**TABLE 3.4.2-2
STATE AND FEDERALLY LISTED SPECIES REPORTED IN THE SCAG REGION
AND DESIGNATED CRITICAL HABITAT**

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Plants				
<i>Acanthoscyphus parishii</i> var. <i>goodmaniana</i>	Cushenbury oxytheca	FE, CRPR: 1B.1	SB	ND
<i>Acmispon argophyllus</i> var. <i>adsurgens</i>	San Clemente Island bird's-foot trefoil	SE, CRPR: 1B.1	LA	ND
<i>Acmispon dendroideus</i> var. <i>traskiae</i>	San Clemente Island lotus	FT, SE, CRPR: 1B.3	LA	ND
<i>Allium munzii</i>	Munz's onion	FE, ST, CRPR: 1B.1	RIV	1,240
<i>Ambrosia pumila</i>	San Diego ambrosia	FE, CRPR: 1B.1	RIV	ND
<i>Arenaria paludicola</i>	Marsh sandwort	FE, SE, CRPR: 1B.1	LA, RIV, SB	ND
<i>Astragalus albens</i>	Cushenbury milk-vetch	FE, CRPR: 1B.1	SB	4,370
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	FE, CRPR: 1B.1	LA, VEN, OR, RIV	3,930
<i>Astragalus jaegerianus</i>	Lane Mountain milk-vetch	FE, CRPR: 1B.1	SB	ND
<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Coachella Valley milk-vetch	FE, CRPR: 1B.2	RIV	ND
<i>Astragalus magdalenae</i> var. <i>peirsonii</i>	Peirson's milk-vetch	FT, SE, CRPR: 1B.2	IMP	21,860
<i>Astragalus pyncnostachyus</i> var. <i>lanosissimus</i>	Ventura Marsh milk-vetch	FE, SE, CRPR: 1B.1	LA, OR, VEN	220
<i>Astragalus tener</i> var. <i>titi</i>	Coastal dunes milk-vetch	FE, SE, CRPR: 1B.1	LA	ND

**TABLE 3.4.2-2
STATE AND FEDERALLY LISTED SPECIES REPORTED IN THE SCAG REGION
AND DESIGNATED CRITICAL HABITAT**

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
<i>Astragalus traskiae</i>	Trask's milkvetch	SR, CRPR: 1B.2	VEN	ND
<i>Astragalus tricarinatus</i>	Triple-ribbed milk vetch	FE, CRPR: 1B.2	RIV, SB	ND
<i>Atriplex coronata</i> var. <i>notatior</i>	San Jacinto valley crownscale	FE, CRPR: 1B.1	RIV	ND
<i>Berberis nevinii</i>	Nevin's barberry	FE, SE, CRPR: 1B.1	LA, RIV, SB	ND
<i>Berberis pinnata</i> ssp. <i>insularis</i>	Island barberry	FE, SE, CRPR: 1B.2	VEN	ND
<i>Boechea hoffmannii</i>	Hoffmann's rockcress	FE, CRPR: 1B.1	VEN	ND
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea	FT, SE, CRPR: 1B.1	LA, OR, RIV, SB	4,510
<i>Castilleja cinerea</i>	Ash-gray paintbrush	FT, CRPR: 1B.2	SB	ND
<i>Castilleja gleasoni</i>	Mt. Gleason paintbrush	SR, CRPR: 1B.2	LA	ND
<i>Castilleja grisea</i>	San Clemente Island paintbrush	FT, SE, CRPR: 1B.3	LA	ND
<i>Ceanothus ophiochilus</i>	Vail Lake ceanothus	FT, SE, CRPR: 1B.1	RIV	200
<i>Cercocarpus traskiae</i>	Catalina Island mountain-mohagany	FE, SE, CRPR: 1B.1	LA	ND
<i>Chloropyron maritimum</i> ssp. <i>Maritimum</i>	Salt marsh bird's-beak	FE, SE, CRPR: 1B.2	LA, OR, RIV, SB, VEN	ND
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	FC, SE, CRPR: 1B.1	LA, OR, VEN	ND
<i>Crocانthemum greenei</i>	Island rush-rose	FT, CRPR: 1B.2	LA	ND
<i>Croton wigginsii</i>	Wiggins' croton	SR, CRPR: 2B.2	IMP	ND
<i>Deinandra minthornii</i>	Santa Susana tarplant	SR, CRPR: 1B.2	LA, VEN	ND
<i>Deinandra mohavensis</i>	Mojave tarplant	SE, CRPR: 1B.3	RIV, SB	ND
<i>Delphinium hesperium</i> ssp. <i>cuyamaca</i>	Cuyamaca larkspur	SR, CRPR: 1B.2	RIV	ND
<i>Delphinium variegatum</i> ssp. <i>kinkiense</i>	San Clemente Island larkspur	FE, SE, CRPR: 1B.1	LA	ND
<i>Dithyrea maritima</i>	Beach spectaclepod	ST, CRPR: 1B.1	LA, VEN	ND
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	FE, SE, CRPR: 1B.1	LA, RIV, SB	ND
<i>Dudleya cymosa</i> ssp. <i>agouensis</i>	Agoura Hills dudleya	FT, CRPR: 1B.2	LA, VEN	ND
<i>Dudleya cymosa</i> ssp. <i>marcescens</i>	Marcescent dudleya	FT, SR, CRPR: 1B.2	LA, VEN	ND
<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	Santa Monica dudleya	FT, CRPR: 1B.1	LA, OR	ND
<i>Dudleya parva</i>	Conejo dudleya	FT, CRPR: 1B.2	VEN	ND
<i>Dudleya stolonifera</i>	Laguna Beach dudleya	FT, ST, CRPR: 1B.1	OR	ND
<i>Dudleya verityi</i>	Verity's dudleya	FT, CRPR: 1B.1	VEN	ND
<i>Eremalche kernensis</i>	Kern mallow	FE, CRPR: 1B.1	VEN	ND
<i>Eremogone ursina</i>	Big Bear Valley sandwort	FT, CRPR: 1B.2	SB	ND

**TABLE 3.4.2-2
STATE AND FEDERALLY LISTED SPECIES REPORTED IN THE SCAG REGION
AND DESIGNATED CRITICAL HABITAT**

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Santa Ana River woollystar	FE, SE, CRPR: 1B.1	OR, RIV, SB	ND
<i>Erigeron parishii</i>	Parish's daisy	FT, CRPR: 1B.1	RIV, SB	4,420
<i>Eriogonum crocatum</i>	Conejo buckwheat	SR, CRPR: 1B.2	VEN	ND
<i>Eriogonum grande</i> var. <i>timorum</i>	San Nicolas Island buckwheat	SE, CRPR: 1B.1	VEN	ND
<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	Southern Mountain buckwheat	FT, CRPR: 1B.2	SB, VEN	ND
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenbury buckwheat	FE, CRPR: 1B.1	SB	6,950
<i>Eriogonum thornei</i>	Thorne's buckwheat	SE, CRPR: 1B.2	SB	ND
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button celery	FE, SE, CRPR: 1B.1	IMP, RIV, LA, OR	ND
<i>Galium catalinense</i> ssp. <i>acrispum</i>	San Clemente Island bedstraw	SE, CRPR: 1B.2	LA	ND
<i>Helianthus niveus</i> ssp. <i>tephrodes</i>	Algodones Dune's sunflower	SE, CRPR: 1B.2	IMP	ND
<i>Ivesia callida</i>	Tahquitz ivesia	SR, CRPR: 1B.3	RIV	ND
<i>Lesquerella kingii</i> ssp. <i>bernardina</i>	San Bernardino Mountains bladderpod	FE, CRPR: 1B.1	SB	1,030
<i>Limnanthes alba</i> ssp. <i>Parishii</i>	Parish's meadowfoam	SE, CRPR: 1B.2	RIV	ND
<i>Lithophragma maximum</i>	San Clemente Island woodland star	FE, SE, CRPR: 1B.1	LA	ND
<i>Malacothamnus clementinus</i>	San Clemente Island bush mallow	FE, SE, CRPR: 1B.1	LA	ND
<i>Malacothrix squalida</i>	Island malacothrix	FE, CRPR: 1B.1	VEN	ND
<i>Nasturtium gambelii</i>	Gambel's water cress	FE, ST, CRPR: 1B.1	LA, OR, SB	ND
<i>Navarretia fossalis</i>	Spreading navarretia	FT, CRPR: 1B.1	LA, RIV	ND
<i>Opuntia basilaris</i> var. <i>treleasei</i>	Bakersfield cactus	FE, SE, CRPR: 1B.1	LA	ND
<i>Orcuttia californica</i>	California orcutt grass	FE, SE, CRPR: 1B.1	LA, RIV, VEN	ND
<i>Oxytheca parishii</i> var. <i>goodmania</i>	Chushenbury oxytheca	FE, CRPR: 1B.1	SB	3,150
<i>Packera ganderi</i>	Gander's ragwort	SR, CRPR: 1B.2	RIV	ND
<i>Pentachaeta lyonii</i>	Lyon's pentachaeta	FE, SE, CRPR: 1B.1	LA, VEN	3,580
<i>Phacelia stellaris</i>	Brand's star phacelia	FC, CRPR: 1B.1	LA, OR, RIV, SB	ND
<i>Physaria kingii</i> ssp. <i>bernardina</i>	San Bernardino Mountains bladderpod	FE, CRPR: 1B.1	SB	ND
<i>Poa atropurpurea</i>	San Bernardino blue grass	FE, CRPR: 1B.2	SB	ND
<i>Sibara filifolia</i>	Santa Cruz Island rock cress	FE, CRPR: 1B.1	LA	ND
<i>Sidalcea covillei</i>	Owens Valley checkerbloom	SE, CRPR: 1B.1	IMP	ND
<i>Sidalcea hickmanii</i> ssp.	Parish's checkerbloom	SR, CRPR: 1B.2	SB	ND

**TABLE 3.4.2-2
STATE AND FEDERALLY LISTED SPECIES REPORTED IN THE SCAG REGION
AND DESIGNATED CRITICAL HABITAT**

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
<i>parishii</i>				
<i>Sidalcea pedata</i>	Bird-foot checkerbloom	FE, SE, CRPR: 1B.1	SB	ND
<i>Taraxacum californicum</i>	California dandelion	FE, CRPR: 1B.1	SB	ND
<i>Thelypodium stenopetalum</i>	Slender-petaled thelypodium	FE, SE, CRPR: 1B.1	SB	ND
<i>Trichostema austromontanum</i> ssp. <i>compactum</i>	Hidden Lake bluecurls	FT, CRPR: 1B.1	RIV	ND
<i>Verbesina dissita</i>	Big-leaved crownbeard	FT, ST, CRPR: 1B.1	OR	ND
Crustaceans				
<i>Branchinecta conservation</i>	Conservancy fairy shrimp	FE	VEN	46,430
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	FT	LA, RIV	46,430
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE	OR	200
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE	LA, OR, RIV, VEN	510
Insects				
<i>Dinacoma caseyi</i>	Casey's June beetle	FE	RIV	ND
<i>Euphilotes battoides allyni</i>	El Segundo blue butterfly	FE	LA	310
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly	FE	RIV	97,030
<i>Euproserpinus euterpe</i>	Kern primrose sphinx moth	FT	VEN	ND
<i>Glaucopsyche lygdamus palosverdesensis</i>	Palos Verdes blue butterfly	FE	LA	90
<i>Rhaphiomidas terminatus abdominalis</i>	Delhi sands flower-loving fly	FE	RIV, SB	ND
Fish				
<i>Catostomus santaanae</i>	Santa Ana sucker	FT	LA, VEN, OR, RIV, SB	9,360
<i>Cyprinodon macularius</i>	Desert pupfish	FE, SE	IMP, RIV	ND
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE	LA, OR, VEN	70
<i>Gasterosteus aculeatus williamsoni</i>	Unarmored threespine stickleback	FE, SE	LA, VEN, SB	ND
<i>Gila elegans</i>	Bonytail	FE, SE	IMP, SB	ND
<i>Oncorhynchus mykiss irideus</i>	Southern steelhead - southern California DPS	FE	LA, VEN, RIV	ND
<i>Ptychocheilus lucius</i>	Colorado pikeminnow	FE,SE	IMP, SB	ND
<i>Siphateles bicolor mohavensis</i>	Mohave tui chub	FE,SE	SB, LA	ND
<i>Xyrauchen texanus</i>	Razorback sucker	FE,SE	IMP, RIV	ND
Amphibians				
<i>Anaxyrus californicus</i>	Arroyo toad	FE	LA, VEN, OR, RIV, SB	30,800
<i>Batrachoseps major aridus</i>	Desert slender salamander	FE, SE	RIV	ND
<i>Rana draytonii</i>	California red-legged frog	FT	LA, RIV, SB,	22,590

**TABLE 3.4.2-2
STATE AND FEDERALLY LISTED SPECIES REPORTED IN THE SCAG REGION
AND DESIGNATED CRITICAL HABITAT**

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
			VEN	
<i>Rana muscosa</i>	Mountain yellow-legged frog	FE, SE	LA, SB, RIV	8,280
Reptiles				
<i>Charina umbratica</i>	Southern rubber boa	ST	VEN, RIV, SB	ND
<i>Chelonia mydas</i>	Green turtle	FT	LA	ND
<i>Coleonyx switaki</i>	Barefoot gecko	ST	IMP	ND
<i>Gambelia sila</i>	Blunt-nosed leopard lizard	FE, SE	VEN	ND
<i>Gopherus agassizii</i>	Desert tortoise	FT, ST	IMP, SB, LA, RIV	4,685,740
<i>Phrynosoma mcallii</i>	Flat-tailed horned lizard	SC	IMP, RIV	ND
<i>Uma inornata</i>	Coachella Valley fringe-toed lizard	FT, SE	RIV	11,790
<i>Xantusia riversiana</i>	Island night lizard	Delisted	LA, VEN	ND
Birds				
<i>Agelaius tricolor</i>	Tricolored blackbird	SE	LA, OR, RIV, SB, VEN	ND
<i>Artemisiospiza belli clementeae</i>	San Clemente sage sparrow	FT	LA	ND
<i>Buteo swainsoni</i>	Swainson's hawk	ST	LA, OR, RIV, SB	ND
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	FT	IMP, LA, OR, RIV, SB, VEN	1,400
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	FT, SE	IMP, LA, RIV, SB, VEN	ND
<i>Colaptes chrysoides</i>	Gilded flicker	SE	IMP, RIV, SB	ND
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	FE, SE	IMP, LA, OR, RIV, SB, VEN	24,980
<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	LA	ND
<i>Gymnogyps californianus</i>	California condor	FE, SE	VEN, LA	7,750
<i>Haliaeetus leucocephalus</i>	Bald eagle	SE	IMP, LA, OR, RIV, SB	ND
<i>Lanius ludovicianus mearnsi</i>	San Clemente loggerhead shrike	FE	LA	ND
<i>Laterallus jamaicensis coturniculus</i>	California black rail	ST	IMP, LA, OR, RIV, SB	ND
<i>Melanerpes uropygialis</i>	Gila woodpecker	SE	IMP, RIV, SB	ND
<i>Micrathene whitneyi</i>	Elf owl	SE	IMP, RIV, SB	ND
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	SE	LA, OR, VEN	ND
<i>Pelecanus occidentalis californicus</i>	California brown pelican	Delisted	IMP, VEN	ND

**TABLE 3.4.2-2
STATE AND FEDERALLY LISTED SPECIES REPORTED IN THE SCAG REGION
AND DESIGNATED CRITICAL HABITAT**

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	FT	LA, VEN, OR, RIV, SB	269,130
<i>Rallus longirostris levipes</i>	Light-footed clapper rail	FE, SE	OR, VEN	ND
<i>Rallus longirostris yumanensis</i>	Yuma clapper rail	FE, ST	IMP, RIV, SB	ND
<i>Riparia riparia</i>	Bank swallow	ST	LA, OR, VEN	ND
<i>Sterna antillarum browni</i>	California least tern	FE, SE	LA, OR, VEN	ND
<i>Synthliboramphus scrippsi</i>	Scripps's murrelet	FC, ST	LA	ND
<i>Vireo bellii arizonae</i>	Arizona Bell's vireo	SE	IMP, RIV, SB	ND
<i>Vireo bellii pusillus</i>	Least Bell's vireo	FE, SE	IMP, LA, OR, VEN, RIV, SB	14,300
Mammals				
<i>Ammospermophilus nelsoni</i>	Nelson's antelope squirrel	ST	LA, VEN	ND
<i>Arctocephalus townsendi</i>	Guadalupe fur-seal	FT, ST	VEN	ND
<i>Canis lupus</i>	Gray wolf	FE, SE	SB	ND
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	SC	IMP, LA, RIV, SB, VEN	ND
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	FE	LA, RIV, SB	33,290
<i>Dipodomys stephensi</i>	Stephen's kangaroo rat	FE, ST	RIV, SB	ND
<i>Enhydra lutris nereis</i>	Southern sea otter	FT	VEN	ND
<i>Leptonycteris yerbabuenae</i>	Lesser long-nosed bat	FE	SB	ND
<i>Ovis canadensis nelsoni pop. 2</i>	Peninsular bighorn sheep DPS	FE, ST	IMP, RIV	347,620
<i>Perognathus longimembris pacificus</i>	Pacific pocket mouse	FE	LA, OR	ND
<i>Urocyon littoralis catalinae</i>	Santa Catalina Island fox	FE, ST	LA	ND
<i>Urocyon littoralis clementae</i>	San Clemente Island fox	ST	LA	ND
<i>Urocyon littoralis dickeyi</i>	San Nicolas Island fox	ST	VEN	ND
<i>Xerospermophilus mohavensis</i>	Mohave ground squirrel	ST	LA, SB	ND

NOTE:

California Native Plant Society: California Rare Plant Rank (CRPR) 1A = Plants Presumed Extinct in California; 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2 = Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere; 3 = Plants About Which We Need More Information; 4 = Plants of Limited Distribution. FC = Federal Candidate; FE = Federal Endangered; FT = Federal Threatened; SE = State Endangered; SR = State Rare; SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County; ND = none designated.

SOURCE:

California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

Critical Habitat

Critical habitat is a designated area defined by the United States Fish and Wildlife Service (USFWS) as being important for the survival and recovery of species listed as rare, threatened, or endangered pursuant to the federal ESA. Critical habitat for 29 species exists within the SCAG region (Table 3.4.2-3, *Critical Habitat in the SCAG Region*). Every county within the SCAG region contains USFWS designated critical habitat for listed species (Figure 3.4.2-2, *Designated Critical Habitat in the SCAG Region*). Of the 2,868,480 acres in Imperial County, 510,830 acres have been designated as critical habitat for three federally listed rare, threatened, or endangered species. Of the 3,041,280 total acres in Los Angeles County, 109,600 acres have been designated as critical habitat for 15 federally listed species. Of the 606,270 total acres in Orange County, 45,900 acres have been designated as critical habitat for nine federally listed species. Of the 4,613,120 total acres in Riverside County, 1,246,280 acres have been designated as critical habitat for 14 federally listed species. Of the 12,867,200 total acres in San Bernardino County, 3,648,900 acres have been designated as critical habitat for 13 federally listed species. Of the 1,413,120 total acres in Ventura County, 347,730 acres have been designated as critical habitat for 12 federally listed species.

**TABLE 3.4.2-3
CRITICAL HABITAT IN THE SCAG REGION**

Scientific Name	Common Name	Status	Acres
Imperial County			
<i>Plants</i>			
<i>Astragalus magdalenae</i> var. <i>peirsonii</i>	Peirson's milk-vetch	FT, SE, CRPR: 1B.2	21,860
<i>Reptiles</i>			
<i>Gopherus agassizii</i>	Desert tortoise	FT, ST	340,690
<i>Mammals</i>			
<i>Orvis canadensis</i>	Peninsular bighorn sheep	FE, ST	146,040
<i>Rivers</i>			
<i>Colorado River*</i>	Colorado river		2,240
TOTAL			510,830
Los Angeles County			
<i>Plants</i>			
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	FE, CRPR: 1B.1	1,220
<i>Pentachaeta lyonii</i>	Lyon's pentachaeta	FE, CRPR: 1B.1	1,270
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea	FT, SE, CRPR: 1B.1	300
<i>Amphibians</i>			
<i>Anaxyrus californicus</i>	Arroyo toad	FE	4,830
<i>Rana draytonii</i>	California red-legged frog	FT	7,820
<i>Rana muscosa</i>	Southern mountain yellow-legged frog	FE, SE	4,480
<i>Reptiles</i>			
<i>Gopherus agassizii</i>	Desert tortoise	FT, ST	36,190
<i>Insects</i>			
<i>Euphilotes battoides allyni</i>	El Segundo blue butterfly	FE	310
<i>Glaucopsyche lygdamus palosverdesensis</i>	Palos Verdes blue butterfly	FE	90

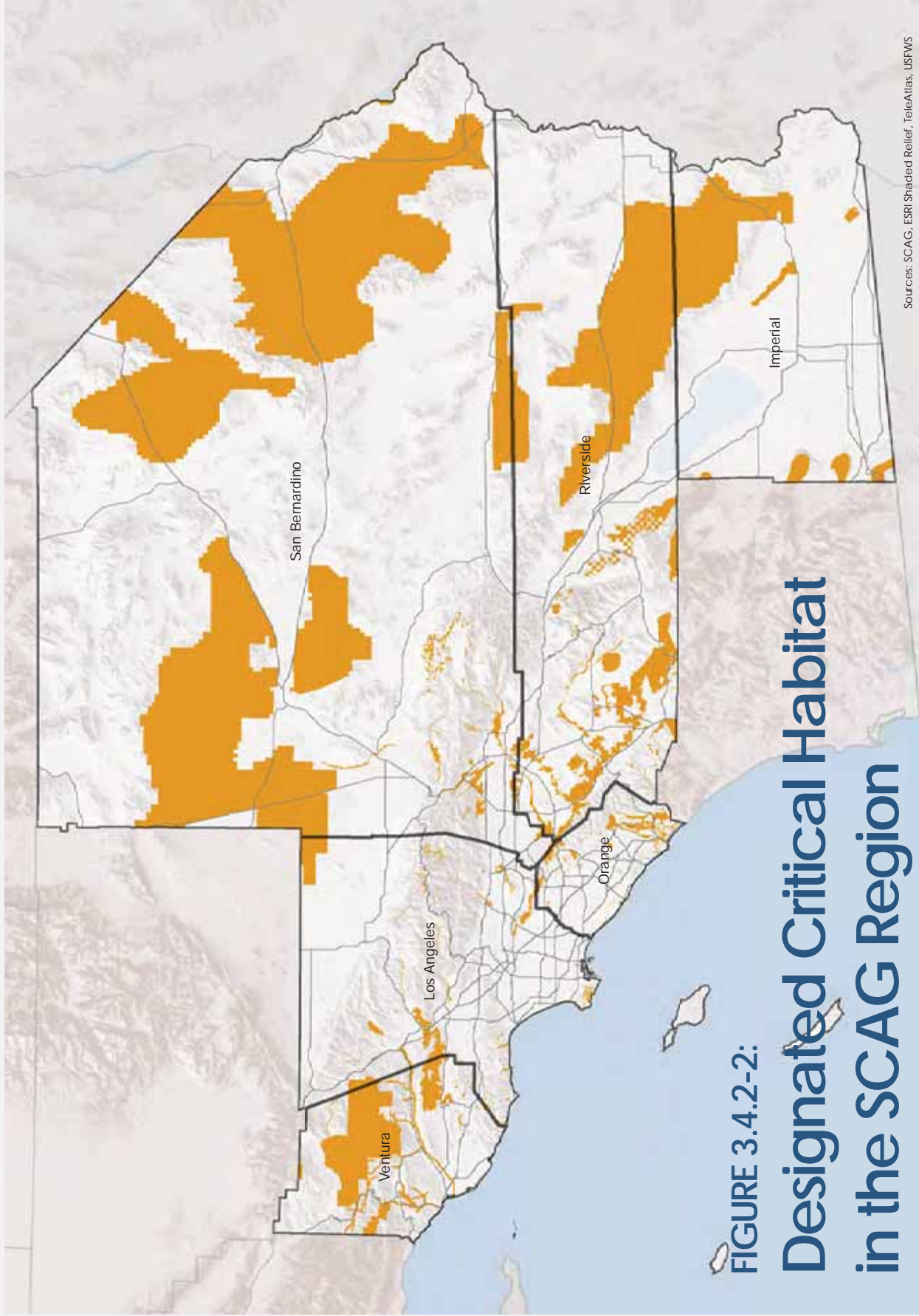


FIGURE 3.4.2-2:
Designated Critical Habitat
in the SCAG Region

Critical Habitat

0 5 10 20 Miles

Sources: SCAG, ESRI Shaded Relief, TeleAtlas, USFWS

**TABLE 3.4.2-3
CRITICAL HABITAT IN THE SCAG REGION**

Scientific Name	Common Name	Status	Acres
Fish			
<i>Catostomus santaanae</i>	Santa Ana sucker	FT	2,230
Birds			
<i>Gymnogyps californianus</i>	California condor	FE, SE	7,750
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	FT	36,330
<i>Vireo bellii pusillus</i>	Least Bell's vireo	FE, SE	2,640
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	FE, SE	3,420
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	FT	170
TOTAL			109,600
Orange County			
Plants			
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	FE, CRPR: 1B.1	830
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea	FT, SE, CRPR: 1B.1	1,160
Crustaceans			
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE	200
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE	50
Amphibians			
<i>Anaxyrus californicus</i>	Arroyo toad	FE	5,030
Fish			
<i>Catostomus santaanae</i>	Santa Ana sucker	FT	650
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE	70
Birds			
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	FT	37,310
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	FT	610
TOTAL			45,900
Riverside County			
Plants			
<i>Allium munzii</i>	Munz's onion	FE, ST, CRPR: 1B.1	1,240
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea	FT, SE, CRPR: 1B.1	3,060
<i>Ceanothus ophiochilus</i>	Vail Lake ceanothus	FT, SE, CRPR: 1B.1	200
Amphibians			
<i>Anaxyrus californicus</i>	Arroyo toad	FE	8,530
<i>Rana muscosa</i>	Mountain yellow-legged frog	FE, SE	1,510
Reptiles			
<i>Gopherus agassizii</i>	Desert tortoise	FT, ST	748,690
<i>Uma inornata</i>	Coachella Valley fringe-toed lizard	FT, SE	11,790
Fish			
<i>Catostomus santaanae</i>	Santa Ana sucker	FT	4,110
Insects			
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly	FE	97,040
Birds			
<i>Vireo bellii pusillus</i>	Least Bell's vireo	FE, SE	7,800
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	FT	151,350
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	FE, SE	1,470

**TABLE 3.4.2-3
CRITICAL HABITAT IN THE SCAG REGION**

Scientific Name	Common Name	Status	Acres
Mammals			
<i>Orvis canadensis</i>	Peninsular bighorn sheep	FE, ST	201,580
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	FE	5,570
Rivers			
<i>Colorado River</i>	Colorado River		2,350
TOTAL			1,246,280
San Bernardino County			
Plants			
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenbury buckwheat	FE, CRPR: 1B.1	6,950
<i>Astragalus albens</i>	Cushenbury milk-vetch	FE, CRPR: 1B.1	4,370
<i>Oxytheca parishii</i> var. <i>goodmania</i>	Chushenbury oxytheca	FE, CRPR: 1B.1	3,120
<i>Erigeron parishii</i>	Parish's daisy	FT, CRPR: 1B.1	4,420
<i>Lesquerella kingii</i> ssp. <i>bernardina</i>	San Bernardino Mountains baldderpod	FE, CRPR: 1B.1	1,030
Amphibians			
<i>Anaxyrus californicus</i>	Arroyo toad	FE	7,380
<i>Rana muscosa</i>	Mountain yellow-legged frog	FE, SE	2,290
Reptiles			
<i>Gopherus agassizii</i>	Desert tortoise	FT, ST	3,560,170
Fish			
<i>Catostomus santaanae</i>	Santa Ana sucker	FT	2,340
Birds			
<i>Vireo bellii pusillus</i>	Least Bell's vireo	FE, SE	2,100
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	FT	7,420
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	FE, SE	9,010
Mammals			
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	FE	27,730
Rivers			
<i>Colorado River</i>	Colorado River		10,560
TOTAL			3,648,900
Ventura County			
Plants			
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	FE, CRPR: 1B.1	1,250
<i>Pentachaeta lyonii</i>	Lyon's pentachaeta	FE, CRPR: 1B.1	2,310
<i>Astragalus pyncnostachyus</i> var. <i>lanosissimus</i>	Ventura Marsh milk-vetch	FE, SE, CRPR: 1B.1	220
Crustaceans			
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	FT	46,430
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE	230
<i>Branchinecta conservatio</i>	Conservancy fairy shrimp	FE	46,430
Amphibians			
<i>Anaxyrus californicus</i>	Arroyo toad	FE	5,050
<i>Rana draytonii</i>	California red-legged frog	FT	14,770

**TABLE 3.4.2-3
CRITICAL HABITAT IN THE SCAG REGION**

Scientific Name	Common Name	Status	Acres
Birds			
<i>Vireo bellii pusillus</i>	Least Bell's vireo	FE, SE	1,760
<i>Poliophtila californica californica</i>	Coastal California gnatcatcher	FT	36,730
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	FE, SE	11,080
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	FT	620
TOTAL			346,730
TOTAL ALL COUNTIES			5,908,250

NOTE:

California Native Plant Society: California Rare Plant Rank (CRPR): 1A = Plants Presumed Extinct in California; 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2 = Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere; 3 = Plants about Which We Need More Information; 4 = Plants of Limited Distribution. FC = Federal Candidate; FE = Federal Endangered; FT = Federal Threatened; SE = State Endangered; SR = State Rare.

*The Colorado River Critical Habitat was designated for four federally listed species of endemic Colorado River Basin Fish: Razorback sucker (*Xyrauchen texanus*), Colorado squawfish (*Ptychocheilus Lucius*), humpback chub (*Gila cypha*), and bonytail chub (*Gila elegans*).

SOURCE:

California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

Sensitive Wildlife Species

A query of the CNDDDB was performed to develop a list of sensitive wildlife species recognized by the USFWS as Federal Species of Concern, by the CDFW as California Species of Special Concern, or species that are tracked by the CNDDDB that could potentially occur in the SCAG region. In addition to the federally and State-listed wildlife species described above, there are 208 sensitive wildlife species with historic records located within the six counties of the SCAG region (Table 3.4.2-4, *Sensitive Wildlife Species Reported in the SCAG Region* and Figure 3.4.2-3, *Sensitive Wildlife Species Reported in the SCAG Region*).¹⁸ Of these 208 sensitive wildlife species, 60 have records in Imperial County, 96 have records in Los Angeles County, 50 have records in Orange County, 108 have records in Riverside County, 107 have records in San Bernardino County, and 57 have records in Ventura County.

**TABLE 3.4.2-4
SENSITIVE WILDLIFE SPECIES REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Reported
Crustaceans			
<i>Linderiella santarosae</i>	Santa Rosa Plateau fairy shrimp	CSA	RIV
Mollusks			
<i>Assiminea infima</i>	Badwater snail	CSA	SB
<i>Eremarionta immaculata</i>	white desertsnailed	CSA	RIV
<i>Eremarionta morongoana</i>	Morongo (=Colorado) desertsnailed	CSA	SB
<i>Eremarionta rowelli bakerensis</i>	Baker's desertsnailed	CSA	SB
<i>Eremarionta rowelli mccoiana</i>	California Mccoysnailed	CSA	RIV
<i>Haplotrema catalinense</i>	Santa Catalina lancetooth	CSA	LA
<i>Helminthoglypta ayresiana sanctaecrucis</i>	Ayer's snail	CSA	VEN
<i>Helminthoglypta mohaveana</i>	Victorville shoulderband	CSA	SB
<i>Helminthoglypta taylori</i>	Westfork shoulderband	CSA	SB
<i>Helminthoglypta traskii traskii</i>	Trask shoulderband	CSA	VEN
<i>Micrarionta feralis</i>	San Nicolas islandsnailed	CSA	VEN
<i>Micrarionta gabbi</i>	San Clemente islandsnailed	CSA	LA
<i>Micrarionta opuntia</i>	Pricklypear islandsnailed	CSA	VEN
<i>Pristiloma shepardae</i>	Shepard's snail	CSA	LA
<i>Radiocentrum avalonense</i>	Catalina mountainsnailed	CSA	LA
<i>Sterkia clementina</i>	San Clemente Island blunt-top snail	CSA	LA, VEN
<i>Tryonia imitator</i>	Mimic tryonia (=California brackishwater snail)	CSA	LA, OR, VEN
<i>Xerarionta intercisa</i>	Horseshoe snail	CSA	LA
<i>Xerarionta redimita</i>	Wreathed cactusnailed	CSA	LA

¹⁸ California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

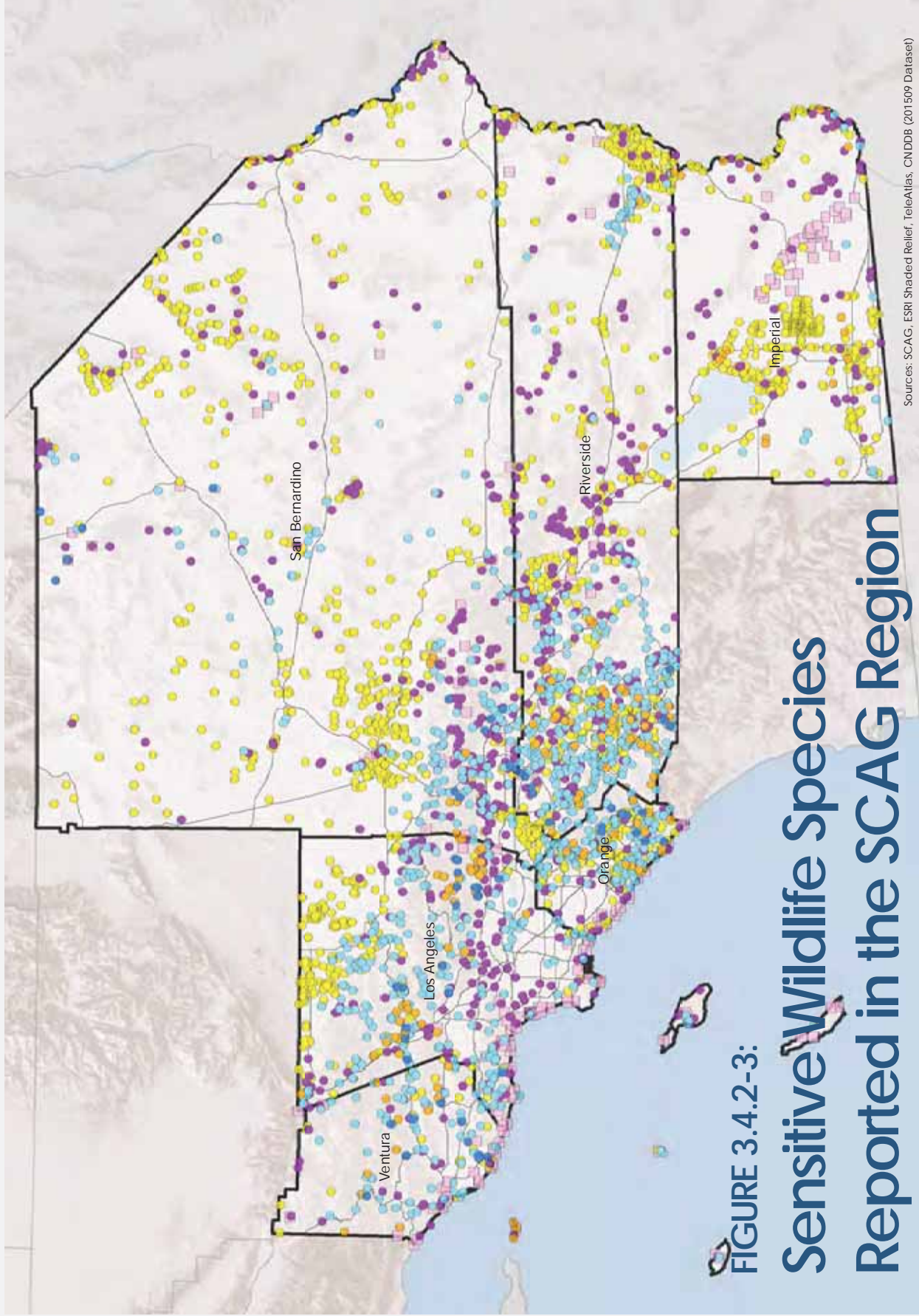


FIGURE 3.4.2-3:
Sensitive Wildlife Species
Reported in the SCAG Region

- Sensitive Wildlife Species**
- () Invertebrate
 - () Amphibian
 - () Mammal
 - () Bird
 - () Reptile
 - () Fish



Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CNDD8 (201509 Dataset)

**TABLE 3.4.2-4
SENSITIVE WILDLIFE SPECIES REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Reported
Arachnids			
<i>Callileptoneta oasa</i>	Andreas Canyon leptonetid spider	CSA	RIV
<i>Socalchemmis gertschi</i>	Gertsch's socalchemmis spider	CSA	LA
<i>Socalchemmis icenoglei</i>	Icenogle's socalchemmis spider	CSA	RIV
<i>Texella kokoweef</i>	Kokoweef Crystal Cave harvestman	CSA	SB
Insects			
<i>Aglaothorax longipennis</i>	Santa Monica shieldback katydid	CSA	LA
<i>Ammopelmatus kelsoensis</i>	Kelso jerusalem cricket	CSA	SB
<i>Anomala carlsoni</i>	Carlson's dune beetle	CSA	IMP
<i>Anomala hardyorum</i>	Hardy's dune beetle	CSA	IMP
<i>Belostoma saratogae</i>	Saratoga Springs belostoman bug	CSA	SB
<i>Brennania belkini</i>	Belkin's dune tabanid fly	CSA	LA
<i>Callophrys mossii hidakupa</i>	San Gabriel Mountains elfin butterfly	CSA	LA, SB
<i>Carolella busckana</i>	Busck's gallmoth	CSA	LA, RIV, SB
<i>Ceratochrysis bradleyi</i>	Bradley's cuckoo wasp	CSA	RIV
<i>Ceratochrysis longimala</i>	Desert cuckoo wasp	CSA	LA, VEN, RIV
<i>Cicindela gabbii</i>	Western tidal-flat tiger beetle	CSA	LA, OR
<i>Cicindela hirticollis gravida</i>	Sandy beach tiger beetle	CSA	LA, OR, VEN
<i>Cicindela latesignata latesignata</i>	Western beach tiger beetle	CSA	LA, OR
<i>Cicindela senilis frosti</i>	Senile tiger beetle	CSA	LA, OR, RIV, VEN
<i>Cicindela tranquebarica viridissima</i>	Greenest tiger beetle	CSA	RIV
<i>Coelus globosus</i>	Globose dune beetle	CSA	LA, OR, VEN
<i>Danaus plexippus</i>	Monarch butterfly	CSA	LA, OR, VEN
<i>Diplectrona californica</i>	California diplectronan caddisfly	CSA	LA, SB
<i>Euchloe hyantis andrewsi</i>	Andrew's marble butterfly	CSA	SB
<i>Eucosma hennei</i>	Henne's eucosman moth	CSA	LA
<i>Glaresis arenata</i>	Kelso Dunes scarab glaresis beetle	CSA	SB
<i>Halictus harmonius</i>	Haromonius halictid bee	CSA	RIV, SB
<i>Hedychridium argenteum</i>	Riverside cuckoo wasp	CSA	RIV
<i>Hydroporus simplex</i>	Simple hydroporus diving beetle	CSA	SB
<i>Lepismadora algodones</i>	Algodones sand jewel beetle	CSA	IMP
<i>Macrobaenetes kelsoensis</i>	Kelso giant sand treader cricket	CSA	SB
<i>Macrobaenetes valgum</i>	Coachella giant sand treader cricket	CSA	RIV
<i>Melitta californica</i>	California mellitid bee	CSA	IMP, RIV
<i>Miloderes nelsoni</i>	Nelson's miloderes weevil	CSA	SB
<i>Minymischa ventura</i>	Ventura cuckoo wasp	CSA	VEN

**TABLE 3.4.2-4
SENSITIVE WILDLIFE SPECIES REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Reported
<i>Oliarces clara</i>	Cheeseweed owlfly (cheeseweed moth lacewing)	CSA	IMP, RIV, SB
<i>Onychobaris langei</i>	Lange's El Segundo Dune weevil	CSA	LA
<i>Panoquina errans</i>	Wandering (=saltmarsh) skipper	CSA	LA, OR, VEN
<i>Paranomada californica</i>	California cuckoo bee	CSA	SB
<i>Parnopes borregoensis</i>	Borrego parnopes cuckoo wasp	CSA	SB
<i>Pelocoris shoshone</i>	Amargosa naucorid bug	CSA	SB
<i>Plebejus saepiolus aureolus</i>	San Gabriel Mountains blue butterfly	CSA	LA, SB
<i>Plebulina emigdionis</i>	San Emigdio blue butterfly	CSA	LA, VEN, SB
<i>Polyphylla erratica</i>	Death Valley June beetle	CSA	SB
<i>Pseudocotalpa andrewsi</i>	Andrew's dune scarab beetle	CSA	IMP
<i>Psychomastax deserticola</i>	Desert monkey grasshopper	CSA	SB
<i>Rhaphiomidas terminatus terminatus</i>	El Segundo flower-loving fly	CSA	LA
<i>Rhopalolemma robertsi</i>	Roberts' rhopalolemma bee	CSA	RIV, SB
<i>Stenopelmatus cahullaensis</i>	Coachella Valley jerusalem cricket	CSA	RIV
<i>Trigonoscuta brunnotesselata</i>	Brown tassel trigonoscuta weevil	CSA	SB
<i>Trigonoscuta dorothea dorothea</i>	Dorothy's El Segundo Dune weevil	CSA	LA, OR
<i>Trimerotropis occidentiloides</i>	Santa Monica grasshopper	CSA	LA, VEN
Fish			
<i>Catostomus latipinnis</i>	Flannelmouth sucker	CSA	SB
<i>Cyprinodon nevadensis amargosae</i>	Amargosa pupfish	SSC	SB
<i>Cyprinodon nevadensis nevadensis</i>	Saratoga Springs pupfish	SSC	SB
<i>Gila orcuttii</i>	Arroyo chub	SSC	SB, LA, VEN, OR, RIV
<i>Rhinichthys osculus</i> ssp. 1	Amargosa Canyon speckled dace	SSC	SB
<i>Rhinichthys osculus</i> ssp. 3	Santa Ana speckled dace	SSC	SB, LA, OR, RIV
Amphibians			
<i>Batrachoseps gabrieli</i>	San Gabriel slender salamander	CSA	LA, SB
<i>Batrachoseps pacificus</i>	Channel Islands slender salamander	CSA	VEN
<i>Ensatina eschscholtzii croceator</i>	Yellow-blotched salamander	SSC	LA
<i>Ensatina klauberi</i>	Large-blotched salamander	SSC	LA, RIV, SB
<i>Incilius alvarius</i>	Sonoran desert toad	SSC	IMP, SB
<i>Lithobates pipiens</i>	Northern leopard frog	SSC	IMP, OR, RIV
<i>Lithobates yavapaiensis</i>	Lowland (=Yavapai, San Sebastian & San Felipe) leopard frog	SSC	IMP, RIV
<i>Rana boylei</i>	Foothill yellow-legged frog	SSC	VEN
<i>Scaphiopus couchii</i>	Couch's spadefoot	SSC	IMP, RIV

**TABLE 3.4.2-4
SENSITIVE WILDLIFE SPECIES REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Reported
<i>Spea hammondi</i>	Western spadefoot	SSC	LA, OR, RIV, VEN
<i>Taricha torosa</i>	Coast Range newt	SSC	LA, OR, RIV, VEN
Reptiles			
<i>Anniella pulchra pulchra</i>	Silvery legless lizard	SSC	LA, RIV, SB, VEN
<i>Aspidoscelis hyperythra</i>	Orangethroat whiptail	SSC	OR, RIV, SB
<i>Aspidoscelis tigris stejnegeri</i>	Coastal whiptail	CSA	LA, OR, RIV, SB, VEN
<i>Charina trivirgata</i>	Rosy boa	CSA	LA, OR, RIV, SB
<i>Coleonyx variegatus abbotti</i>	San Diego banded gecko	CSA	RIV
<i>Crotalus ruber</i>	Red-diamond rattlesnake	SSC	IMP, OR, RIV, SB
<i>Diadophis punctatus modestus</i>	San Bernardino ringneck snake	CSA	LA, RIV, SB
<i>Emys marmorata</i>	Western pond turtle	SSC	LA, OR, SB, RIV, VEN
<i>Heloderma suspectum cinctum</i>	Banded gila monster	SSC	IMP, SB, RIV
<i>Kinosternon sonoriense</i>	Sonoran mud turtle	SSC	IMP, RIV
<i>Lampropeltis zonata (parvirubra)</i>	California mountain kingsnake (San Bernardino population)	SSC	LA, RIV, SB
<i>Lampropeltis zonata (pulchra)</i>	California mountain kingsnake (San Diego population)	SSC	LA, OR
<i>Phrynosoma blainvillii</i>	Coast horned lizard	SSC	VEN, LA, OR, RIV, SB
<i>Plestiodon skiltonianus interparietalis</i>	Coronado Island skink	SSC	RIV
<i>Salvadora hexalepis virgultea</i>	Coast patch-nosed snake	SSC	OR, RIV, VEN
<i>Thamnophis hammondi</i>	Two-striped garter snake	SSC	LA, OR, RIV, SB, VEN
<i>Thamnophis sirtalis ssp.</i>	South coast garter snake	SSC	VEN
<i>Uma notata</i>	Colorado Desert fringe-toed lizard	SSC	IMP
<i>Uma scoparia</i>	Mojave fringe-toed lizard	SSC	SB, RIV
Birds			
<i>Accipiter cooperii</i>	Cooper's hawk	CSA	IMP, LA, OR, RIV, SB, VEN
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	CSA	LA, VEN, OR, RIV, SB
<i>Ammodramus savannarum</i>	Grasshopper sparrow	SSC	LA, OR
<i>Aquila chrysaetos</i>	Golden eagle	CFP	IMP, LA, OR, SB, RIV, VEN
<i>Ardea alba</i>	Great egret	CSA	IMP, RIV
<i>Ardea herodias</i>	Great blue heron	CSA	IMP, OR, RIV
<i>Artemisospiza belli belli</i>	Bell's sage sparrow	CSA	LA, RIV, SB
<i>Asio flammeus</i>	Short-eared owl	SSC	LA
<i>Asio otus</i>	Long-eared owl	SSC	OR, RIV, SB
<i>Athene cunicularia</i>	Burrowing owl	SSC	IMP, LA, OR, RIV, SB, VEN
<i>Buteo regalis</i>	Ferruginous hawk	CSA	IMP, LA, OR, RIV, VEN
<i>Calypte costae</i>	Costa's hummingbird	CSA	SB

**TABLE 3.4.2-4
SENSITIVE WILDLIFE SPECIES REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Reported
<i>Campylorhynchus brunneicapillus sandiegensis</i>	Coastal cactus wren	SSC	LA, OR, RIV
<i>Cardinalis cardinalis</i>	Northern cardinal	CSA	RIV, SB
<i>Charadrius montanus</i>	Mountain plover	SSC	IMP, RIV, LA, SB
<i>Circus cyaneus</i>	Northern harrier	SSC	OR, RIV
<i>Cypseloides niger</i>	Black swift	SSC	LA, RIV, SB
<i>Dendragapus fuliginosus howardi</i>	Mount Pinos sooty grouse	SSC	VEN
<i>Egretta thula</i>	Snowy egret	CSA	RIV
<i>Elanus leucurus</i>	White-tailed kite	CFP	LA, OR, RIV, SB, VEN
<i>Eremophila alpestris actia</i>	California horned lark	CSA	LA, OR, RIV, SB, VEN
<i>Falco columbarius</i>	Merlin	CSA	IMP, LA, RIV
<i>Falco mexicanus</i>	Prairie falcon	CSA	IMP, VEN, LA, RIV, SB
<i>Gelochelidon nilotica</i>	Gull-billed tern	SSC	IMP, RIV
<i>Hydroprogne caspia</i>	Caspian tern	CSA	IMP
<i>Icteria virens</i>	Yellow-breasted chat	SSC	IMP, LA, OR, RIV, SB, VEN
<i>Ixobrychus exilis</i>	Least bittern	SSC	IMP
<i>Junco hyemalis caniceps</i>	Gray-headed junco	CSA	IMP, RIV, SB
<i>Lanius ludovicianus</i>	Loggerhead shrike	SSC	IMP, LA, RIV, SB
<i>Larus californicus</i>	California gull	CSA	IMP
<i>Melospiza melodia graminea</i>	Channel Island song sparrow	SSC	LA
<i>Myiarchus tyrannulus</i>	Brown-crested flycatcher	CSA	IMP, RIV, SB
<i>Nycticorax nycticorax</i>	Black-crowned night heron	CSA	RIV
<i>Oceanodroma homochroa</i>	Ashy storm-petrel	SSC	LA, VEN
<i>Oreothlypis luciae</i>	Lucy's warbler	SSC	IMP, SB
<i>Oreothlypis virginiae</i>	Virginia's warbler	CSA	SB
<i>Pandion haliaetus</i>	Osprey	CSA	OR
<i>Phalacrocorax auritus</i>	Double-crested cormorant	CSA	VEN
<i>Piranga flava</i>	Hepatic tanager	CSA	SB
<i>Piranga rubra</i>	Summer tanager	SSC	IMP, RIV, SB
<i>Plegadis chihi</i>	White-faced ibis	CSA	IMP, RIV, LA
<i>Poliioptila melanura</i>	Black-tailed gnatcatcher	CSA	IMP, RIV, SB
<i>Progne subis</i>	Purple martin	SSC	RIV
<i>Pyrocephalus rubinus</i>	Vermilion flycatcher	SSC	IMP, RIV, SB
<i>Rynchops niger</i>	Black skimmer	SSC	IMP, OR, RIV
<i>Setophaga petechia</i>	Yellow warbler	SSC	IMP, LA, RIV, SB, VEN
<i>Setophaga petechia sonorana</i>	Sonoran yellow warbler	SSC	IMP, RIV, SB
<i>Spinus lawrencei</i>	Lawrence's goldfinch	CSA	RIV
<i>Toxostoma bendirei</i>	Bendire's thrasher	SSC	RIV, SB

**TABLE 3.4.2-4
SENSITIVE WILDLIFE SPECIES REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Reported
<i>Toxostoma crissale</i>	Crissal thrasher	SSC	IMP, RIV, SB
<i>Toxostoma lecontei</i>	Le Conte's thrasher	SSC	IMP, RIV, LA, SB
<i>Vireo vicinior</i>	Gray vireo	SSC	SB
<i>Xanthocephalus xanthocephalus</i>	Yellow-headed blackbird	SSC	RIV
Mammals			
<i>Antrozous pallidus</i>	Pallid bat	SSC	IMP, RIV, LA, OR, SB, VEN
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	SSC	OR, RIV, VEN
<i>Chaetodipus fallax fallax</i>	Northwestern San Diego pocket mouse	SSC	LA, RIV, SB
<i>Chaetodipus fallax pallidus</i>	Pallid San Diego pocket mouse	SSC	IMP, RIV, LA, SB
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	SSC	OR, VEN
<i>Dipodomys merriami collinus</i>	Earthquake Merriam's kangaroo rat	CSA	RIV
<i>Euderma maculatum</i>	Spotted bat	SSC	LA, RIV, SB
<i>Eumops perotis californicus</i>	Western mastiff bat	SSC	IMP, LA, OR, VEN, RIV, SB
<i>Glaucomys sabrinus californicus</i>	San Bernardino flying squirrel	SSC	RIV, SB
<i>Lasionycteris noctivagans</i>	Silver-haired bat	CSA	LA, SB
<i>Lasiurus blossevillii</i>	Western red bat	SSC	LA, OR
<i>Lasiurus cinereus</i>	Hoary bat	CSA	IMP, RIV, LA, SB, VEN
<i>Lasiurus xanthinus</i>	Western yellow bat	SSC	IMP, LA, RIV, SB
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	SSC	LA, RIV, SB
<i>Lontra canadensis sonora</i>	Southwestern river otter	SSC	SB
<i>Macrotus californicus</i>	California leaf-nosed bat	SSC	IMP, LA, VEN, RIV, SB
<i>Microtus californicus mohavensis</i>	Mohave river vole	SSC	SB
<i>Microtus californicus stephensi</i>	South coast marsh vole	SSC	LA, OR, VEN
<i>Myotis ciliolabrum</i>	Western small-footed myotis	CSA	IMP, LA, SB, VEN
<i>Myotis evotis</i>	Long-eared myotis	CSA	LA, SB
<i>Myotis occultus</i>	Arizona Myotis	SSC	IMP, RIV
<i>Myotis thysanodes</i>	Fringed myotis	CSA	LA, RIV, SB, VEN
<i>Myotis velifer</i>	Cave myotis	SSC	IMP, RIV, SB
<i>Myotis volans</i>	Long-legged myotis	CSA	SB, LA, VEN
<i>Myotis yumanensis</i>	Yuma myotis	CSA	IMP, LA, OR, RIV, SB
<i>Neotamias panamintinus acrus</i>	Kingston Mountain chipmunk	CSA	SB
<i>Neotamias speciosus callipeplus</i>	Mount Pinos chipmunk	CSA	VEN
<i>Neotamias speciosus speciosus</i>	Lodgepole chipmunk	CSA	LA, RIV, SB
<i>Neotoma albigula venusta</i>	Colorado Valley woodrat	CSA	IMP, RIV, SB
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	SSC	LA, OR, RIV, SB, VEN
<i>Nyctinomops femorosaccus</i>	Pocketed free-tailed bat	SSC	IMP, LA, OR, RIV, SB

**TABLE 3.4.2-4
SENSITIVE WILDLIFE SPECIES REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Reported
<i>Nyctinomops macrotis</i>	Big free-tailed bat	SSC	IMP, LA, OR, RIV
<i>Onychomys torridus ramona</i>	Southern grasshopper mouse	SSC	IMP, LA, RIV, SB
<i>Ovis canadensis nelsoni</i>	Desert bighorn sheep	CFP	IMP, RIV, SB, LA
<i>Perognathus alticolus alticolus</i>	White-eared pocket mouse	SSC	SB
<i>Perognathus alticolus inexpectatus</i>	Tehachapi pocket mouse	SSC	LA, VEN
<i>Perognathus inornatus</i>	San Joaquin Pocket Mouse	CSA	LA, VEN
<i>Perognathus longimembris bangsi</i>	Palm Springs pocket mouse	SSC	IMP, RIV
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	SSC	LA, RIV, SB
<i>Perognathus longimembris internationalis</i>	Jacumba pocket mouse	SSC	RIV
<i>Peromyscus maniculatus anacapae</i>	Anacapa Island deer mouse	SSC	VEN
<i>Puma concolor browni</i>	Yuma mountain lion	SSC	IMP
<i>Sigmodon arizonae plenus</i>	Colorado River cotton rat	SSC	RIV, SB
<i>Sigmodon hispidus eremicus</i>	Yuma hispid cotton rat	SSC	IMP
<i>Sorex ornatus salicornicus</i>	Southern California saltmarsh shrew	SSC	LA, OR, VEN
<i>Sorex ornatus willetti</i>	Santa Catalina shrew	SSC	LA
<i>Taxidea taxus</i>	American badger	SSC	IMP, RIV, LA, SB, VEN, OR
<i>Xerospermophilus tereticaudus chlorus</i>	Palm Springs round-tailed ground squirrel	SSC	RIV

NOTE:

SSC = California Species of Special Concern; CFP = California Fully Protected; CSA* = California Special Animal; SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.

* California Special Animal (CSA) is a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. The Department of Fish and Wildlife considers the taxa on this list to be those of greatest conservation need. For those species with statuses identified by USFWS and/or CDFW, the status is noted. Those species included on the list due to identification by other governmental agencies and/or non-governmental conservation organizations are listed as CSA.

SOURCE:

California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

Rare and Locally Important Plants

A search of the CNDDDB, the CNPS Rare Plant Inventory, and herbaria records for the six counties of the SCAG region was performed to develop a list of rare and locally important plants that could potentially occur in the SCAG region. In addition to the federally and State-listed plant species described above, there are 426 rare and locally important plant species with historic records located within the six counties of the SCAG region (Table 3.4.2-5, *Rare and Locally Important Plants Reported in the SCAG Region* and Figure 3.4.2-4, *Rare and Locally Important Plants Reported in the SCAG Region*).^{19,20}

¹⁹ California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California*

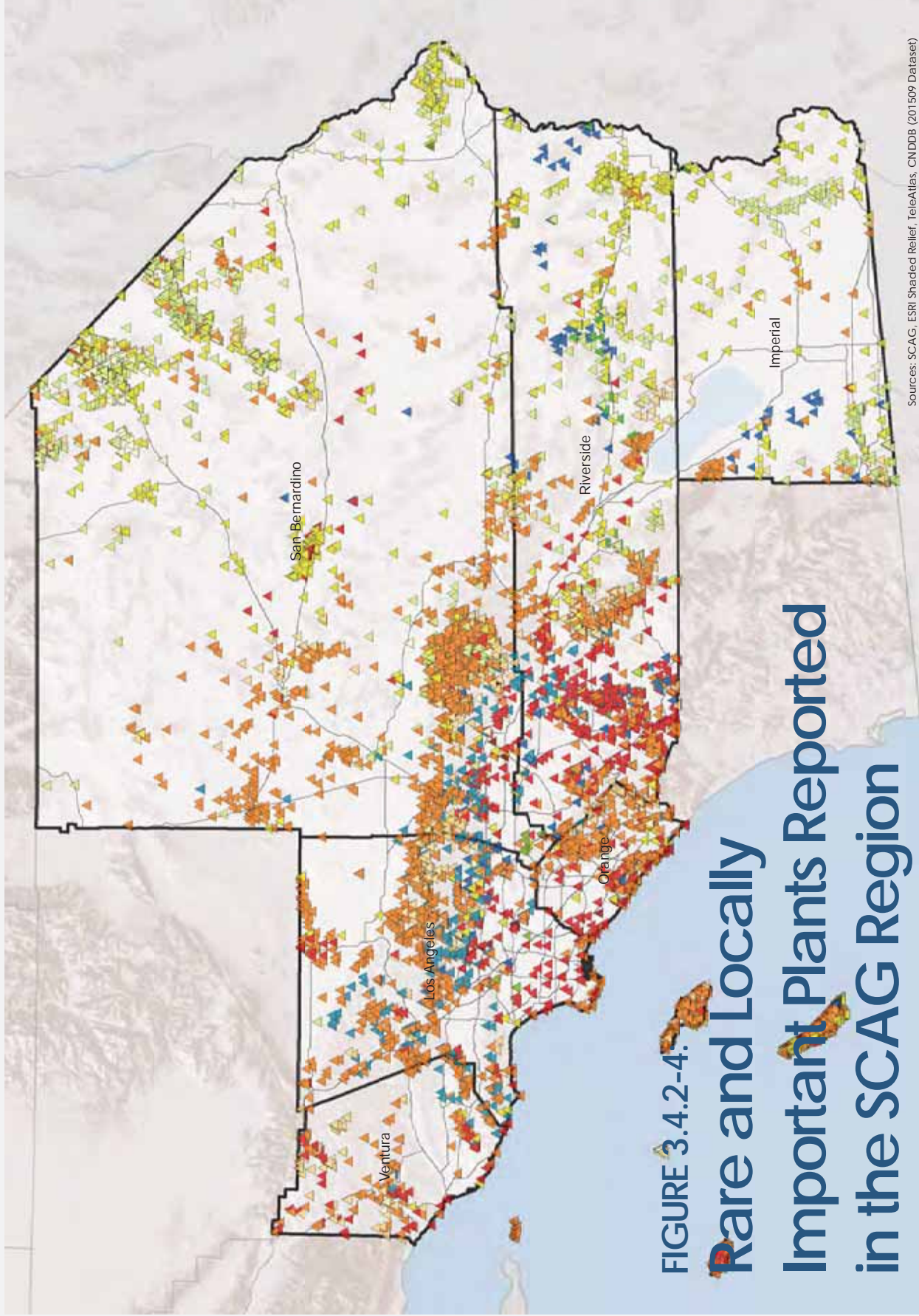


FIGURE 3.4.2-4.
Rare and Locally Important Plants Reported in the SCAG Region

CNPS Rank	#	1B.2	*	2B.1	#	3	#	3.3
# 1A	#	#	#	2B.2	#	3.1	#	4.2
# 1B.1	#	2A	#	2B.3	#	3.2	#	4.3

Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CNRDB (201509 Dataset)



Of these 426 rare and locally important plant species, 58 have records in Imperial County, 138 have records in Los Angeles County, 46 have records in Orange County, 147 have records in Riverside County, 262 have records in San Bernardino County, and 61 have records in Ventura County.

**TABLE 3.4.2-5
RARE AND LOCALLY IMPORTANT PLANTS REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Where Reported
<i>Abronia villosa</i> var. <i>aurita</i>	Chaparral sand-verbena	CRPR: 1B.1	IMP, OR, RIV, SB, VEN
<i>Abutilon parvulum</i>	Dwarf abutilon	CRPR: 2B.3	SB
<i>Acanthoscyphus parishii</i> var. <i>abramsii</i>	Abrams' oxytheca	CRPR: 1B.2	VEN
<i>Acanthoscyphus parishii</i> var. <i>cienegensis</i>	Cienega Seca oxytheca	CRPR: 1B.3	SB
<i>Acleisanthes longiflora</i>	Angel trumpets	CRPR: 2B.3	RIV
<i>Acleisanthes nevadensis</i>	Desert wing-fruit	CRPR: 2B.3	SB
<i>Acmispon argyraeus</i> var. <i>multicaulis</i>	Scrub lotus	CRPR: 1B.3	SB
<i>Acmispon argyraeus</i> var. <i>notitius</i>	Providence Mountains lotus	CRPR: 1B.3	SB
<i>Acmispon haydonii</i>	Pygmy lotus	CRPR: 1B.3	IMP, RIV
<i>Ageratina herbacea</i>	Desert ageratina	CRPR: 2B.3	SB
<i>Aliciella ripleyi</i>	Ripley's aliciella	CRPR: 2B.3	SB
<i>Aliciella triodon</i>	Coyote gilia	CRPR: 2B.2	SB
<i>Allium atrorubens</i> var. <i>atrorubens</i>	Great Basin onion	CRPR: 2B.3	SB
<i>Allium howellii</i> var. <i>clokeyi</i>	Mt. Pinos onion	CRPR: 1B.3	VEN, LA
<i>Allium marvinii</i>	Yucaipa onion	CRPR: 1B.1	RIV, SB
<i>Allium nevadense</i>	Nevada onion	CRPR: 2B.3	SB
<i>Ambrosia monogyra</i>	Singlewhorl burrobrush	CRPR: 2B.2	RIV, SB
<i>Ammoselinum giganteum</i>	Desert sand-parsley	CRPR: 2B.3	RIV
<i>Androstephium breviflorum</i>	Small-flowered androstephium	CRPR: 2B.2	RIV, SB
<i>Anomobryum julaceum</i>	Slender silver moss	CRPR: 4.2	LA
<i>Antennaria marginata</i>	White-margined everlasting	CRPR: 2B.3	SB
<i>Aphanisma blitoides</i>	Aphanisma	CRPR: 1B.2	LA, VEN, OR
<i>Arctomecon merriamii</i>	White bear poppy	CRPR: 2B.2	SB
<i>Arctostaphylos catalinae</i>	Santa Catalina Island manzanita	CRPR: 1B.2	LA
<i>Arctostaphylos glandulosa</i> ssp. <i>Gabrielensis</i>	San Gabriel manzanita	CRPR: 1B.2	LA, SB
<i>Arctostaphylos rainbowensis</i>	Rainbow manzanita	CRPR: 1B.1	RIV
<i>Arenaria lanuginosa</i> var. <i>saxosa</i>	Rock sandwort	CRPR: 2B.3	SB
<i>Argyrochosma limitanea</i> ssp.	Southwestern false cloak-fern	CRPR: 2B.1	SB

Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.

²⁰ California Native Plant Society, Rare Plant Program. 2015. *Inventory of Rare and Endangered Plants*. Online edition, v8-02. Sacramento, CA.

**TABLE 3.4.2-5
RARE AND LOCALLY IMPORTANT PLANTS REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Where Reported
<i>limitanea</i>			
<i>Asclepias nyctaginifolia</i>	Mojave milkweed	CRPR: 2B.1	SB
<i>Astragalus allochrous</i> var. <i>playanus</i>	Playa milk-vetch	CRPR: 2B.2	SB
<i>Astragalus bernardinus</i>	San Bernardino milk-vetch	CRPR: 1B.2	RIV, SB
<i>Astragalus cimae</i> var. <i>cimae</i>	Cima milk-vetch	CRPR: 1B.2	SB
<i>Astragalus didymocarpus</i> var. <i>milesianus</i>	Miles' milk-vetch	CRPR: 1B.2	VEN
<i>Astragalus hornii</i> var. <i>hornii</i>	Horn's milk-vetch	CRPR: 1B.1	SB
<i>Astragalus insularis</i> var. <i>harwoodii</i>	Harwood's milk-vetch	CRPR: 2B.2	IMP, RIV, SB
<i>Astragalus lentiginosus</i> var. <i>antonius</i>	San Antonio milk-vetch	CRPR: 1B.3	LA, SB
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	Big Bear Valley milk-vetch	CRPR: 1B.2	SB, LA, VEN
<i>Astragalus leucolobus</i>	Big Bear Valley woollypod	CRPR: 1B.2	LA, RIV, SB, VEN
<i>Astragalus nevinii</i>	San Clemente Island milk-vetch	CRPR: 1B.2	LA
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	Jaeger's milk-vetch	CRPR: 1B.1	RIV
<i>Astragalus preussii</i> var. <i>laxiflorus</i>	Lancaster milk-vetch	CRPR: 1B.1	LA, RIV, SB
<i>Astragalus preussii</i> var. <i>preussii</i>	Preuss' milk-vetch	CRPR: 2B.3	SB
<i>Astragalus sabulorum</i>	Gravel milk-vetch	CRPR: 2B.2	IMP, RIV
<i>Astragalus tidestromii</i>	Tidestrom's milk-vetch	CRPR: 2B.2	SB
<i>Astrolepis cochisensis</i> ssp. <i>Cochisensis</i>	Scaly cloak fern	CRPR: 2B.3	SB
<i>Atriplex coulteri</i>	Coulter's saltbush	CRPR: 1B.2	LA, OR, SB, VEN
<i>Atriplex pacifica</i>	South coast saltscale	CRPR: 1B.2	LA, OR, VEN
<i>Atriplex parishii</i>	Parish's brittlescale	CRPR: 1B.1	LA, OR, RIV, SB
<i>Atriplex serenana</i> var. <i> davidsonii</i>	Davidson's saltscale	CRPR: 1B.2	LA, OR, RIV, VEN
<i>Ayenia compacta</i>	California ayenia	CRPR: 2B.3	RIV, SB
<i>Baccharis malibuensis</i>	Malibu baccharis	CRPR: 1B.1	LA, OR
<i>Bahia neomexicana</i>	Many-flowered bahia	CRPR: 2B.3	SB
<i>Berberis fremontii</i>	Fremont barberry	CRPR: 2B.3	SB
<i>Berberis harrisoniana</i>	Kofa barberry	CRPR: 1B.2	SB
<i>Bergerocactus emoryi</i>	Golden-spined cereus	CRPR: 2B.2	LA
<i>Blepharidachne kingii</i>	King's eyelash grass	CRPR: 2B.3	SB
<i>Boechera dispar</i>	Pinyon rockcress	CRPR: 2B.3	RIV, SB, LA
<i>Boechera johnstonii</i>	Johnston's rockcress	CRPR: 1B.2	RIV
<i>Boechera lincolnensis</i>	Lincoln rockcress	CRPR: 2B.3	LA, SB, RIV
<i>Boechera parishii</i>	Parish's rockcress	CRPR: 1B.2	SB
<i>Boechera peirsonii</i>	San Bernardino rockcress	CRPR: 1B.2	SB
<i>Boechera shockleyi</i>	Shockley's rockcress	CRPR: 2B.2	SB

**TABLE 3.4.2-5
RARE AND LOCALLY IMPORTANT PLANTS REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Where Reported
<i>Botrychium crenulatum</i>	Scalloped moonwort	CRPR: 2B.2	LA, SB
<i>Botrychium minganense</i>	Mingan moonwort	CRPR: 2B.2	SB
<i>Bouteloua trifida</i>	Three-awned grama	CRPR: 2B.3	SB
<i>Brodiaea kinkiensis</i>	San Clemente Island brodiaea	CRPR: 1B.2	LA
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	CRPR: 1B.1	RIV
<i>Brodiaea santarosae</i>	Santa Rosa Basalt brodiaea	CRPR: 1B.2	RIV
<i>Bursera microphylla</i>	Little-leaf elephant tree	CRPR: 2B.3	IMP, RIV
<i>California macrophylla</i>	Round-leaved filaree	CRPR: 1B.1	LA, RIV, VEN
<i>Calliandra eriophylla</i>	Pink fairy-duster	CRPR: 2B.3	IMP, RIV
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender mariposa-lily	CRPR: 1B.2	LA, VEN
<i>Calochortus fimbriatus</i>	Late-flowered mariposa-lily	CRPR: 1B.2	LA, VEN
<i>Calochortus palmeri</i> var. <i>munzii</i>	San Jacinto mariposa-lily	CRPR: 1B.2	RIV
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	CRPR: 1B.2	LA, RIV, SB, VEN
<i>Calochortus plummerae</i>	Plummer's mariposa-lily	CRPR: 4.2	LA, OR, RIV, SB, VEN
<i>Calochortus striatus</i>	Alkali mariposa-lily	CRPR: 1B.2	LA, SB
<i>Calochortus weedii</i> var. <i>intermedius</i>	Intermediate mariposa-lily	CRPR: 1B.2	LA, OR, RIV, SB
<i>Calyptridium pygmaeum</i>	Pygmy pussypaws	CRPR: 1B.2	SB
<i>Calystegia felix</i>	Lucky morning-glory	CRPR: 3.1	LA, SB, RIV
<i>Calystegia peirsonii</i>	Peirson's morning-glory	CRPR: 4.2	LA
<i>Camissoniopsis guadalupensis</i> ssp. <i>Clementina</i>	San Clemente Island evening-primrose	CRPR: 1B.2	LA
<i>Canbya candida</i>	White pygmy-poppy	CRPR: 4.2	LA, SB, IMP
<i>Carex comosa</i>	Bristly sedge	CRPR: 2B.1	SB
<i>Carex occidentalis</i>	Western sedge	CRPR: 2B.3	LA, RIV, SB
<i>Carnegiea gigantea</i>	Saguaro	CRPR: 2B.2	IMP, SB
<i>Castela emoryi</i>	Emory's crucifixion-thorn	CRPR: 2B.2	IMP, RIV, SB
<i>Castilleja hololeuca</i>	Island white-felted paintbrush	CRPR: 1B.2	VEN
<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's-clover	CRPR: 1B.2	RIV, SB
<i>Caulanthus lemmonii</i>	Lemmon's jewelflower	CRPR: 1B.2	VEN
<i>Caulanthus simulans</i>	Payson's jewelflower	CRPR: 4.2	RIV
<i>Centromadia parryi</i> ssp. <i>australis</i>	Southern tarplant	CRPR: 1B.1	LA, OR, VEN
<i>Centromadia pungens</i> ssp. <i>laevis</i>	Smooth tarplant	CRPR: 1B.1	RIV, SB
<i>Chaenactis carphoclinia</i> var. <i>peirsonii</i>	Peirson's pincushion	CRPR: 1B.3	IMP, RIV
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's pincushion	CRPR: 1B.1	LA, OR, VEN
<i>Chaenactis parishii</i>	Parish's chaenactis	CRPR: 1B.3	RIV
<i>Chenopodium littoreum</i>	Coastal goosefoot	CRPR: 1B.2	LA

**TABLE 3.4.2-5
RARE AND LOCALLY IMPORTANT PLANTS REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Where Reported
<i>Chloropyron tecopense</i>	Tecopa salty bird's-beak	CRPR: 1B.2	SB
<i>Chorizanthe blakleyi</i>	Blakley's spineflower	CRPR: 1B.3	VEN
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	CRPR: 1B.1	LA, RIV, SB
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	Long-spined spineflower	CRPR: 1B.2	OR, RIV
<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	White-bracted spineflower	CRPR: 1B.2	LA, RIV, SB
<i>Chylismia arenaria</i>	Sand evening-primrose	CRPR: 2B.2	IMP, RIV, SB
<i>Cirsium arizonicum</i> var. <i>tenuisectum</i>	Desert mountain thistle	CRPR: 1B.2	SB
<i>Cladium californicum</i>	California saw-grass	CRPR: 2B.2	LA, RIV, SB
<i>Clarkia xantiana</i> ssp. <i>Parviflora</i>	Kern Canyon clarkia	CRPR: 4.2	LA
<i>Claytonia lanceolata</i> var. <i>peirsonii</i>	Peirson's spring beauty	CRPR: 3.1	SB
<i>Clinopodium chandleri</i>	San Miguel savory	CRPR: 1B.2	OR, RIV
<i>Colubrina californica</i>	Las Animas colubrina	CRPR: 2B.3	IMP, RIV
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	Summer holly	CRPR: 1B.2	OR, RIV
<i>Constancea nevinii</i>	Nevin's woolly sunflower	CRPR: 1B.3	LA
<i>Cordylanthus parviflorus</i>	Small-flowered bird's-beak	CRPR: 2B.3	SB
<i>Coryphantha alversonii</i>	Alverson's foxtail cactus	CRPR: 4.3	IMP, RIV, SB
<i>Coryphantha chlorantha</i>	Desert pincushion	CRPR: 2B.1	SB
<i>Coryphantha vivipara</i> var. <i>rosea</i>	Viviparous foxtail cactus	CRPR: 2B.2	SB
<i>Crossosoma californicum</i>	Catalina crossosoma	CRPR: 1B.2	LA
<i>Cryptantha clokeyi</i>	Clokey's cryptantha	CRPR: 1B.2	LA, SB
<i>Cryptantha traskiae</i>	Trask's cryptantha	CRPR: 1B.1	LA, VEN
<i>Cryptantha wigginsii</i>	Wiggins' cryptantha	CRPR: 1B.2	LA, RIV
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	Peruvian dodder	CRPR: 2B.2	LA, SB
<i>Cylindropuntia munzii</i>	Munz's cholla	CRPR: 1B.3	IMP, RIV
<i>Cymopterus deserticola</i>	Desert cymopterus	CRPR: 1B.2	LA, SB
<i>Cymopterus gilmanii</i>	Gilman's cymopterus	CRPR: 2B.3	SB
<i>Cymopterus multinervatus</i>	Purple-nerve cymopterus	CRPR: 2B.2	SB
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	Dune larkspur	CRPR: 1B.2	VEN
<i>Delphinium scaposum</i>	Bare-stem larkspur	CRPR: 2B.3	SB
<i>Delphinium umbracolorum</i>	Umbrella larkspur	CRPR: 1B.3	VEN
<i>Delphinium variegatum</i> ssp. <i>thornei</i>	Thorne's royal larkspur	CRPR: 1B.1	LA
<i>Dendromecon harfordii</i> var. <i>rharnoides</i>	South island bush-poppy	CRPR: 3.1	LA
<i>Dieteria canescens</i> var. <i>ziegleri</i>	Ziegler's aster	CRPR: 1B.2	RIV

**TABLE 3.4.2-5
RARE AND LOCALLY IMPORTANT PLANTS REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Where Reported
<i>Digitaria californica</i> var. <i>californica</i>	Arizona cottontop	CRPR: 2B.3	IMP, SB
<i>Dissanthelium californicum</i>	California dissanthelium	CRPR: 1B.2	LA
<i>Ditaxis claryana</i>	Glandular ditaxis	CRPR: 2B.2	IMP, RIV, SB
<i>Ditaxis serrata</i> var. <i>californica</i>	California ditaxis	CRPR: 3.2	RIV, IMP, SB
<i>Draba saxosa</i>	Southern California rock draba	CRPR: 1B.3	RIV, SB
<i>Drymocallis cuneifolia</i> var. <i>cuneifolia</i>	Wedgeleaf woodbeauty	CRPR: 1B.1	SB
<i>Drymocallis cuneifolia</i> var. <i>ewanii</i>	Ewan's cinquefoil	CRPR: 1B.3	LA
<i>Dryopteris filix-mas</i>	Male fern	CRPR: 2B.3	SB
<i>Dudleya abramsii</i> ssp. <i>affinis</i>	San Bernardino Mountains dudleya	CRPR: 1B.2	SB
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	CRPR: 1B.1	LA, OR, VEN
<i>Dudleya cymosa</i> ssp. <i>crebrifolia</i>	San Gabriel River dudleya	CRPR: 1B.2	LA
<i>Dudleya densiflora</i>	San Gabriel Mountains dudleya	CRPR: 1B.1	LA
<i>Dudleya multicaulis</i>	Many-stemmed dudleya	CRPR: 1B.2	LA, OR, RIV, SB
<i>Dudleya virens</i> ssp. <i>hassei</i>	Catalina Island dudleya	CRPR: 1B.2	LA
<i>Dudleya virens</i> ssp. <i>insularis</i>	Island green dudleya	CRPR: 1B.2	LA, VEN
<i>Dudleya virens</i> ssp. <i>virens</i>	Bright green dudleya	CRPR: 1B.2	LA
<i>Dudleya viscida</i>	Sticky dudleya	CRPR: 1B.2	OR, RIV
<i>Echinocereus engelmannii</i> var. <i>howei</i>	Howe's hedgehog cactus	CRPR: 1B.1	SB
<i>Elymus salina</i>	Salina Pass wild-rye	CRPR: 2B.3	SB
<i>Enneapogon desvauxii</i>	Nine-awned pappus grass	CRPR: 2B.2	SB
<i>Eremogone congesta</i> var. <i>charlestonensis</i>	Charleston sandwort	CRPR: 1B.3	SB
<i>Eriogonum boothii</i> ssp. <i>boothii</i>	Booth's evening-primrose	CRPR: 2B.3	RIV, SB
<i>Eriogonum boothii</i> ssp. <i>intermedia</i>	Booth's hairy evening-primrose	CRPR: 2B.3	SB
<i>Eriastrum harwoodii</i>	Harwood's eriastrum	CRPR: 1B.2	RIV, SB
<i>Eriastrum rosamondense</i>	Rosamond eriastrum	CRPR: 1B.1	LA
<i>Erigeron oxyphyllus</i>	Wand-like fleabane daisy	CRPR: 2B.3	SB
<i>Erigeron uncialis</i> var. <i>uncialis</i>	Limestone daisy	CRPR: 1B.2	SB
<i>Erigeron utahensis</i>	Utah daisy	CRPR: 2B.3	SB
<i>Eriodictyon angustifolium</i>	Narrow-leaved yerba santa	CRPR: 2B.3	SB
<i>Eriogonum bifurcatum</i>	Forked buckwheat	CRPR: 1B.2	SB
<i>Eriogonum contiguum</i>	Ash Meadows buckwheat	CRPR: 2B.3	SB
<i>Eriogonum evanidum</i>	Vanishing wild buckwheat	CRPR: 1B.1	RIV, SB
<i>Eriogonum giganteum</i> var. <i>formosum</i>	San Clemente Island buckwheat	CRPR: 1B.2	LA

**TABLE 3.4.2-5
RARE AND LOCALLY IMPORTANT PLANTS REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Where Reported
<i>Eriogonum kennedyi</i> var. <i>alpigenum</i>	Southern alpine buckwheat	CRPR: 1B.3	LA, SB, VEN
<i>Eriogonum microthecum</i> var. <i>johnstonii</i>	Johnston's buckwheat	CRPR: 1B.3	LA, SB
<i>Eriogonum microthecum</i> var. <i>lacus-ursi</i>	Bear Lake buckwheat	CRPR: 1B.1	SB
<i>Eriogonum umbellatum</i> var. <i>juniporinum</i>	Juniper sulphur-flowered buckwheat	CRPR: 2B.3	SB
<i>Erioneuron pilosum</i>	Hairy erioneuron	CRPR: 2B.3	SB
<i>Eriophyllum mohavense</i>	Barstow woolly sunflower	CRPR: 1B.2	LA, SB
<i>Erysimum insulare</i>	Island wallflower	CRPR: 1B.3	VEN
<i>Eschscholzia minutiflora</i> ssp. <i>twisselmannii</i>	Red Rock poppy	CRPR: 1B.2	SB
<i>Eucnide rupestris</i>	Annual rock-nettle	CRPR: 2B.2	IMP
<i>Euphorbia abramsiana</i>	Abrams' spurge	CRPR: 2B.2	IMP, RIV, SB
<i>Euphorbia arizonica</i>	Arizona spurge	CRPR: 2B.3	IMP, RIV
<i>Euphorbia exstipulata</i> var. <i>exstipulata</i>	Clark Mountain spurge	CRPR: 2B.1	SB
<i>Euphorbia jaegeri</i>	Orocopia Mountains spurge	CRPR: 1B.1	RIV, SB
<i>Euphorbia misera</i>	Cliff spurge	CRPR: 2B.2	LA, OR, RIV
<i>Euphorbia parryi</i>	Parry's spurge	CRPR: 2B.3	SB
<i>Euphorbia platysperma</i>	Flat-seeded spurge	CRPR: 1B.2	IMP, RIV, SB
<i>Fimbristylis thermalis</i>	Hot springs fimbristylis	CRPR: 2B.2	LA, SB
<i>Frasera albomarginata</i> var. <i>albomarginata</i>	Desert green-gentian	CRPR: 2B.2	SB
<i>Frasera albomarginata</i> var. <i>induta</i>	Clark Mountain green-gentian	CRPR: 1B.2	SB
<i>Fritillaria ojaiensis</i>	Ojai fritillary	CRPR: 1B.2	VEN
<i>Galium angustifolium</i> ssp. <i>jacinticum</i>	San Jacinto Mountains bedstraw	CRPR: 1B.3	RIV
<i>Galium californicum</i> ssp. <i>primum</i>	Alvin Meadow bedstraw	CRPR: 1B.2	RIV, SB
<i>Galium catalinense</i> ssp. <i>catalinense</i>	Santa Catalina Island bedstraw	CRPR: 1B.2	LA
<i>Galium grande</i>	San Gabriel bedstraw	CRPR: 1B.2	LA
<i>Galium hilendiae</i> ssp. <i>kingstonense</i>	Kingston Mountains bedstraw	CRPR: 1B.3	SB
<i>Galium proliferum</i>	Desert bedstraw	CRPR: 2B.2	SB
<i>Galium wrightii</i>	Wright's bedstraw	CRPR: 2B.3	SB
<i>Gambelia speciosa</i>	Showy island snapdragon	CRPR: 1B.2	LA
<i>Gentiana fremontii</i>	Fremont's gentian	CRPR: 2B.3	SB
<i>Geothallus tuberosus</i>	Campbell's liverwort	CRPR: 1B.1	RIV
<i>Geraea viscida</i>	Sticky geraea	CRPR: 2B.3	IMP
<i>Gilia leptantha</i> ssp. <i>leptantha</i>	San Bernardino gilia	CRPR: 1B.3	SB

**TABLE 3.4.2-5
RARE AND LOCALLY IMPORTANT PLANTS REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Where Reported
<i>Githopsis diffusa</i> ssp. <i>filicaulis</i>	Mission Canyon bluecup	CRPR: 3.1	RIV
<i>Glossopetalon pungens</i>	Pungent glossopetalon	CRPR: 1B.2	SB
<i>Graphis saxorum</i>	Baja rock lichen	CRPR: 3	LA
<i>Grimmia vaginulata</i>	Vaginulate grimmia	CRPR: 1B.1	SB
<i>Grusonia parishii</i>	Parish's club-cholla	CRPR: 2B.2	IMP, RIV, SB
<i>Harpegonella palmeri</i>	Palmer's grapplinghook	CRPR: 4.2	LA, OR, RIV
<i>Hazardia cana</i>	San Clemente Island hazardia	CRPR: 1B.2	LA
<i>Hedeoma drummondii</i>	Drummond's false pennyroyal	CRPR: 2B.2	SB
<i>Helianthus inexpectatus</i>	Newhall sunflower	CRPR: 1B.1	LA
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	Los Angeles sunflower	CRPR: 1A	LA, OR, SB
<i>Herissantia crispa</i>	Curly herissantia	CRPR: 2B.3	IMP
<i>Hesperocyparis forbesii</i>	Tecate cypress	CRPR: 1B.1	OR, RIV
<i>Heuchera hirsutissima</i>	Shaggy-haired alumroot	CRPR: 1B.3	RIV, SB
<i>Heuchera maxima</i>	Island alumroot	CRPR: 1B.2	VEN
<i>Heuchera parishii</i>	Parish's alumroot	CRPR: 1B.3	RIV, SB
<i>Horkelia cuneata</i> var. <i>puberula</i>	Mesa horkelia	CRPR: 1B.1	LA, OR, RIV, SB, VEN
<i>Horkelia wilderae</i>	Barton Flats horkelia	CRPR: 1B.1	SB
<i>Hulsea californica</i>	San Diego hulsea	CRPR: 1B.3	RIV
<i>Hulsea mexicana</i>	Mexican hulsea	CRPR: 2B.3	IMP
<i>Hulsea vestita</i> ssp. <i>pygmaea</i>	Pygmy hulsea	CRPR: 1B.3	SB
<i>Hymenopappus filifolius</i> var. <i>eriopodus</i>	Hairy-podded fine-leaf hymenopappus	CRPR: 2B.3	SB
<i>Hymenoxys odorata</i>	Bitter hymenoxys	CRPR: 2B.1	IMP, RIV, SB
<i>Imperata brevifolia</i>	California satintail	CRPR: 2B.1	IMP, LA, OR, RIV, SB, VEN
<i>Ipomopsis effusa</i>	Baja California ipomopsis	CRPR: 2B.1	IMP
<i>Ipomopsis tenuifolia</i>	Slender-leaved ipomopsis	CRPR: 2B.3	IMP
<i>Isocoma menziesii</i> var. <i>decumbens</i>	Decumbent goldenbush	CRPR: 1B.2	LA, OR
<i>Ivesia argyrocoma</i> var. <i>argyrocoma</i>	Silver-haired ivesia	CRPR: 1B.2	SB
<i>Ivesia jaegeri</i>	Jaeger's ivesia	CRPR: 1B.3	SB
<i>Ivesia patellifera</i>	Kingston Mountains ivesia	CRPR: 1B.3	SB
<i>Jaffueliobryum raui</i>	Rau's jaffueliobryum moss	CRPR: 2B.3	RIV, SB
<i>Jaffueliobryum wrightii</i>	Wright's jaffueliobryum moss	CRPR: 2B.3	RIV, SB
<i>Juncus interior</i>	Inland rush	CRPR: 2B.2	SB
<i>Juncus luciensis</i>	Santa Lucia dwarf rush	CRPR: 1B.2	RIV
<i>Juncus nodosus</i>	Knotted rush	CRPR: 2B.3	SB
<i>Koeberlinia spinosa</i> ssp. <i>tenuispina</i>	Slender-spined all thorn	CRPR: 2B.2	IMP, RIV
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	CRPR: 1B.1	LA, OR, RIV, SB, VEN

**TABLE 3.4.2-5
RARE AND LOCALLY IMPORTANT PLANTS REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Where Reported
<i>Lavatera assurgentiflora</i> ssp. <i>Assurgentiflora</i>	Island mallow	CRPR: 1B.1	VEN
<i>Lavatera assurgentiflora</i> ssp. <i>glabra</i>	Southern island mallow	CRPR: 1B.1	LA
<i>Layia heterotricha</i>	Pale-yellow layia	CRPR: 1B.1	LA, VEN
<i>Lepechinia cardiophylla</i>	Heart-leaved pitcher sage	CRPR: 1B.2	OR, RIV
<i>Lepechinia rossii</i>	Ross' pitcher sage	CRPR: 1B.2	LA, VEN
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	CRPR: 4.3	LA, OR, RIV, SB, VEN
<i>Leptosiphon floribundus</i> ssp. <i>hallii</i>	Santa Rosa Mountains leptosiphon	CRPR: 1B.3	RIV
<i>Leptosiphon pygmaeus</i> ssp. <i>pygmaeus</i>	Pygmy leptosiphon	CRPR: 1B.2	LA
<i>Lewisia brachycalyx</i>	Short-sepaled lewisia	CRPR: 2B.2	SB
<i>Lilium parryi</i>	Lemon lily	CRPR: 1B.2	LA, RIV, SB
<i>Linanthus bernardinus</i>	Pioneertown linanthus	CRPR: 1B.2	SB
<i>Linanthus concinnus</i>	San Gabriel linanthus	CRPR: 1B.2	LA, SB
<i>Linanthus jaegeri</i>	San Jacinto linanthus	CRPR: 1B.2	RIV
<i>Linanthus killipii</i>	Baldwin Lake linanthus	CRPR: 1B.2	SB
<i>Linanthus maculatus</i>	Little San Bernardino Mtns. linanthus	CRPR: 1B.2	IMP, RIV, SB
<i>Linanthus orcuttii</i>	Orcutt's linanthus	CRPR: 1B.3	LA, RIV, SB
<i>Linum puberulum</i>	Plains flax	CRPR: 2B.3	SB
<i>Lithospermum incisum</i>	Plains stoneseed	CRPR: 2B.3	SB
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	Sagebrush loeflingia	CRPR: 2B.2	LA, SB
<i>Lomatium insulare</i>	San Nicolas Island lomatium	CRPR: 1B.2	LA, VEN
<i>Lonicera subspicata</i> var. <i>subspicata</i>	Santa Barbara honeysuckle	CRPR: 1B.2	LA
<i>Lupinus excubitus</i> var. <i>medius</i>	Mountain Springs bush lupine	CRPR: 1B.3	IMP
<i>Lupinus guadalupensis</i>	Guadalupe Island lupine	CRPR: 1B.2	LA
<i>Lupinus peirsonii</i>	Peirson's lupine	CRPR: 1B.3	LA
<i>Lycium brevipes</i> var. <i>hassei</i>	Santa Catalina Island desert-thorn	CRPR: 1B.1	LA, OR
<i>Lycium parishii</i>	Parish's desert-thorn	CRPR: 2B.3	IMP, SB, RIV
<i>Lycium verrucosum</i>	San Nicolas Island desert-thorn	CRPR: 1A	VEN
<i>Lyonothamnus floribundus</i> ssp. <i>Aspleniifolius</i>	Santa Cruz Island ironwood	CRPR: 1B.2	LA
<i>Lyonothamnus floribundus</i> ssp. <i>Floribundus</i>	Santa Catalina Island ironwood	CRPR: 1B.2	LA
<i>Malacothamnus davidsonii</i>	Davidson's bush-mallow	CRPR: 1B.2	LA, VEN
<i>Malacothamnus parishii</i>	Parish's bush-mallow	CRPR: 1A	SB

**TABLE 3.4.2-5
RARE AND LOCALLY IMPORTANT PLANTS REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Where Reported
<i>Malacothrix foliosa</i> ssp. <i>Crispifolia</i>	Wavy-leaved malacothrix	CRPR: 1B.2	VEN
<i>Malacothrix junakii</i>	Junak's malcothrix	CRPR: 1B.1	VEN
<i>Malacothrix similis</i>	Mexican malacothrix	CRPR: 2A	VEN
<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	White bog adder's-mouth	CRPR: 2B.1	RIV, SB
<i>Malperia tenuis</i>	Brown turbans	CRPR: 2B.3	IMP
<i>Mammillaria grahamii</i> var. <i>grahamii</i>	Graham fishhook cactus	CRPR: 2B.2	SB
<i>Marina orcuttii</i> var. <i>orcuttii</i>	California marina	CRPR: 1B.3	RIV
<i>Matelea parvifolia</i>	Spear-leaf matelea	CRPR: 2B.3	IMP, RIV, SB
<i>Maurandella antirrhiniflora</i>	Violet twining snapdragon	CRPR: 2B.3	SB
<i>Meesia uliginosa</i>	Broad-nerved hump moss	CRPR: 2B.2	RIV
<i>Menodora scabra</i>	Rough menodora	CRPR: 2B.3	SB
<i>Menodora spinescens</i> var. <i>mohavensis</i>	Mojave menodora	CRPR: 1B.2	SB
<i>Mentzelia hirsutissima</i>	Hairy stickleaf	CRPR: 2B.3	IMP
<i>Mentzelia polita</i>	Polished blazing star	CRPR: 1B.2	SB
<i>Mentzelia pterosperma</i>	Wing-seed blazing star	CRPR: 2B.2	SB
<i>Mentzelia puberula</i>	Darlington's blazing star	CRPR: 2B.2	IMP, RIV, SB
<i>Mentzelia tricuspis</i>	Spiny-hair blazing star	CRPR: 2B.1	IMP, RIV, SB
<i>Mentzelia tridentata</i>	Creamy blazing star	CRPR: 1B.3	IMP, RIV, SB
<i>Mielichhoferia shevockii</i>	Shevock's copper moss	CRPR: 1B.2	RIV
<i>Mimulus exiguus</i>	San Bernardino Mountains monkeyflower	CRPR: 1B.2	SB
<i>Mimulus mohavensis</i>	Mojave monkeyflower	CRPR: 1B.2	SB
<i>Mimulus purpureus</i>	Little purple monkeyflower	CRPR: 1B.2	SB, RIV
<i>Mimulus traskiae</i>	Santa Catalina Island monkeyflower	CRPR: 1A	LA
<i>Mirabilis coccinea</i>	Red four o'clock	CRPR: 2B.3	SB
<i>Monarda pectinata</i>	Plains bee balm	CRPR: 2B.3	SB
<i>Monardella australis</i> ssp. <i>jokerstii</i>	Jokerst's monardella	CRPR: 1B.1	SB
<i>Monardella boydii</i>	Boyd's monardella	CRPR: 1B.2	SB
<i>Monardella eremicola</i>	Clark Mountain monardella	CRPR: 1B.3	SB
<i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i>	White-veined monardella	CRPR: 1B.3	LA, VEN
<i>Monardella hypoleuca</i> ssp. <i>intermedia</i>	Intermediate monardella	CRPR: 1B.3	OR, RIV
<i>Monardella linoides</i> ssp. <i>oblonga</i>	Tehachapi monardella	CRPR: 1B.3	LA, VEN
<i>Monardella macrantha</i> ssp. <i>hallii</i>	Hall's monardella	CRPR: 1B.3	LA, OR, RIV, SB
<i>Monardella nana</i> ssp. <i>leptosiphon</i>	San Felipe monardella	CRPR: 1B.2	RIV

**TABLE 3.4.2-5
RARE AND LOCALLY IMPORTANT PLANTS REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Where Reported
<i>Monardella pringlei</i>	Pringle's monardella	CRPR: 1A	RIV, SB
<i>Monardella robisonii</i>	Robison's monardella	CRPR: 1B.3	RIV, SB
<i>Monardella sinuata</i> ssp. <i>sinuata</i>	Southern curly-leaved monardella	CRPR: 1B.2	VEN
<i>Muhlenbergia alopecuroides</i>	Wolftail	CRPR: 2B.2	SB
<i>Muhlenbergia appressa</i>	Appressed muhly	CRPR: 2B.2	LA, SB
<i>Muhlenbergia arsenei</i>	Tough muhly	CRPR: 2B.3	SB
<i>Muhlenbergia californica</i>	California muhly	CRPR: 4.3	LA, SB, RIV
<i>Muhlenbergia fragilis</i>	Delicate muhly	CRPR: 2B.3	SB
<i>Muhlenbergia pauciflora</i>	Few-flowered muhly	CRPR: 2B.3	SB
<i>Munroa squarrosa</i>	False buffalo-grass	CRPR: 2B.2	SB
<i>Munzothamnus blairii</i>	Blair's munzothamnus	CRPR: 1B.2	LA
<i>Myosurus minimus</i> ssp. <i>Apus</i>	Little mousetail	CRPR: 3.1	RIV, SB
<i>Myriopteris wootonii</i>	Wooton's lace fern	CRPR: 2B.3	SB
<i>Nama dichotomum</i> var. <i>dichotomum</i>	Forked purple mat	CRPR: 2B.3	SB
<i>Nama stenocarpum</i>	Mud nama	CRPR: 2B.2	IMP, LA, OR, RIV
<i>Navarretia ojaiensis</i>	Ojai navarretia	CRPR: 1B.1	LA, VEN
<i>Navarretia peninsularis</i>	Baja navarretia	CRPR: 1B.2	LA, SB, VEN
<i>Navarretia prostrata</i>	Prostrate vernal pool navarretia	CRPR: 1B.1	LA, OR, RIV, SB
<i>Navarretia setiloba</i>	Piute Mountains navarretia	CRPR: 1B.1	LA
<i>Nemacaulis denudata</i> var. <i>denudata</i>	Coast woolly-heads	CRPR: 1B.2	LA, OR
<i>Nemacaulis denudata</i> var. <i>gracilis</i>	Slender cottonheads	CRPR: 2B.2	IMP, RIV, SB
<i>Nemacladus secundiflorus</i> var. <i>robbinsii</i>	Robbins' nemacladus	CRPR: 1B.2	LA, VEN
<i>Nolina cismontana</i>	Chaparral nolina	CRPR: 1B.2	LA, OR, RIV, VEN
<i>Oenothera cavernae</i>	Cave evening-primrose	CRPR: 2B.1	SB
<i>Oenothera longissima</i>	Long-stem evening-primrose	CRPR: 2B.2	SB
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	Short-joint beavertail	CRPR: 1B.2	LA, SB
<i>Opuntia wigginsii</i>	Wiggins' cholla	CRPR: 3.3	IMP, RIV, SB
<i>Opuntia xcurvispina</i>	Curved-spine beavertail	CRPR: 2B.2	SB
<i>Oreonana vestita</i>	Woolly mountain-parsley	CRPR: 1B.3	LA, SB
<i>Orobanche parishii</i> ssp. <i>brachyloba</i>	Short-lobed broomrape	CRPR: 4.2	LA, VEN
<i>Orobanche valida</i> ssp. <i>Valida</i>	Rock Creek broomrape	CRPR: 1B.2	LA, SB, VEN
<i>Oxytropis oreophila</i> var. <i>oreophila</i>	Rock-loving oxytrope	CRPR: 2B.3	LA, SB
<i>Packera bernardina</i>	San Bernardino ragwort	CRPR: 1B.2	LA, SB
<i>Palafoxia arida</i> var. <i>gigantea</i>	Giant spanish-needle	CRPR: 1B.3	IMP
<i>Panicum hirticaule</i> ssp. <i>hirticaule</i>	Roughstalk witch grass	CRPR: 2B.1	IMP, RIV, SB

**TABLE 3.4.2-5
RARE AND LOCALLY IMPORTANT PLANTS REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Where Reported
<i>Parnassia cirrata</i> var. <i>cirrata</i>	San Bernardino grass-of-Parnassus	CRPR: 1B.3	LA, RIV, SB
<i>Pediomelum castoreum</i>	Beaver Dam breadroot	CRPR: 1B.2	SB
<i>Pellaea truncata</i>	Spiny cliff-brake	CRPR: 2B.3	SB
<i>Penstemon albomarginatus</i>	White-margined beardtongue	CRPR: 1B.1	SB
<i>Penstemon bicolor</i> ssp. <i>roseus</i>	Rosy two-toned beardtongue	CRPR: 1B.1	SB
<i>Penstemon calcareus</i>	Limestone beardtongue	CRPR: 1B.3	SB
<i>Penstemon californicus</i>	California beardtongue	CRPR: 1B.2	OR, RIV
<i>Penstemon fruticiformis</i> var. <i>amargosae</i>	Amargosa beardtongue	CRPR: 1B.3	SB
<i>Penstemon pseudospectabilis</i> ssp. <i>pseudospectabilis</i>	desert beardtongue	CRPR: 2B.2	IMP, RIV, SB
<i>Penstemon stephensii</i>	Stephens' beardtongue	CRPR: 1B.3	SB
<i>Penstemon thompsoniae</i>	Thompson's beardtongue	CRPR: 2B.3	SB
<i>Penstemon utahensis</i>	Utah beardtongue	CRPR: 2B.3	SB
<i>Pentachaeta aurea</i> ssp. <i>allenii</i>	Allen's pentachaeta	CRPR: 1B.1	OR
<i>Perideridia parishii</i> ssp. <i>parishii</i>	Parish's yampah	CRPR: 2B.2	SB
<i>Petalonyx thurberi</i> ssp. <i>gilmanii</i>	Death Valley sandpaper-plant	CRPR: 1B.3	SB
<i>Phacelia anelsonii</i>	Aven Nelson's phacelia	CRPR: 2B.3	SB
<i>Phacelia barnebyana</i>	Barneby's phacelia	CRPR: 2B.3	SB
<i>Phacelia coerulea</i>	Sky-blue phacelia	CRPR: 2B.3	SB
<i>Phacelia floribunda</i>	Many-flowered phacelia	CRPR: 1B.2	LA
<i>Phacelia keckii</i>	Santiago Peak phacelia	CRPR: 1B.3	OR, RIV
<i>Phacelia mustelina</i>	Death Valley round-leaved phacelia	CRPR: 1B.3	SB
<i>Phacelia parishii</i>	Parish's phacelia	CRPR: 1B.1	SB
<i>Phacelia perityloides</i> var. <i>jaegeri</i>	Jaeger's phacelia	CRPR: 1B.3	SB
<i>Phacelia pulchella</i> var. <i>gooddingii</i>	Goodding's phacelia	CRPR: 2B.3	SB
<i>Phacelia stellaris</i>	Brand's star phacelia	CRPR: 1B.1	LA, OR, RIV, SB
<i>Phaseolus filiformis</i>	Slender-stem bean	CRPR: 2B.1	RIV
<i>Phlox dolichantha</i>	Big Bear Valley phlox	CRPR: 1B.2	SB
<i>Pholisma sonorae</i>	Sand food	CRPR: 1B.2	IMP
<i>Pholistoma auritum</i> var. <i>arizonicum</i>	Arizona pholistoma	CRPR: 2B.3	IMP, SB
<i>Physalis lobata</i>	Lobed ground-cherry	CRPR: 2B.3	SB
<i>Physaria chambersii</i>	Chambers' physaria	CRPR: 2B.3	SB
<i>Pilostyles thurberi</i>	Thurber's pilostyles	CRPR: 4.3	IMP, RIV
<i>Plagiobothrys parishii</i>	Parish's popcornflower	CRPR: 1B.1	LA, SB
<i>Poliomintha incana</i>	Frosted mint	CRPR: 2A	SB
<i>Polygala acanthoclada</i>	Thorny milkwort	CRPR: 2B.3	IMP, RIV, SB

**TABLE 3.4.2-5
RARE AND LOCALLY IMPORTANT PLANTS REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Where Reported
<i>Polygala intermontana</i>	Intermountain milkwort	CRPR: 2B.1	SB
<i>Potentilla multijuga</i>	Ballona cinquefoil	CRPR: 1A	LA
<i>Potentilla rimicola</i>	Cliff cinquefoil	CRPR: 2B.3	RIV
<i>Prunus eremophila</i>	Mojave Desert plum	CRPR: 1B.2	SB
<i>Pseudognaphalium leucocephalum</i>	White rabbit-tobacco	CRPR: 2B.2	LA, OR, RIV
<i>Pseudorontium cyathiferum</i>	Deep Canyon snapdragon	CRPR: 2B.3	IMP, RIV
<i>Psorothamnus fremontii</i> var. <i>attenuatus</i>	Narrow-leaved psorothamnus	CRPR: 2B.3	SB
<i>Puccinellia parishii</i>	Parish's alkali grass	CRPR: 1B.1	SB
<i>Pyrrocoma uniflora</i> var. <i>gossypina</i>	Bear Valley pyrrocoma	CRPR: 1B.2	SB
<i>Quercus dumosa</i>	Nuttall's scrub oak	CRPR: 1B.1	LA, OR, VEN
<i>Ribes divaricatum</i> var. <i>parishii</i>	Parish's gooseberry	CRPR: 1A	LA, SB
<i>Ribes viburnifolium</i>	Santa Catalina Island currant	CRPR: 1B.2	LA
<i>Robinia neomexicana</i>	New Mexico locust	CRPR: 2B.3	SB
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	CRPR: 1B.2	SB, OR, VEN
<i>Saltugilia latimeri</i>	Latimer's woodland-gilia	CRPR: 1B.2	RIV, SB
<i>Salvia greatae</i>	Orocopia sage	CRPR: 1B.3	IMP, RIV, SB
<i>Sanvitalia abertii</i>	Abert's sanvitalia	CRPR: 2B.2	SB
<i>Schoenus nigricans</i>	Black bog-rush	CRPR: 2B.2	SB
<i>Sclerocactus johnsonii</i>	Johnson's bee-hive cactus	CRPR: 2B.2	SB
<i>Scleropogon brevifolius</i>	Burro grass	CRPR: 2B.3	SB
<i>Scrophularia villosa</i>	Santa Catalina figwort	CRPR: 1B.2	LA
<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	Southern mountains skullcap	CRPR: 1B.2	LA, RIV, SB
<i>Selaginella eremophila</i>	Desert spike-moss	CRPR: 2B.2	IMP, RIV
<i>Senecio aphanactis</i>	Chaparral ragwort	CRPR: 2B.2	LA, OR, RIV, VEN
<i>Senna covesii</i>	Cove's cassia	CRPR: 2B.2	IMP, RIV, SB
<i>Sibaropsis hammittii</i>	Hammitt's clay-cress	CRPR: 1B.2	RIV
<i>Sidalcea malviflora</i> ssp. <i>dolosa</i>	Bear Valley checkerbloom	CRPR: 1B.2	SB
<i>Sidalcea neomexicana</i>	Salt Spring checkerbloom	CRPR: 2B.2	LA, OR, RIV, SB, VEN
<i>Sidothea emarginata</i>	White-margined oxytheca	CRPR: 1B.3	RIV
<i>Sisyrinchium longipes</i>	Timberland blue-eyed grass	CRPR: 2B.2	SB
<i>Solanum wallacei</i>	Wallace's nightshade	CRPR: 1B.1	LA
<i>Sphaeralcea rusbyi</i> var. <i>eremicola</i>	Rusby's desert-mallow	CRPR: 1B.2	RIV, SB
<i>Sphaerocarpos drewei</i>	Bottle liverwort	CRPR: 1B.1	RIV
<i>Sphenopholis obtusata</i>	Prairie wedge grass	CRPR: 2B.2	RIV, SB
<i>Stemodia durantifolia</i>	Purple stemodia	CRPR: 2B.1	RIV
<i>Stipa arida</i>	Mormon needle grass	CRPR: 2B.3	SB

**TABLE 3.4.2-5
RARE AND LOCALLY IMPORTANT PLANTS REPORTED IN THE SCAG REGION**

Scientific Name	Common Name	Status	Counties Where Reported
<i>Stipa divaricata</i>	Small-flowered rice grass	CRPR: 2B.3	SB
<i>Streptanthus bernardinus</i>	Laguna Mountains jewelflower	CRPR: 4.3	RIV, SB
<i>Streptanthus campestris</i>	Southern jewelflower	CRPR: 1B.3	IMP, RIV, SB, VEN
<i>Stylocline masonii</i>	Mason's neststraw	CRPR: 1B.1	LA
<i>Stylocline sonorensis</i>	Mesquite neststraw	CRPR: 2A	RIV
<i>Suaeda esteroa</i>	Estuary seablite	CRPR: 1B.2	LA, OR, VEN
<i>Symphotrichum defoliatum</i>	San Bernardino aster	CRPR: 1B.2	IMP, LA, OR, RIV, SB
<i>Symphotrichum greatae</i>	Greata's aster	CRPR: 1B.3	LA, SB, VEN
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	CRPR: 1B.2	RIV, OR
<i>Teucrium cubense</i> ssp. <i>depressum</i>	Dwarf germander	CRPR: 2B.2	IMP, RIV
<i>Teucrium glandulosum</i>	Desert germander	CRPR: 2B.3	SB
<i>Texosporium sancti-jacobi</i>	Woven-spored lichen	CRPR: 3	LA, RIV, VEN
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran maiden fern	CRPR: 2B.2	LA, RIV, SB
<i>Thysanocarpus rigidus</i>	Rigid fringedpod	CRPR: 1B.2	LA, RIV, SB
<i>Tortella alpicola</i>	Alpine crisp moss	CRPR: 2B.3	SB
<i>Tortula californica</i>	California screw moss	CRPR: 1B.2	LA, RIV, VEN
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	CRPR: 2B.1	RIV
<i>Tripterocalyx micranthus</i>	Small-flowered sand-verbena	CRPR: 2B.3	SB
<i>Triteleia clementina</i>	San Clemente Island triteleia	CRPR: 1B.2	LA
<i>Viola pinetorum</i> var. <i>grisea</i>	Grey-leaved violet	CRPR: 1B.3	LA, SB, VEN
<i>Wislizenia refracta</i> ssp. <i>palmeri</i>	Palmer's jackass clover	CRPR: 2B.2	RIV
<i>Wislizenia refracta</i> ssp. <i>Refracta</i>	Jackass-clover	CRPR: 2B.2	RIV, SB
<i>Woodsia plummerae</i>	Plummer's woodsia	CRPR: 2B.3	SB
<i>Xylorhiza cognata</i>	Mecca-aster	CRPR: 1B.2	IMP, RIV
<i>Xylorhiza orcuttii</i>	Orcutt's woody-aster	CRPR: 1B.2	IMP

NOTE:

California Native Plant Society: California Rare Plant Rank (CRPR) 1A = Plants Presumed Extinct in California; CRPR: 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2 = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; 3 = Plants About Which We Need More Information; 4 = Plants of Limited Distribution. SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.

SOURCE:

California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

Riparian and State Sensitive Plant Communities

Of the almost 25 million acres across the six counties in the SCAG region, approximately 2.1 million acres are developed, including approximately 100,000 acres used for transportation facilities. As a whole, nearly 23 million acres are considered “open space” (Figure 3.4.2-5, *Open Space in the SCAG Region*). Vacant lands account for more than 20 of the 25 million acres and include the region’s national forests, state parks, military installations, other public lands, and various private holdings. There are approximately 2.65 million acres of agricultural lands in the SCAG region. Approximately 14 million acres of land within the SCAG region are administered by the USFS and the BLM for multiple purposes, including open spaces. These lands remain in natural habitats ranging from highly disturbed non-native grasslands to native habitats. Of the almost 23 million acres of open space in the SCAG region, 321,40 acres are currently identified by the CNDDDB as containing State-sensitive plant communities, including 196,330 acres of riparian habitats. Riparian habitats in the SCAG region may fall into the jurisdiction of the CDFW and improvements within or in the vicinity of these habitats would require compliance with Section 1600 of the State Fish and Game Code in which a Streambed Alteration Agreement would need to be obtained prior to the alteration of a State jurisdictional area.

The Natural Heritage Division of CDFW identifies special-status natural communities. A search of the CNDDDB reported 45 special-status natural communities in the six-county SCAG region (Table 3.4.2-6, *Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region*; Figure 3.4.2-6, *Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region*). The Natural Heritage Division is currently in the process of classifying and mapping vegetation in California. Consequently, these CNDDDB records date back only as recently as 1993. It is important to note that the likelihood of additional state-sensitive plant communities and riparian habitat to exist within the six-county SCAG region is high. Individual projects within the SCAG region would be required to delineate State-sensitive and riparian plant communities on a project-by-project basis.

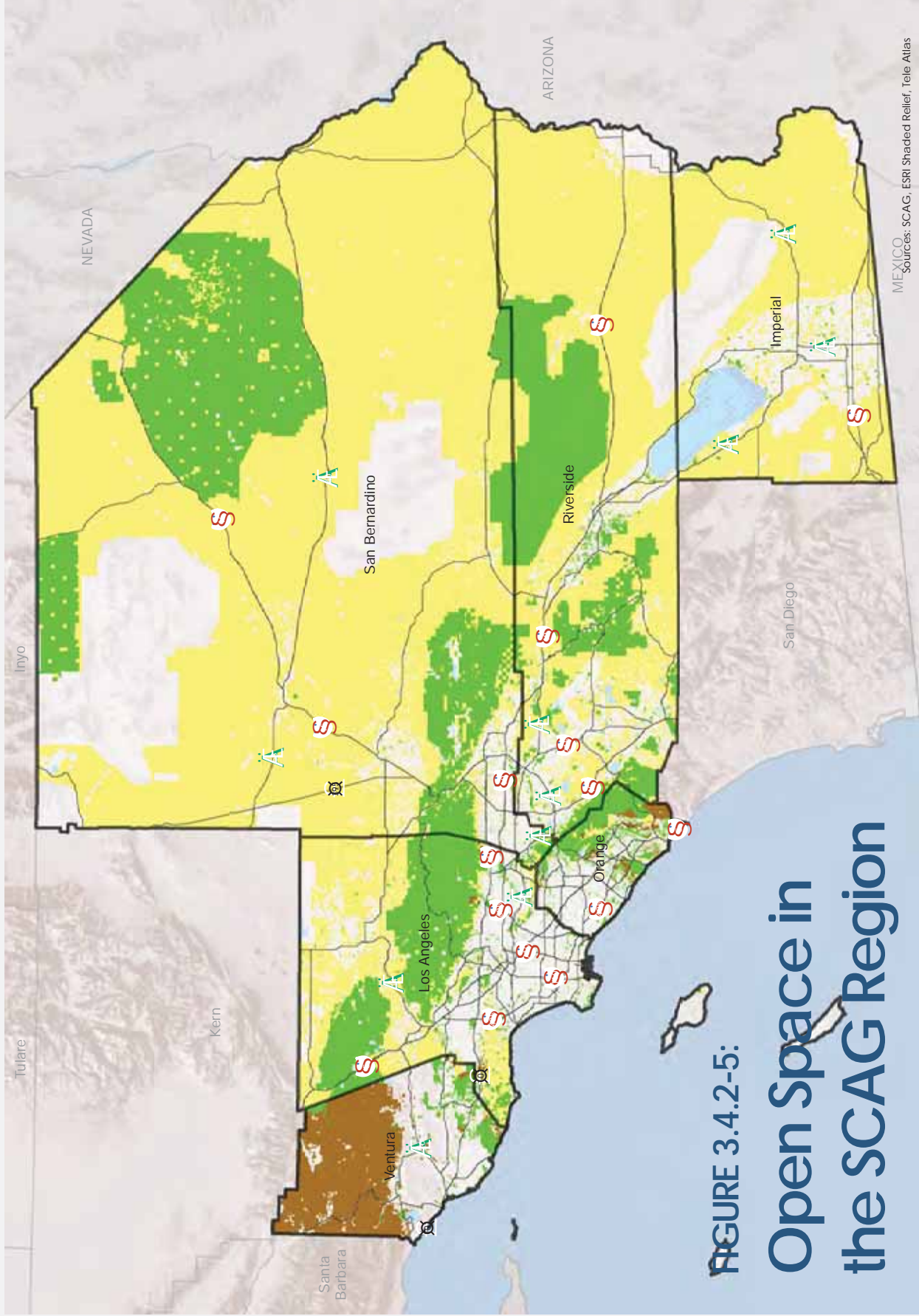


FIGURE 3.4.2-5:
Open Space in
the SCAG Region

- Open Space and Recreation
- Water
- Undevelopable
- Vacant

MEXICO
 Sources: SCAG, ESRI Shaded Relief, Tele Atlas



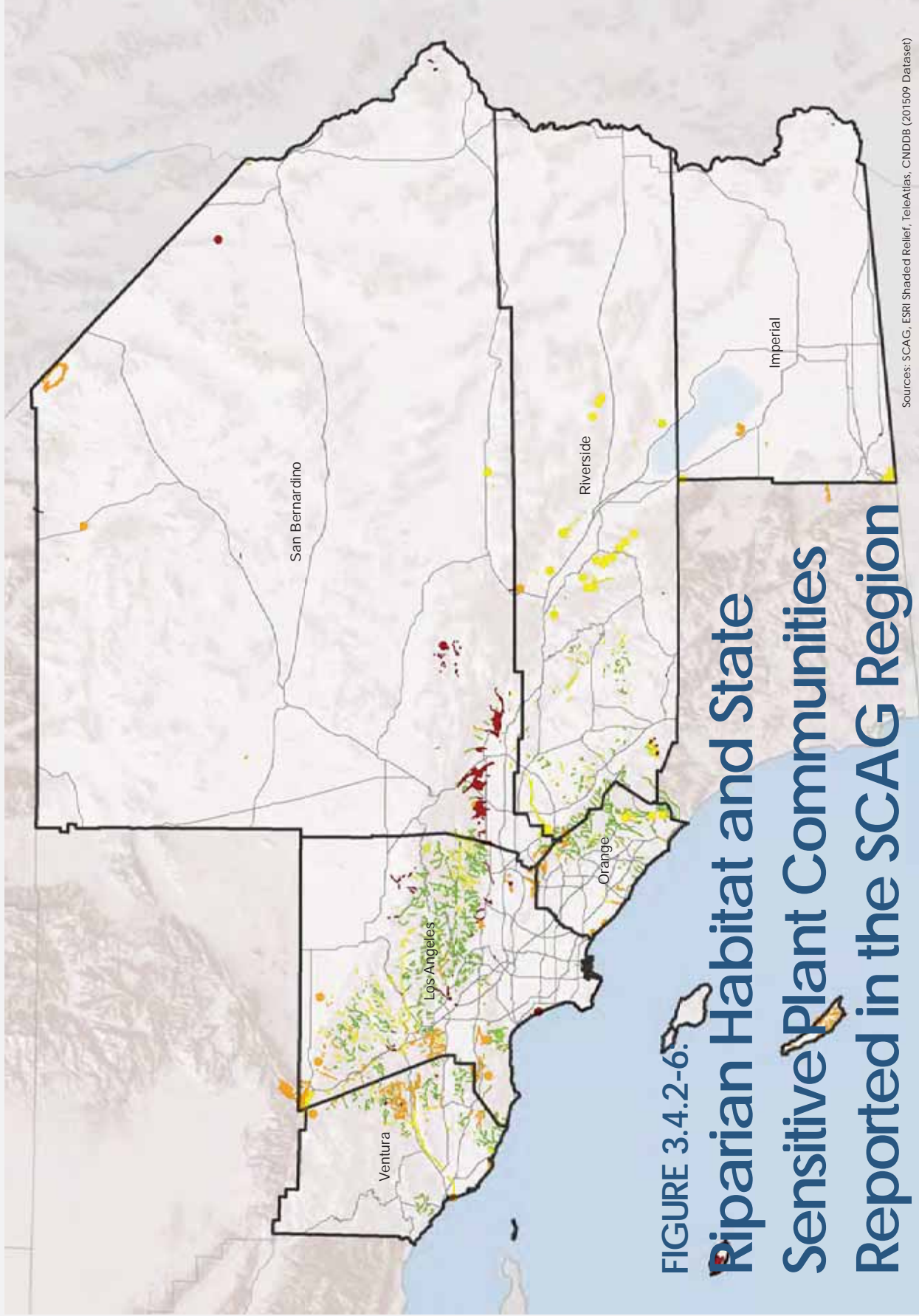


FIGURE 3.4.2-6.
Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region

State Rank (Rarity)

- Critically Impaired
- Imperiled
- Vulnerable
- Apparently Secure

0 5 10 20 Miles

Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CNDDB (201509 Dataset)

**TABLE 3.4.2-6
RIPARIAN HABITAT AND STATE SENSITIVE PLANT COMMUNITIES REPORTED IN THE SCAG
REGION**

Community Name	State Sensitivity Rank	Counties Where Reported	Acres Reported in SCAG Region
Active Desert Dunes	S2.2	IMP	2,230
Alkali Seep	S2.1	SB	<10
Amargosa River	SNR	SB	560
Arizonan Woodland	S1.2	SB	340
California Walnut Woodland	S2.1	LA, OR, SB, VEN,	16,730
Canyon Live Oak Ravine Forest	S3.3	LA, OR, SB, VEN, RIV	5,550
Cismontane Alkali Marsh	S1.1	VEN	30
Coastal and Valley Freshwater Marsh	S2.1	SB, RIV, VEN	550
Crucifixion Thorn Woodland	S2.1	IMP, SB	100
Desert Fan Palm Oasis Woodland	S3.2	IMP, SB, RIV	47,250
Island Cherry Forest	S2.1	LA	1,800
Island Ironwood Forest	S2.1	LA	2,260
Mainland Cherry Forest	S1.1	LA	70
Maritime Succulent Scrub	S1.1	LA, VEN	80
Mesquite Bosque	S2.1	IMP, SB, RIV	11,290
Mojave Mixed Steppe	S2.2	SB	20
Mojave Riparian Forest	S1.1	LA, SB	3,300
Mojave Yucca Scrub and Steppe	S3.2	SB	90
Open Engelmann Oak Woodland	S2.2	LA	870
Pebble Plains	S1.1	SB	4,020
Riversidian Alluvial Fan Sage Scrub	S1.1	LA, SB, OR, RIV	27,830
Sonoran Cottonwood Willow Riparian Forest	S1.1	IMP, RIV	1,760
Southern Coastal Bluff Scrub	S1.1	LA, VEN	1,040
Southern Coastal Salt Marsh	S2.1	LA, OR, VEN	4,660
Southern California Arroyo Chub/ Santa Ana Sucker Stream	SNR	LA, OR, SB, RIV	5,840
Southern California Coastal Lagoon	SNR	LA, VEN	20
Southern California Steelhead Stream	SNR	LA, VEN	3,020
Southern California Threespine Stickleback Stream	SNR	LA, SB, VEN	2,190
Southern Coast Live Oak Riparian Forest	S4	LA, OR, SB, RIV, VEN	22,990
Southern Cottonwood Willow Riparian Forest	S3.2	LA, SB, VEN, OR, RIV, IMP	19,230
Southern Dune Scrub	S1.1	LA, VEN, OR	9,640
Southern Foredunes	S2.1	LA, OR, VEN	1,380
Southern Interior Basalt Flow Vernal Pool	S1.2	RIV	620
Southern Interior Cypress Forest	S2.1	OR, RIV	2,980
Southern Mixed Riparian Forest	S2.1	LA, SB, OR, VEN, RIV	4,460

**TABLE 3.4.2-6
RIPARIAN HABITAT AND STATE SENSITIVE PLANT COMMUNITIES REPORTED IN THE SCAG
REGION**

Community Name	State Sensitivity Rank	Counties Where Reported	Acres Reported in SCAG Region
Southern Riparian Forest	S4	LA, SB, RIV, VEN	550
Southern Riparian Scrub	S3.2	LA, OR, SB, VEN, RIV	11,410
Southern Sycamore Alder Riparian Woodland	S4	LA, OR, SB, RIV, VEN	61,930
Southern Willow Scrub	S2.1	LA, OR, SB, VEN, RIV	5,700
Stabilized and Partially Stabilized Desert Dunes	S3.2	IMP	2,230
Transmontane Alkali Marsh	S2.1	IMP, SB	240
Valley Needlegrass Grassland	S3.1	LA, OR, VEN, RIV	16,990
Valley Oak Woodland	S2.1	LA, VEN	12,430
Walnut Forest	S1.1	LA, VEN	400
Wildflower Field	S2.2	LA	5,570

NOTE:

California Native Plant Society: California Rare Plant Rank (CRPR) 1A = Plants Presumed Extinct in California; CRPR: 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2 = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; 3 = Plants About Which We Need More Information; 4 = Plants of Limited Distribution; SNR = No State Rank. SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.

SOURCE:

California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

Federally Protected Wetlands and Waterways

Current National Wetlands Inventory²¹ maps and USGS blue-line drainage data for the six-county SCAG region were reviewed for potential wetlands and waterways subject to protection under Section 404 of the Clean Water Act and coastal areas subject to Section 10 of the Rivers and Harbors Act. Wetlands and waterways potentially subject to the jurisdiction of the U.S. Army Corps of Engineers were determined to be present within each of the six counties in the SCAG region (Table 3.4.2-7, *Federally Protected Wetlands and Waterways Reported in the SCAG Region*, Table 3.4.2.8, *Blueline Drainages Reported in the SCAG Region*, Table 3.4.2.9, *Federally Protected Waterways under Rivers and Harbors Act Reported in the SCAG Region*). The analysis of Federally Protected Wetlands and Waterways in this section is based on aerial photography and satellite data, individual projects within the SCAG region would be required to complete a formal jurisdictional delineation pursuant to the Corps requirements.

²¹ U.S. Fish and Wildlife Service. n.d. *National Wetlands Inventory Map*. Arlington, VA. Available at: <http://www.fws.gov/wetlands/Wetlands-Mapper.html>

**TABLE 3.2.4-7
FEDERALLY PROTECTED WETLANDS AND WATERWAYS REPORTED IN THE SCAG REGION**

Wetland Type	National Wetlands Inventory (Acres)
Imperial County	
Freshwater Emergent Wetland	4,250
Freshwater Forested/Shrub Wetland	10,560
Freshwater Pond	1,720
Lake	198,250
Other	3,890
Riverine	12,270
Total	230,940
Los Angeles County	
Estuarine and Marine Deepwater	840
Estuarine and Marine Wetland	1,240
Freshwater Emergent Wetland	2,200
Freshwater Forested/Shrub Wetland	10,790
Freshwater Pond	4,820
Lake	18,870
Other	760
Riverine	21,010
Total	60,550
Orange County	
Estuarine and Marine Deepwater	560
Estuarine and Marine Wetland	1,650
Freshwater Emergent Wetland	970
Freshwater Forested/Shrub Wetland	4,110
Freshwater Pond	1,420
Lake	2,320
Other	<10
Riverine	5,450
Total	16,490
Riverside County	
Freshwater Emergent Wetland	7,690
Freshwater Forested/Shrub Wetland	13,850
Freshwater Pond	3,140
Lake	67,660
Other	640
Riverine	23,650
Total	116,630
San Bernardino County	
Freshwater Emergent Wetland	4,870
Freshwater Forested/Shrub Wetland	9,940
Freshwater Pond	5,920
Lake	238,780
Other	1,580
Riverine	99,200
Total	360,290

**TABLE 3.2.4-7
FEDERALLY PROTECTED WETLANDS AND WATERWAYS REPORTED IN THE SCAG REGION**

Wetland Type	National Wetlands Inventory (Acres)
Ventura County	
Estuarine and Marine Deepwater	880
Estuarine and Marine Wetland	2,730
Freshwater Emergent Wetland	2,740
Freshwater Forested/Shrub Wetland	10,280
Freshwater Pond	940
Lake	4,130
Other	1,240
Riverine	8,850
Total	31,780

SOURCE:

U.S. Fish and Wildlife Service. Accessed 21 September 2015. *National Wetlands Inventory Map*. Arlington, VA. Available at: <http://www.fws.gov/wetlands/Wetlands-Mapper.html>

**TABLE 3.4.2-8
BLUELINE DRAINAGES REPORTED IN THE SCAG REGION**

County	Miles of Blueline Drainages
Imperial County	9,010
Los Angeles County	7,180
Orange County	1,480
Riverside County	16,480
San Bernardino County	43,820
Ventura County	4,930
Total	82,900

SOURCE:

U.S. Geological Survey. Accessed 21 September 2015. *National Hydrology Dataset*. Available at: <http://nhd.usgs.gov/data.html>

**TABLE 3.4.2.9
FEDERALLY PROTECTED WATERWAYS UNDER RIVERS AND HARBORS ACT REPORTED IN THE SCAG REGION**

Major River or Lake in the SCAG Region	Acres in the SCAG Region	Linear Miles in the SCAG Region
Imperial County		
Salton Sea	190,390	—
Los Angeles County		
Castaic Lake	2,230	—
Morris Reservoir	280	—
Puddingstone Reservoir	240	—
Pyramid Lake	1,180	—
San Gabriel Reservoir	520	—
Los Angeles River	—	50
San Gabriel River	—	60
Santa Clara River	—	40

**TABLE 3.4.2.9
FEDERALLY PROTECTED WATERWAYS UNDER RIVERS AND HARBORS ACT REPORTED IN THE
SCAG REGION**

Major River or Lake in the SCAG Region	Acres in the SCAG Region	Linear Miles in the SCAG Region
Orange County		
Irvine Lake	450	—
San Gabriel River	—	<10
Santa Ana River	—	30
Riverside County		
Diamond Valley Lake	4,060	—
Lake Elsinore	3,310	—
Lake Matthews	2,670	—
Perris Reservoir	1,920	—
Salton Sea	42,540	—
Skinner Reservoir	790	—
Vail Lake	260	—
Santa Ana River	—	20
Santa Margarita River	—	<10
San Bernardino County		
Big Bear Lake	2,690	—
Lake Arrowhead	740	—
Silverwood Lake	910	—
Santa Ana River	—	40
Ventura County		
Lake Casitas	2,450	—
Lake Piru	1,220	—
Santa Clara River	—	40
TOTAL	258,840	294.00

SOURCE:

U.S. Geological Survey. Accessed 21 September 2015. *National Hydrology Dataset*. Available at:
<http://nhd.usgs.gov/data.html>

Migratory Corridors and Nursery Sites

A desktop analysis, including aerial imagery habitat and land use assessments, and review of existing data indicative of the presence of wildlife movement corridors and nursery sites in the SCAG region was conducted. Uniform data classifying migratory corridors throughout Southern California does not exist. Instead, land use types that are often indicators of wildlife movement were assessed in each county within the SCAG region. The land use types used to characterize suitability for wildlife movement were: Open Space and Recreation, Undevelopable land, Vacant land (excluding the Urban-Vacant classification), and Water (Table 3.4.2-10, *Areas Used for Wildlife Movement within the SCAG Region*).

**TABLE 3.4.2-10
AREAS USED FOR WILDLIFE MOVEMENT WITHIN THE SCAG REGION**

County	Acres of Natural Open Space Land*	Acres of Natural Open Space Water
Imperial	1,691,800	143,040
Los Angeles	1,552,590	14,760
Orange	221,690	4,550
Riverside	3,748,950	66,230
San Bernardino	10,391,540	15,610
Ventura	685,380	9,550
Total	18,291,950	253,740

NOTE:

* Natural Open Space Land includes the following land use classifications: Open Space and Recreation, Undevelopable, and Vacant (excluding Urban-Vacant Category) derived from SCAG Land Use Data.

SOURCE:

SCAG land use data, 2015.

Barriers to wildlife movement exist throughout the SCAG region, including large areas of urban development and multilane freeways that cut off regional movement corridors for large migratory species such as mountain lions (*Puma concolor*). The development of wildlife crossings serve to alleviate these barriers and facilitate wildlife movement through the region. A notable example of such a wildlife crossing is the planned crossing through the State Route 101 Freeway at Liberty Canyon Road in Agoura Hills. The development of this crossing will help facilitate mountain lion and other terrestrial wildlife movement through the Santa Monica Mountains and reduce the risk of motor vehicle collisions with wildlife.

In addition, major rivers, creeks, and streams often serve as nursery sites for fish, amphibian, and invertebrate species. Furthermore, many birds species breed and are expected to nest within the SCAG region. The majority of occupied breeding bird nests are afforded protection under the MBTA, until juvenile birds have successfully fledged from their nests.

Local Policies and Ordinances

The SCAG region spans six counties and 191 cities, each of which has a General Plan containing policies related to biological resources. The State of California General Plan Guidelines (2003) dictate that all cities and counties in the state of California are required to include conservation and open-space elements within their general plans. With the exception of Orange County, each county within the SCAG region has ordinances regulating the removal of native trees and plants (**Table 3.4.2-11, *County Policies and Ordinances Relevant to the SCAG Region***).

**TABLE 3.4.2-11
COUNTY POLICIES AND ORDINANCES RELEVANT TO THE SCAG REGION**

County	County Policies and Ordinances
Imperial ¹	Imperial County Code of Ordinances Chapter 12.48 Wild Flowers and Trees, Imperial County General Plan
Los Angeles ²	Los Angeles County Oak Tree Ordinance, Los Angeles County General Plan
Orange ³	No applicable county tree ordinances exist, Orange County General Plan
Riverside ⁴	Riverside County Ordinance No. 559 Regulating the Removal of Trees, County of Riverside General Plan
San Bernardino ⁵	San Bernardino County Development Code Chapter 88.01, Plant Protection and Management, County of San Bernardino General Plan
Ventura ⁶	Ventura County Tree Protection Ordinance, Ventura County General Plan

SOURCE:

¹ Imperial County Planning and Development Services. 1993. *Imperial County General Plan: Chapter 9: Conservation and Open Space Element*. Pp. 47, 54. Available at: <http://www.icpds.com/CMS/Media/Conservation-and-Open-Space-Element.pdf>

² Los Angeles County Department of Regional Planning. January 2014. *Los Angeles County General Plan Public Review Draft: Chapter 9: Conservation and Natural Resources Element*. P. 146. Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_Chapter9_2014.pdf

³ Orange County Land Use Planning and Subdivision Services. 2005. *Orange County General Plan 2005: Chapter 6: Resources Element*. P. VI-32. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235>

⁴ Riverside County Planning Department. November 2012. *Riverside County General Plan 2025: Open Space and Conservation Element*. P. OS-40. Available at: http://www.riversideca.gov/planning/gp2025program/GP/12_Open_Space_and_Conservation_Element.pdf

⁵ San Bernardino County Land Use Services. 2007. *San Bernardino County General Plan: Chapter 5: Conservation Element*. P. V-13. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

⁶ Ventura County Planning and Development Services. March 2015. *Ventura County General Plan: goals, policies and programs*. P. 16. Available at: <http://www.ventura.org/rma/planning/pdf/plans/Goals-Policies-and-Programs.pdf>

In addition to the county regulations for the six counties described above, General Plans and municipal codes of each of the 191 individual cities in the SCAG region include Conservation Elements that identify biological resources, including mature trees and locally important species that are afforded special consideration. Conservation elements of city plans and municipal codes may also include requirements for permits and mitigation in the planning process for sensitive biological resources such as listed, sensitive or candidate species, riparian or State-sensitive natural communities, wetlands or waters of the United States, and wildlife corridors and native nursery sites. Any project within the SCAG region would need to demonstrate compliance with conservation elements of applicable city and county general plans.

Habitat Conservation Plans and Natural Community Conservation Plans

HCPs and NCCPs were evaluated to determine applicability of any adopted or proposed HCPs or NCCPs in the SCAG region. The boundaries of all HCPs/NCCPs were reviewed and compared to the county boundaries within the SCAG region to determine their relevance. It was determined that 13 HCPs/NCCPs are relevant to the SCAG region (Table 3.4.2-12, *HCPs and NCCPs Relevant to the SCAG Region*). Of the nearly 23 million acres of land classified as “open space” within the SCAG region, 20,560,501.94 acres are afforded long-term protection and conservation under the terms of an HCP or NCCP.

**TABLE 3.4.2-12
HCPs AND NCCPs RELEVANT TO THE SCAG REGION**

HCP/NCCP	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura*
DRECP	X	X		X	X	
Lower Colorado River MSCP	X			X		
Imperial Irrigation District NCCP/HCP	X					
West Mojave HCP		X		X	X	
Palos Verdes Peninsula NCCP/HCP		X				
Orange County Transportation Authority NCCP/HCP			X			
Central Coastal Orange HCCP/HCP			X			
Orange County Southern Subregion HCP			X			
Western Riverside County MSHCP				X		
Coachella Valley MSHCP				X		
Town of Apple Valley MSHCP					X	
City of Colton HCP					X	

NOTE:

* There are no HCP/NCCPs in Ventura County.

SOURCE:

California Department of Fish and Wildlife. 2015. *NCCP Plan Summaries*. Available from: <https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans>

3.4.3 THRESHOLDS OF SIGNIFICANCE

Based on CEQA Guidelines Appendix G and as appropriate for the 2016 RTP/SCS, the Plan would have a significant impact related to biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan.

Methodology

The impact assessment for biological resources focuses on the potentially significant direct effects of the Plan on biological resources within the SCAG region and the indirect and cumulative impacts on the historic range of habitats for special status species that may extend beyond the SCAG region. The methodology for determining the significance of these impacts compares a regional-level analysis of the future Plan conditions for biological resources in comparison to the baseline conditions.

To assess potential impacts to biological resources, geographic information systems (GIS) was used to identify where transportation projects that are included in the 2016 RTP/SCS such as major freeway, rail, and transit projects would be near biological resources in each county within the SCAG region and, therefore, have the potential to result in significant direct impact to special status species or their habitats; have the potential to result in conversion of state-designated sensitive habitats, including those habitats afforded protection pursuant to Sections 401 and 404 of the Federal Clean Water Act, and/or Section 1600 of the State Fish and Game Code; or have the potential to disrupt migratory corridors, nursery sites, or lands designated for long-term regional conservation of species. Specifically, using GIS spatial data, potential regional-level adverse effects were identified by adding a 500-foot buffer to major transportation projects²² included in the 2016 RTP/SCS and overlaying project impacts within each county in the SCAG region upon the distribution and locations of known biological resources, including natural vegetation, wetlands and water resources, special status species and communities, and natural lands. The 500-foot buffer was added to account for any potential direct or indirect impacts that may occur to biological resources during construction and operation. The methodology for determining the significance of these impacts compares the future Plan conditions to baseline conditions.

The impact analysis identifies a direct intersection between major transportation projects included in the Plan and existing biological resources, and identifies the potential cumulative impact of the transportation projects and associated growth on habitat loss, degradation, and fragmentation. The analysis also includes a review of adopted habitat conservation plans to identify potential conflicts with their provisions.

The Plan describes a substantial effort to identify resource areas and encourage shifts in future development away from natural habitat areas. In doing so, the Plan includes land use strategies that aim to preserve natural habitats, minimize the potential for disturbance of biological resources, and support redirecting growth away from high value habitat areas to existing urbanized areas such as high quality transit areas (HQTAs). High value habitat areas as described in the Plan include lands that are important and unique habitats and have high per-acre habitat values, such as riparian habitat.

Implementation of transportation investments and land use strategies included in the 2016 RTP/SCS would affect biological resources. Expected significant impacts include disturbance and removal of natural vegetation that may be utilized by sensitive species, habitat fragmentation and the associated decrease in habitat quality, litter, trampling, light pollution and road noise in previously undisturbed natural areas, displacement of riparian and wetland habitat, siltation of streams and other water bodies

²² Major Transportation Projects include but are not limited to projects that involve ground disturbing activities and projects outside of existing rights-of-way such as projects that require new rights-of-way, adding traffic lanes, and grade separation.

during construction, and the loss of open space that provides habitat for native species. The anticipated increase in urban development, as a result of the land use strategies included in the Plan, would result in similar cumulative impacts when taken into consideration with other regional infrastructure and development improvements. SCAG provided local agencies with the opportunity to review the proposed growth forecast; therefore, the majority of infrastructure and development projects should be accounted for in the Plan.

Two basic types of impacts would potentially occur from transportation projects and land use strategies identified in the 2016 RTP/SCS and anticipated growth. These include short-term construction related impacts, and long-term or permanent displacement, as well as any potential off-site impacts from new facilities.

This PEIR analyzes these impacts on biological resources on a program level only. Additional project-level analysis may be required where temporary and permanent areas of impact differ from the assumptions used in the program-level analysis of impacts. For example, whenever a project is located near biological resources of concern or within habitats capable of supporting such resources, a biological resources evaluation would need to characterize the potential significant impacts for consistency with the program-level analysis contained in this PEIR and the ability to effectively utilize the mitigation measures recommended to avoid and minimize impacts to the maximum extent practicable.

3.4.4 IMPACT ANALYSIS

The analysis of significant impacts to biological resources resulting from major transportation projects included in the 2016 RTP/SCS was based on major transportation projects located throughout the six counties and 38,000 square miles of the SCAG region. Transportation project types listed in the 2016 RTP/SCS range from projects with substantial ground disturbance such as rail projects, mixed flow lane projects, and grade separation projects, to operations and maintenance projects with minimal ground disturbance such as traffic signal synchronization or lane-restriping projects.

Individual transportation projects are preliminarily identified in the 2016 RTP/SCS; however, the impact analysis presented here analyzes potential environmental impacts to sensitive biological resources from a regional perspective and is programmatic in nature. As such, Lead Agencies for these individual projects will determine the level of environmental review required at the subsequent project-level evaluation of individual projects.

IMPACT BIO-1. Potential to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Significant Impact

Transportation projects, and anticipated development projects resulting from the land use strategies, included in the 2016 RTP/SCS would result in substantial adverse effects to threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated

critical habitat through conversion of natural habitats capable of sustaining these species to development, constituting a significant impact. However, regional land use strategies set forth in the Plan include conservation of natural habitats capable of sustaining listed and sensitive species to development by including land use strategies that focus new growth in HQTAs, existing suburban town centers, and more walkable, mixed-use communities and support redirecting growth away from high value habitat areas to existing urbanized areas. The level of impacts to threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated critical habitat will vary on a project-by-project basis. For example, grade separation projects or rail projects located in areas containing natural, previously undisturbed vegetation are anticipated to have a greater impact on threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated critical habitat than a traffic signal synchronization or lane-restriping project located in an urban environment.

Across the six counties and 191 cities within the SCAG region, there are records of and/or habitat for 66 federally or state-listed wildlife species and 76 federally or state-listed plant species, 208 sensitive wildlife species, 426 rare and locally important plant species, and nearly 6 million acres of designated critical habitat for 29 federally listed species. The development of transportation improvement projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, within the SCAG region may result in significant impacts to these species and their habitats. For example, major transportation improvement projects in San Bernardino County are anticipated to cross known habitat for the federally threatened desert tortoise, and major transportation improvement projects in Los Angeles, Orange, Riverside, and Ventura counties are anticipated to cross critical habitat for the coastal California gnatcatcher (Table 3.4.4-1, *Critical Habitat for Listed Species Potentially Affected by 2016 RTP/SCS Major Transportation Projects*).

**TABLE 3.4.4-1
CRITICAL HABITAT FOR LISTED SPECIES POTENTIALLY AFFECTED BY 2016 RTP/SCS MAJOR
TRANSPORTATION PROJECTS**

Species	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura
	Acres of Critical Habitat within 500 Feet of Major Projects					
Arroyo toad	—	85	—	—	197	—
Braunton's milk-vetch	—	—	11	—	—	—
Coastal California gnatcatcher	—	822	525	2,538	—	81
Desert tortoise	—	—	—	—	2,942	—
Least Bell's vireo	—	29	—	211	5	—
Munz's onion	—	—	—	52	—	—
Peninsular bighorn sheep	—	—	—	57	—	—
Quino checkerspot butterfly	—	—	—	655	—	—
San Bernardino kangaroo rat	—	—	—	23	1,007	—
Santa Ana sucker	—	120	56	79	70	—
Southwestern willow flycatcher	—	82	—	—	126	37
Thread-leaved brodiaea	—	—	—	92	—	—

SOURCE:

United States Fish and Wildlife Service, Sacramento Fish and Wildlife Office. 2015.

Designated critical habitat contains known suitable habitat for federally listed species and typically is an indicator of suitable habitat for state- and/or non-listed sensitive species. The number of CNDDDB polygon records for listed species was intersected with major transportation projects included in the 2016 RTP/SCS GIS spatial data with a 500-foot buffer to determine the potential for impacts on listed plant and animal species. Of the 76 listed plant species with records in the SCAG region, 19 species have CNDDDB records that exist within 500 feet of major transportation projects included in the 2016 RTP/SCS (Table 3.4.4-2, *Records of Listed Plant Species Potentially Affected by 2016 RTP/SCS Projects*). Of the 66 listed wildlife species with records in the SCAG region, 30 species have CNDDDB records that exist within 500 feet of major transportation projects included in the 2016 RTP/SCS (Table 3.4.4-3, *Records of Listed Wildlife Species Potentially Affected by 2016 RTP/SCS Projects*). In addition to these listed species, impacts to rare, locally important, and sensitive plant and wildlife species would be expected to occur throughout the SCAG region where suitable habitat is present.

**TABLE 3.4.4-2
RECORDS OF LISTED PLANT SPECIES POTENTIALLY AFFECTED BY 2016 RTP/SCS PROJECTS**

Species	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura
	Number of Records within 500 Feet of Major Projects					
Beach spectaclepod	—	1	—	—	—	—
Braunton's milk-vetch	—	3	1	—	—	—
California Orcutt grass	—	1	—	1	—	—
Coachella Valley milk-vetch	—	—	—	3	—	—
coastal dunes milk-vetch	—	2	—	—	—	—
Gambel's water cress	—	1	1	—	1	—
Marsh sandwort	—	1	—	1	1	—
Munz's onion	—	—	—	3	—	—
Nevin's barberry	—	2	—	—	—	—
Salt marsh bird's-beak	—	3	1	1	1	—
San Diego button-celery	—	1	—	—	—	—
San Fernando Valley spineflower	—	4	1	—	—	—
San Jacinto Valley crownscale	—	—	—	2	—	—
Santa Ana River woollystar	—	—	—	—	4	—
Slender-horned spineflower	—	4	—	3	5	—
Spreading navarretia	—	1	—	2	—	—
Thread-leaved brodiaea	—	—	—	2	—	—
Ventura Marsh milk-vetch	—	—	—	—	—	1
Verity's dudleya	—	—	—	—	—	1

SOURCE: California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

**TABLE 3.4.4-3
RECORDS OF LISTED WILDLIFE SPECIES POTENTIALLY AFFECTED BY 2016 RTP/SCS PROJECTS**

Species	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura
	Number of Records within 500 Feet of Major Projects					
Arroyo toad	—	1	—	—	2	—
California red-legged frog	—	—	—	—	1	—
Bank swallow	—	3	1	—	—	—
Belding's savannah sparrow	—	—	1	—	—	—
Casey's June beetle	—	—	—	3	—	—
Coachella Valley fringe-toed lizard	—	—	—	5	—	—
Coastal California gnatcatcher	—	8	23	8	2	—
Desert tortoise	—	—	—	—	1	—
Delhi Sands flower-loving fly	—	—	—	9	13	—
Flat-tailed horned lizard	1	—	—	3	—	—
Green turtle	—	1	—	—	—	—
Least Bell's vireo	—	10	9	17	5	3
Mohave ground squirrel	—	5	—	—	8	—
Mohave tui chub	—	—	—	—	2	—
Palos Verdes blue butterfly	—	1	—	—	—	—
Quino checkerspot butterfly	—	—	—	2	—	—
Riverside fairy shrimp	—	—	2	—	—	—
San Bernardino kangaroo rat	—	1	—	—	10	—
Santa Ana sucker	—	2	—	—	—	1
Southern mountain yellow-legged frog	—	1	—	—	—	—
Southern rubber boa	—	—	—	—	17	—
Southwestern willow flycatcher	—	2	—	—	—	—
Steelhead - southern California DPS	—	—	—	—	—	1
Stephens' kangaroo rat	—	—	—	26	—	—
Swainson's hawk	—	6	1	2	5	—
Tidewater goby	—	—	1	—	—	—
Townsend's big-eared bat	—	1	—	—	1	—
Unarmored threespine stickleback	—	4	—	—	—	—
Western snowy plover	—	—	2	—	—	1
Western yellow-billed cuckoo	—	5	2	3	1	1

SOURCE: California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

Direct impacts would occur during project construction and would include direct loss of sensitive plant and/or wildlife species resulting from injury, death, or disturbance of these species. Additionally, direct impacts may occur through the direct habitat loss and fragmentation during construction of the transportation projects, introduction of non-native plants, and introduction of lighting, dust, and noise during construction and operation. Further, indirect impacts resulting from the development of transportation projects included in the 2016 RTP/SCS would include the development of associated manufacturing and institutional infrastructure within surrounding areas that may impact special-status plants and wildlife through disturbance and removal of vegetation as well as increased light, dust, and noise during and after development. Additionally, indirect impacts could occur as a result of

transportation project construction if suitable habitat was encroached upon to the extent that it could no longer support sensitive species. Indirect impacts may also include edge effects resulting from habitat fragmentation which can alter habitat structure and composition as well as predator-prey dynamics.

This analysis of impacts of transportation projects included in the 2016 RTP/SCS to sensitive plant and wildlife species and their habitats and designated critical habitat is at the programmatic level, and conservatively assumes that all species with critical habitat and/or CNDDDB records in a given area are present in that area. The level of impact of subsequent projects would be subject to verification at the project-level of environmental review pursuant to CEQA. Transportation improvement projects within the SCAG region would be subject to the provisions of the Federal and State Endangered Species Acts, as well as Sections 1900–1913, 3511, 4150, 4700, 5050, 5515 of the State Fish and Game Code and Sections 80071–80075 of the State Food and Agriculture Code.

Impacts to threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated critical habitat resulting from transportation improvement projects included in the 2016 RTP/SCS would be significant, requiring the consideration of mitigation measures.

IMPACT BIO-2. Potential to have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations; or by the California Department of Fish and Game or US Fish and Wildlife Service.

Significant Impact

Transportation projects, and anticipated development projects resulting from the land use strategies, included in the 2016 RTP/SCS would result in the conversion of sensitive plant communities and riparian habitats to development, constituting a significant impact. However, implementation of regional land use strategies included in the Plan seek to minimize the conversion of natural landscapes that may contain sensitive plant communities or riparian habitats by encouraging land use strategies that focus new growth in HQTAs, existing suburban town centers, and more walkable, mixed-use communities. The Plan includes land use strategies which seek to preserve natural habitats and support redirecting growth away from high value habitat areas to existing urbanized areas. Some cities and county transportation commissions have taken steps toward planning comprehensively for conserving natural lands and farmlands, while also meeting demands for growth. Proposed natural lands conservation strategies described in the Plan are built upon the conservation framework and complements an infill-based approach.

The level of impacts to riparian habitats and sensitive natural communities as a result of transportation projects and regional land use strategies included in the 2016 RTP/SCS will differ on a project-by-project basis. For example, transportation projects that have the potential to cross waterways or require conversion of natural open space to infrastructure for transportation projects, such as High Speed Rail projects or other new highway segment projects in open space areas, or have the potential to convert state-designated habitats including riparian habitats would have the potential to have significant impacts on sensitive plant communities and riparian habitats. Whereas transportation projects that are contained within the alignments of existing transportation corridors, such as bike lane projects and

traffic demand management measures would not be expected to have significant impacts on sensitive plant communities and riparian habitats.

Of the nearly 23 million acres of open space in the SCAG region, 321,450 acres are currently identified by the CNDDDB as containing state-sensitive plant communities, including 196,330 acres of riparian habitats (Table 3.4.2-6). Riparian habitats in the SCAG region may fall under the jurisdiction of the CDFW. It is important to note that the likelihood of additional state-sensitive plant communities and riparian habitat to exist within the six-county SCAG region is high, as CNDDDB community records are only as recent as 1993. There are more than 18 million acres of natural open space landscapes and more than 250,000 acres of water features in the SCAG region that may contain sensitive or riparian plant communities (Table 3.4.2-10). The development of transportation projects, particularly projects involving large-scale ground disturbance during construction of transportation projects such as grade separation projects, mixed flow lane projects, and rail projects, within the SCAG region may result in significant impacts to these riparian habitats and sensitive plant communities.

Transportation projects included in the 2016 RTP/SCS may result in the conversion of natural landscapes that may contain sensitive plant communities or riparian habitats. Implementation of land use strategies included in the Plan seek to minimize the conversion of natural landscapes that may contain sensitive plant communities or riparian habitats by encouraging growth in existing urbanized areas, away from high value habitat areas. Of the 124,940 acres that may be converted within 500 feet of 2016 RTP/SCS transportation projects in the SCAG region, 45,170 (36 percent) are classified as natural open space and water areas (Table 3.4.2-10). Natural open space areas have the potential to contain sensitive plant communities and riparian habitats, and transportation projects constructed in these areas would require individual field analysis at the project-level to determine the level of impacts. Impacts to CNDDDB documented sensitive plant communities and riparian habitats within 500 feet of major transportation projects included in the 2016 RTP/SCS would occur within each county in the SCAG region except Imperial County (Table 3.4.4-4, *CNDDDB Records of Sensitive and Riparian Habitats Potentially Affected by 2016 RTP/SCS Major Transportation Projects*). It is anticipated that impacts to sensitive and riparian habitats would occur in areas beyond those identified by the CNDDDB. Of the more than 80,000 linear miles of blueline features in the SCAG region, 211 miles have the potential to be adversely affected within 500 feet of major transportation projects included in the 2016 RTP/SCS (Table 3.4.4-5, *Blueline Streams and Rivers Potentially Affected by the 2016 RTP/SCS Major Transportation Projects*). These blueline features have the potential to contain riparian habitat.

**TABLE 3.4.4-4
CNDDDB RECORDS OF SENSITIVE AND RIPARIAN HABITATS POTENTIALLY AFFECTED
BY 2016 RTP/SCS MAJOR TRANSPORTATION PROJECTS**

Habitat Type	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura
	Acres of Sensitive or Riparian Habitat within 500 Feet of Major Projects					
California Walnut Woodland	—	77	—	—	—	—
Open Engelmann Oak Woodland	—	148	—	—	—	—
Riversidian Alluvial Fan Sage Scrub	—	144	—	—	439	—
Southern Coast Live Oak Riparian Forest	—	60	36	—	—	—
Southern Coastal Salt Marsh	—	—	12	—	—	—
Southern Cottonwood Willow Riparian Forest	—	105	645	103	—	—
Southern Riparian Forest	—	—	—	—	18	—
Southern Riparian Scrub	—	2245	—	—	—	32
Southern Sycamore Alder Riparian Woodland	—	174	234	116	—	19
Southern Willow Scrub	—	4	—	—	—	37
Valley Oak Woodland	—	—	—	—	—	25

SOURCE:

California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

**TABLE 3.4.4-5
BLUELINE STREAMS AND RIVERS POTENTIALLY AFFECTED BY 2016 RTP/SCS MAJOR
TRANSPORTATION PROJECTS**

County	Miles of Blueline Streams/Rivers within 500 Feet of Major Transportation Projects
Imperial County	<1
Los Angeles County	95
Orange County	39
Riverside County	37
San Bernardino County	31
Ventura County	9
Total	211

SOURCE:

U.S. Geological Survey. Accessed 21 September 2015. *National Hydrology Dataset*. Available at: <http://nhd.usgs.gov/data.html>

Impacts associated with the conversion of sensitive and riparian habitats would include direct loss and fragmentation of sensitive communities and riparian habitats as new transportation projects are developed, and the introduction of non-native plants that would degrade existing communities. Further, indirect impacts resulting from the development of transportation projects included in the 2016 RTP/SCS would include development of associated manufacturing and institutional infrastructure within surrounding areas which may impact sensitive plant communities and riparian habitats through the disturbance and removal of vegetation. Approximately 64 percent of the potential impacts acres within

500 feet of the 2016 RTP/SCS major transportation projects would be expected to occur outside of natural open space and water areas where there would be no anticipated impacts to state-designated sensitive habitats.²³

This analysis of impacts of transportation projects included in the 2016 RTP/SCS to sensitive plant communities and riparian habitats is at the programmatic level, and conservatively assumes that all natural open space areas have the potential to contain sensitive plant communities and all waterways have the potential to contain riparian habitat. The level of impact of subsequent projects would be subject to verification at the project-level of environmental review pursuant to CEQA. Transportation projects within the SCAG region would be subject to the provisions of Section 1600 of the State Fish and Game Code in which a Streambed Alteration Agreement would need to be obtained prior to the alteration of a State jurisdictional area.

The transportation projects included in the 2016 RTP/SCS would be expected to result in significant impacts to state-designated riparian and other sensitive plant communities, including areas subject to Section 1600 of the State Fish and Game Code, requiring the consideration of mitigation measures.

IMPACT BIO-3. Potential to have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Significant Impact

Transportation projects, and anticipated development projects resulting from the land use strategies, included in the 2016 RTP/SCS would result in conversion of federally protected wetland habitats to development and diversion of waters of the United States as defined by Section 404 of the Clean Water Act, constituting a significant impact. Implementation of regional land use strategies included in the 2016 RTP/SCS seek to minimize impacts to federally protected wetlands and Waters of the United States as defined by Section 404 of the Clean Water Act through conversion of wetland habitats to development and diversion of waters of the United States, because the strategies focus new growth in HQTAs, existing suburban town centers, and more walkable, mixed-use communities and support redirecting growth away from high value habitat areas. Despite these land use planning strategies, impacts would be expected to occur where dredge or fill would be required within wetlands or other waters of the United States, particularly where transportation projects need to cross drainages, where a clearspan to avoid impacts is determined to be infeasible. There is potential for comparable significant impacts in areas subject to Section 10 of the Rivers and Harbors Act. The level of impacts to federally protected wetlands and Waters of the United States would vary on a project-by-project basis. For example, grade separation projects or rail projects located in areas containing coastal habitats or close to the terminal locations of major rivers or stream systems, where the width of the stream is often largest would be anticipated to have a greater impact on federally protected wetlands and Waters of the United States than those located in the upstream portion of the watershed, near the headwaters where drainages are typically more numerous and narrower.

²³ SCAG Land Use Data, 2015.

More than 800,000 acres of federally protected wetlands and waterways potentially subject to the jurisdiction of the USACOE were identified by the National Wetlands Inventory to be present in the SCAG region. In addition, the SCAG region includes more than 80,000 linear miles of USGS blueline drainages that may contain waters of the United States. Potential impacts to wetlands and waters of the United States within 500 feet of major transportation projects included in the Plan exist within all six counties in the SCAG region, ranging from 10 acres potentially affected in Imperial County to 1,900 acres potentially affected in Los Angeles County (Table 3.4.4-6, *Federally Protected Wetlands and Waterways Potentially Affected by the 2016 RTP/SCS Major Transportation Projects*). Of the more than 80,000 linear miles of blueline features in the SCAG region, 211 miles have the potential to be affected within 500 feet of major transportation projects included in the 2016 RTP/SCS (Table 3.4.4-5). These projects may impact wetlands and waters of the United States protected by Section 404 of the Federal Clean Water Act.

**TABLE 3.4.4-6
FEDERALLY PROTECTED WETLANDS AND WATERWAYS POTENTIALLY AFFECTED BY THE 2016
RTP/SCS MAJOR TRANSPORTATION PROJECTS**

Wetland Type	NWI Acres Potentially Affected within 500 Feet of Major Transportation Projects
Imperial County	
Freshwater Pond	2
Riverine	9
Total	10
Los Angeles County	
Estuarine and Marine Deepwater	119
Freshwater Emergent Wetland	79
Freshwater Forested/Shrub Wetland	249
Freshwater Pond	102
Lake	97
Other	58
Riverine	1,198
Total	1,900
Orange County	
Estuarine and Marine Deepwater	2.3
Estuarine and Marine Wetland	0.4
Freshwater Emergent Wetland	26
Freshwater Forested/Shrub Wetland	101
Freshwater Pond	58
Lake	65
Riverine	202
Total	455
Riverside County	
Freshwater Emergent Wetland	20
Freshwater Forested/Shrub Wetland	130
Freshwater Pond	40
Lake	13
Other	2
Riverine	128
Total	333

**TABLE 3.4.4-6
FEDERALLY PROTECTED WETLANDS AND WATERWAYS POTENTIALLY AFFECTED BY THE 2016
RTP/SCS MAJOR TRANSPORTATION PROJECTS**

Wetland Type	NWI Acres Potentially Affected within 500 Feet of Major Transportation Projects
San Bernardino County	
Freshwater Emergent Wetland	6
Freshwater Forested/Shrub Wetland	8
Freshwater Pond	70
Lake	9
Other	<1
Riverine	147
Total	240
Ventura County	
Estuarine and Marine Deepwater	<1
Estuarine and Marine Wetland	12
Freshwater Emergent Wetland	20
Freshwater Forested/Shrub Wetland	48
Freshwater Pond	2
Riverine	45
Total	128

SOURCE:

U.S. Fish and Wildlife Service. Accessed 21 September 2015. *National Wetlands Inventory Map*. Arlington, VA. Available at: <http://www.fws.gov/wetlands/Wetlands-Mapper.html>

Additionally, major transportation projects included in the 2016 RTP/SCS are anticipated to intersect nearly 32 linear miles of navigable waterways within 500 feet projects across SCAG region that are protected by Section 10 of the Rivers and Harbors Appropriation Act (*Table 3.4.4-7, Federally Protected Waterways Under Rivers and Harbors Act Potentially Affected by the 2016 RTP/SCS Major Transportation Projects*). The development of transportation projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, within the SCAG region may result in significant impacts to these federally protected wetlands and Waters of the United States.

**TABLE 3.4.4-7
FEDERALLY PROTECTED WATERWAYS UNDER RIVERS AND HARBORS ACT POTENTIALLY
AFFECTED BY THE 2016 RTP/SCS MAJOR TRANSPORTATION PROJECTS**

Major River in the SCAG Region	Linear Miles Potentially Affected within 500 Feet of Major Transportation Projects
Los Angeles County	
Los Angeles River	17
San Gabriel River	6
Santa Clara River	2
Orange County	
Santa Ana River	4
Riverside County	
Santa Ana River	1
San Bernardino County	
Santa Ana River	1
Ventura County	
Santa Clara River	<1
TOTAL	32

SOURCE:

U.S. Geological Survey. Accessed 21 September 2015. *National Hydrology Dataset*. Available at: <http://nhd.usgs.gov/data.html>

These impacts would include disruption of streams and wetlands as new transportation projects are developed, and dredge and fill activities associated with transportation development. Further, indirect impacts resulting from the development of transportation projects included in the 2016 RTP/SCS would include the development of associated manufacturing and institutional infrastructure within surrounding areas which may impact federally protected wetlands through dredge and fill activities. Transportation projects within the SCAG region would be subject to the provisions of Section 404 of the Federal Clean Water Act. Dredge or fill in Waters of the United States is subject to the regulatory authority of the USACOE pursuant to Section 404 of the Federal Clean Water Act.

Transportation projects included in the 2016 RTP/SCS would result in significant impacts to federally protected wetlands and Waters of the United States, requiring the consideration of mitigation measures.

IMPACT BIO-4: Potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Significant Impact

Transportation projects, and anticipated development projects resulting from the land use strategies, included in the 2016 RTP/SCS would interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites directly as a result of habitat conversion to accommodate

transportation projects or indirectly through interruption of movement or migratory corridors caused by construction and operation of infrastructure for transportation projects and appurtenant structures, constituting a significant impact. Implementation of regional land use strategies included in the 2016 RTP/SCS seek to minimize impacts to biological resources as a result of interfering substantially with the movement of any native resident or migratory fish or wildlife or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites because the strategies aim to avoid growth in natural habitat areas and support redirecting growth from high value habitat areas to existing urbanized areas. The level of impacts to native wildlife movement corridors and nursery sites from transportation projects and land use strategies included in the 2016 RTP/SCS will vary on a project-by-project basis. For example, grade separation projects or rail projects located in areas containing large areas of intact natural habitats or several trees and/or other nesting substrates would be anticipated to have a greater impact on wildlife movement corridors and nursery sites than a traffic signal synchronization or lane-restriping project located in an urban environment.

Land characteristics that are often indicators of wildlife movement are present across the SCAG region. More than 18 million acres of natural open space land and 250,000 acres of natural open space water features throughout the SCAG region can be characterized having the potential to be suitable for, or aid in, wildlife movement (Table 3.4.2-10). These locations also may serve as nursery sites for fish, amphibian, and invertebrate species. Furthermore, many birds species breed and are expected to nest within the entire SCAG region, including urban areas. There are potential impacts for 44,059 acres of natural open space land and 760 acres of natural open space water areas that are within 500 feet of major transportation projects included in the 2016 RTP/SCS (Table 3.4.4-8, *Areas Used for Wildlife Movement Potentially Affected by the 2016 RTP/SCS Major Transportation Projects by County*). The development of transportation improvement projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, within the SCAG region may result in significant impacts to the wildlife movement corridors and native wildlife nursery sites.

**TABLE 3.4.4-8
AREAS USED FOR WILDLIFE MOVEMENT POTENTIALLY AFFECTED
BY 2016 RTP/SCS MAJOR TRANSPORTATION PROJECTS BY COUNTY**

County	Acres of Natural Open Space Land Potentially Affected within 500 feet of Major Transportation Projects	Acres of Natural Open Space Water Potentially Affected within 500 feet of Major Transportation Projects
Imperial	365	—
Los Angeles	22,365	436
Orange	2,746	213
Riverside	6,210	110
San Bernardino	12,153	—
Ventura	576	<1
Total	44,059	760

SOURCE:

SCAG land use data, 2015.

These impacts would include direct habitat removal and fragmentation that would disrupt corridor functionality as new transportation projects are developed, and introduction of lighting and noise during construction and operation that may interrupt wildlife movement and disturb nursery sites. The construction of transportation projects across an existing corridor may introduce new barriers to

wildlife movement or increase the impact of barriers to wildlife movement by widening the barriers and thus narrowing the corridor. The linear nature of transportation projects increases the potential extent and significance of this effect. Additionally, an increase in wildlife-roadway interactions as a result of the development of new transportation projects may increase wildlife injury and fatalities. Indirect impacts to migratory corridors and nursery sites would occur when the functionality of a corridor is degraded after the transportation project construction. The development of transportation projects through migratory corridors and/or the construction on existing transportation facilities that serve as barriers through wildlife corridors would result in an increase in human disturbances locally including an increase in traffic, noise, and lighting. Further, indirect impacts resulting from the development of transportation projects and land use strategies included in the 2016 RTP/SCS would include the development of associated manufacturing and institutional infrastructure within surrounding areas which may impact wildlife corridors and nursery sites through disturbance and removal of vegetation as well as increased light and noise during and after developments.

The conversion of existing native nursery habitat and potential wildlife movement areas resulting from transportation projects included in the 2016 RTP/SCS would result in a significant impact, requiring the consideration of mitigation measures.

IMPACT BIO-5: Potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Significant Impact

Transportation projects, and anticipated development projects resulting from the land use strategies, included in the 2016 RTP/SCS would have a potential to result in conflicts with local policies or ordinances protecting biological resources because of new transportation project development that may occur in undeveloped locations, including open spaces that may be protected under city or county general plans constituting a significant impact. In addition, conflicts may arise when transportation projects included in the 2016 RTP/SCS involve the disturbance or removal of trees or other vegetation that may be protected under city or county ordinances. Implementation of transportation projects listed in the 2016 RTP/SCS throughout the SCAG region has the potential to conflict with local policies protecting biological resources that are relevant to the 2016 RTP/SCS.

The land use strategies in the 2016 RTP/SCS are intended to focus new growth in existing urban areas such as the HQTAs and existing suburban town centers. This type of more compact development tends to consume less land and, therefore, result in less habitat loss and less conflict with local policies or ordinances protecting biological resources. Nonetheless, impacts might be expected to occur because many natural land areas near the edge of existing urbanized areas might be vulnerable to development pressure, and transportation projects that are aimed to improve accessibility might result in expansion of existing urbanized areas. Hence, land use strategies included in the 2016 RTP/SCS would have a potential to result in conflicts with local policies or ordinances protecting biological resources.

The SCAG region spans six counties and 191 cities, each of which has a general plan that includes a conservation and open space element containing policies related to biological resources. With the exception of Orange County, each county within the SCAG region has ordinances regulating the removal of native trees and plants. Impacts within 500 feet of major transportation projects included in the 2016 RTP/SCS occur in unincorporated areas of all six counties that would be subject to the jurisdiction of the

individual county general plans and ordinances (Table 3.4.4-9, *Unincorporated Areas Subject to County General Plans Potentially Affected by the 2016 RTP/SCS Major Transportation Projects*). Any land use conversion from open space to developed space or removal of protected trees or vegetation in these areas resulting from major transportation projects included in the 2016 RTP/SCS would have the potential to conflict with local plans and ordinances. Outside of the unincorporated county boundaries, applicable policies to protect biological resources articulated in general plans for the 191 cities would apply. Many of the 191 city general plans in the SCAG region have additional provisions for protection of mature native and landscape trees and requirements for revegetation of landscaped areas using native plants. Transportation projects included in the 2016 RTP/SCS are anticipated to occur throughout the SCAG region, and each project would be subject to, and have the potential to conflict with, the policies and ordinances applicable to the local government with jurisdiction over the project location. Major transportation projects included in the 2016 RTP/SCS would occur within, and may result in impacts to, the Angeles National Forest and the San Bernardino National Forest and may conflict with the provisions of the Angeles Forest Plan and the San Bernardino National Forest Land Management Plan, respectively.

**TABLE 3.4.4-9
UNINCORPORATED AREAS SUBJECT TO COUNTY GENERAL PLANS POTENTIALLY AFFECTED
BY THE 2016 RTP/SCS MAJOR TRANSPORTATION PROJECTS**

County	Acres within Unincorporated County Boundaries Subject to County General Plans, Policies, and Ordinances
Imperial	1,740
Los Angeles	24,922
Orange	1,873
Riverside	7,642
San Bernardino	8,842
Ventura	352
Total	45,372

SOURCE:

Division of Research, Innovation and System Information (DRISI) of California Department of Transportation (Caltrans); Tax Area Services Section (TASS) of the State of California Board of Equalization. Accessed 16 November 2015. Available from: <http://www.dot.ca.gov/hq/tsip/gis/datalibrary/>

The level of impacts related to conflicts with local policies and ordinances protecting biological resources will vary on a project-by-project basis. For example, grade separation projects or rail projects located in areas with a high density of native trees protected by a local tree protection ordinance would be anticipated to have greater conflicts with local policies and ordinances protecting biological resources than a traffic signal synchronization or lane-restriping project located in an urban environment.

Transportation projects and land use strategies included in the 2016 RTP/SCS would have the potential to result in significant impacts related to conflicts with local policies and ordinances protecting biological resources, requiring the consideration of mitigation measures.

IMPACT BIO 6: Potential to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Significant Impact

Transportation projects, and anticipated development projects resulting from the land use strategies, included in the 2016 RTP/SCS would result in conflicts with the provisions of applicable adopted HCPs and NCCPs because of transportation projects in lands that are protected under these HCPs and NCCPs, constituting a significant impact. Regional land use strategies identified in the 2016 RTP/SCS seek to reduce conflicts with the provisions of applicable adopted HCPs and NCCPs by focusing new growth in existing urban areas, suburban town centers, and urban opportunity areas which are conducive to more compact, densified, infill and mixed-used development in the future. Additionally, land use strategies aim to preserve natural habitat areas and support redirecting growth away from high value habitat areas to these urbanized opportunity areas. Major transportation projects included in the 2016 RTP/SCS have the potential to impact land within five of the 13 HCPs/NCCPs in the SCAG region (Table 3.4.4-10, *HCPs and NCCPs Potentially Affected by 2016 RTP/SCS Major Transportation Projects*).

**TABLE 3.4.4-10
HCPs AND NCCPs POTENTIALLY AFFECTED BY THE 2016 RTP/SCS MAJOR TRANSPORTATION PROJECTS**

HCP/NCCP	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura*
	HCP/NCCP lands within 500 Feet of Major Transportation Projects					
Coachella Valley MSHCP	—	—	—	X	—	—
DRECP	X	X	—	X	X	—
Orange County Transportation Authority NCCP/HCP	—	—	X	—	—	—
West Mojave HCP	—	X	—	—	X	—
Western Riverside County MSHCP	—	—	—	X	—	—

SOURCE:

California Department of Fish and Wildlife. 2015. *NCCP Plan Summaries*. Available from: <https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans>

NOTE:

* There are no HCP/NCCPs in Ventura County.

The development of transportation improvement projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, within the SCAG region may result in significant impacts to lands protected by HCPs and NCCPs. It is anticipated that no impacts related to conflicts with HCPs and/or NCCPs would occur where transportation improvement projects are limited to improvements to existing features and do not expand beyond existing road limits. These potential impacts would include direct impacts to lands protected under these HCPs and NCCPs as well as potential direct and indirect impacts to plant and animal species and their habitats afforded protection under these HCPs and NCCPs through conversion of habitat and introduction of lighting and noise during construction and operation. Four of the five HCPs and NCCPs located within the SCAG region contain provisions for the construction of

transportation projects as part of plan-covered activities, acknowledging that such projects normally constitute significant impacts, and specifying the requirement for mitigation measures. Portions of the 2016 RTP/SCS major transportation projects in Imperial, Los Angeles, Riverside, and San Bernardino Counties are within the DRECP. The DRECP is a proposed multispecies HCP intended to conserve threatened and endangered species and natural habitat communities in the Mojave and Colorado Desert regions of Southern California. However, the DRECP only applies to the development of renewable energy projects, including wind and solar energy projects. Therefore, transportation projects included in the 2016 RTP/SCS would not conflict with the DRECP because these projects are not facilitating the development of renewable energy projects. The remaining four HCP/NCCPs (Coachella Valley MSHCP, Orange County Transportation Authority NCCP/HCP, West Mojave HCP, and Western Riverside County MSHCP) include considerations for the development of transportation projects as part of plan-covered activities, and would be significantly impacted by transportation projects included in the 2016 RTP/SCS.

As such, implementation of the 2016 RTP/SCS would potentially result in significant impacts related to conflicts with the provisions of four adopted HCPs and NCCPs applicable to the SCAG region, requiring the consideration of mitigation measures.

3.4.5 CUMULATIVE IMPACTS

IMPACT BIO-1. Potential to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Significant Cumulative Impact

The 2016 RTP/SCS would not be expected to contribute incrementally with related projects in the SCAG region to impacts on federally and/or state-listed species because all projects would be subject to the federal ESA and Section 2080 of the California ESA, which would require the undertaking of conservation measures prior to the issuance of take permits. The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to impacts on other sensitive and/or rare plant and animal species not afforded protection under the federal and/or state ESAs as a result of an incremental loss of suitable habitat for these species.

Activities conducted under transportation projects included in the 2016 RTP/SCS would include the conversion of natural landscapes containing sensitive biological resources into paved roads. This would result in increased access to undeveloped areas as a result of extension of roads through more rural areas of the SCAG region. This increased access would be expected to indirectly increase manufacturing and institutional development in the SCAG region as a result of increased transportation access within the area, resulting in further habitat fragmentation. Many important habitat corridors cross the SCAG region's boundaries. As a result, the loss of an important corridor, or fragmentation of habitat in the SCAG region could limit the movement of wildlife species resulting in additional cumulative impacts. Similarly, fragmentation could reduce the viability of a species beyond the SCAG region.

The incremental impacts of all of the transportation projects and land use strategies included in the 2016 RTP/SCS to biological resources, when considered with related past, present, or reasonably foreseeable, probable future projects in the SCAG region and surrounding Southern California region, would be expected to result in a significant cumulative impact with regards to biological resources because these projects would contribute to an increase in habitat fragmentation and development upon native habitats, requiring the consideration of mitigation measures.

IMPACT BIO-2. Potential to have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations; or by the California Department of Fish and Game or US Fish and Wildlife Service.

Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts on state-sensitive plant communities and riparian habitat as a result of an incremental loss of habitat, thus requiring the consideration of mitigation measures. The 2016 RTP/SCS would not be expected to contribute incrementally to state jurisdictional riparian habitats because all projects would be subject to Section 1600 of the State Fish and Game Code, which would require a Streambed Alteration Agreement prior to the alteration of a State jurisdictional area.

IMPACT BIO-3. Potential to have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

No Cumulative Impact

The 2016 RTP/SCS would not be expected to contribute incrementally in the SCAG region to impacts on wetlands and waterways because transportation projects that are with jurisdiction and implementing authority of county transportation commissions would be subject to Section 404 of the federal CWA, which would require no net loss of habitat function or value.

IMPACT BIO-4: Potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to impacts on migratory corridors and nursery sites as a result of an incremental loss of habitat and habitat fragmentation, requiring the consideration of mitigation measures.

IMPACT BIO-5: Potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to conflicts with local policies and ordinances as a result of an incremental net loss of habitat and protected trees and vegetation, requiring the consideration of mitigation measures.

IMPACT BIO 6: Potential to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

No Cumulative Impact

The 2016 RTP/SCS would be not expected to contribute incrementally with related projects in the SCAG region to conflicts with HCPs and/or NCCPs because all covered transportation projects located within the HCPs and/or NCCPs would be required to comply with the provisions of the respective conservation plans. Although development is anticipated to occur within cities and counties even without the 2016 RTP/SCS, the Plan includes regional policies that could influence growth, including distribution patterns, throughout the region. To address this, the analysis in the PEIR considers overall regional impacts of transportation investments and land development strategies described in the 2016 RTP/SCS.

Overall, the impacts to biological resources as a result of transportation projects and investment and land use strategies included in the 2016 RTP/SCS would increase habitat fragmentation and would be expected to incrementally contribute to indirect cumulative impacts to biological resources, in combination with other projects in the SCAG region, requiring the consideration of mitigation measures.

3.4.6 MITIGATION MEASURES

Mitigation measure as they pertain to each CEQA question related to biological resources are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by the Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT BIO-1. Potential to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

SCAG Mitigation Measures

MM-BIO-1(a)(1): SCAG shall facilitate reducing future impacts to species identified as a candidate, sensitive, or special status species and its habitats through cooperation, information sharing, and program development. SCAG shall consult with the resource agencies, such as the USFWS, NMFS, USACOE, USFS, BLM, and CDFW, as well as local jurisdictions including cities and counties, to incorporate designated critical habitat, federally protected wetlands, the protection of sensitive natural communities and riparian habitats, designated open space or protected wildlife habitat, local policies and tree preservation ordinances, applicable HCPs and NCCPs, or other related planning documents into SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online Training materials. Planning efforts shall be consistent with the approach outlined in the California Wildlife Action Plan.

MM-BIO-1(a)(2): SCAG shall develop a conservation strategy (including regional mitigation policies) in coordination with local jurisdictions and agencies, including California Transportation Commissions. The conservation strategy will build from existing efforts including those at the sub-regional and local levels to identify potential priority conservation areas based on mitigation approaches adopted by local agencies. SCAG shall produce and maintain a list/map of potential conservation opportunity areas based on most recent land use data

Project-Level Mitigation Measures

MM-BIO 1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on threatened and endangered species and other special status species that are in the jurisdiction and responsibility of U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Wildlife, other public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with Sections 7, 9, and 10(a) of the federal Endangered Species Act; the California Endangered Species Act; the Native Plant Protection Act; the State Fish and Game Code; and the Desert Native Plant Act; and related applicable implementing regulations, as applicable and feasible. Additional compliance should adhere to applicable implementing regulations from the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and/or the California Department of Fish and Wildlife. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Require project design to avoid occupied habitat, potentially suitable habitat, and designated critical habitat, wherever practicable and feasible.
- Where avoidance is determined to be infeasible, provide conservation measures to

fulfill the requirements of the applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal Endangered Species Act or Section 2081 of the California Endangered Species Act to support issuance of an Incidental take permit. A wide variety of conservation strategies have been successfully used in the SCAG region to protect the survival and recovery in the wild of federally and state-listed endangered species including the bald eagle:

- Avoidance strategies
- Contribution of in-lieu fees
- Use of mitigation bank credits
- Funding of research and recovery efforts
- Habitat restoration
- Conservation easements
- Permanent dedication of habitat
- Other comparable measures
- Design projects to avoid desert native plants, salvage and relocate desert native plants, and/or pay in lieu fees to support off-site long-term conservation strategies.
- Develop and implement a Worker Awareness Program (environmental education) to inform project workers of their responsibilities in regards to avoiding and minimizing impacts on sensitive biological resources.
- Appoint an Environmental Inspector to monitor implementation of mitigation measures.
- Schedule construction activities to avoid sensitive times for biological resources (e.g. steelhead spawning periods during the winter and spring, nesting bird season) and to avoid the rainy season when erosion and sediment transport is increased.
- Conduct pre-construction monitoring to delineate occupied sensitive species' habitat to facilitate avoidance.
- Where projects are determined to be within suitable habitat of listed or sensitive species that have specific field survey protocols or guidelines outlined by the USFWS, CDFW, or other local agency, conduct preconstruction surveys that follow applicable protocols and guidelines and are conducted by qualified and/or certified personnel.

IMPACT BIO-2. Potential to have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations; or by the California Department of Fish and Game or US Fish and Wildlife Service.

SCAG Mitigation Measures

MM-BIO-1(a)(1) and MM-BIO-1(a)(2).

Project-Level Mitigation Measures

MM-BIO-1(b).

MM-BIO-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant impacts on state-designated sensitive habitats, including riparian habitats, that are in the jurisdiction and responsibility of

U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the California Department of Fish and Wildlife; and other public agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with Section 1600 of the State Fish and Game Code, USFS Land Management Plan for the four national forests in the six-county area: Angeles, Cleveland, Los Padres, and San Bernardino, implementing regulations for the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the California Department of Fish and Wildlife; and other related federal, state, and local regulations, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Consult with the USFWS and NMFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal Endangered Species Act.
- Consult with the USFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal Endangered Species Act and any additional species afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-county area: Angeles, Cleveland, Los Padres, and San Bernardino.
- Consult with the CDFW where such state-designated sensitive or riparian habitats provide potential or occupied habitat for state-listed rare, threatened, and endangered species afforded protection pursuant to the California Endangered Species Act, or Fully-Protected Species afforded protection pursuant to the State Fish and Game Code.
- Consult with the CDFW pursuant to the provisions of Section 1600 of the State Fish and Game Code as they relate to Lakes and Streambeds.
- Consult with the USFWS, USFS, CDFW, and counties and cities in the SCAG region, where state-designated sensitive or riparian habitats are occupied by birds afforded protection pursuant to the Migratory Bird Treaty Act during the breeding season.
- Consult with the CDFW for state-designated sensitive or riparian habitats where fur-bearing mammals, afforded protection pursuant to the provisions of the State Fish and Game Code for fur-bearing mammals, are actively using the areas in conjunction with breeding activities.
- Require project design to avoid sensitive natural communities and riparian habitats, wherever practicable and feasible.
- Where avoidance is determined to be infeasible, develop sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) to protect sensitive natural communities and riparian habitats.
- Install fencing and/or mark sensitive habitat to be avoided during construction activities.
- Salvage and stockpile topsoil (the surface material from 6 to 12 inches deep) and perennial plants for use in restoring native vegetation to all areas of temporary disturbance within the project area.
- Revegetate with appropriate native vegetation following the completion of construction activities.
- Complete habitat enhancement (e.g., through removal of non-native invasive wetland species and replacement with more ecologically valuable native species).

- Use Best Management Practices (BMPs) at construction sites to minimize erosion and sediment transport from the area. BMPs include encouraging growth of vegetation in disturbed areas, using straw bales or other silt-catching devices, and using settling basins to minimize soil transport.

IMPACT BIO-3. Potential to have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

SCAG Mitigation Measures

MM-BIO-1(a)(1) and MM-BIO-1(a)(2).

Project-Level Mitigation Measures

MM-BIO-1(b) and MM-BIO-2(b).

MM-BIO-3(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant impacts on protected wetlands that are in the jurisdiction and responsibility of the U.S. Army Corps of Engineers, public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with Section 404 of the Clean Water Act and regulations of the U.S. Army Corps of Engineers (USACOE), and other applicable federal, state and local regulations, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Require project design to avoid federally protected wetlands consistent with the provisions of Section 404 of the Clean Water Act, wherever practicable and feasible.
- Where the Lead Agency has identified that a project, or other regionally significant project, has the potential to impact other wetlands or waters not protected under Section 404 of the Clean Water Act, seek comparable coverage for these wetlands and waters in consultation with the USACOE and applicable Regional Water Quality Control Boards (RWQCB).
- Where avoidance is determined to be infeasible, develop sufficient conservation measures to fulfill the requirements of the applicable authorization for impacts to federally protected wetlands to support issuance of a permit under Section 404 of the Clean Water Act as administered by the USACOE. The use of an authorized Nationwide Permit or issuance of an individual permit requires the project applicant to demonstrate compliance with the USACOE's Final Compensatory Mitigation Rule. The USACOE reviews projects to ensure environmental impacts to aquatic resources are avoided or minimized as much as possible. Consistent with the administration's performance standard of "no net loss of wetlands" a USACOE permit may require a project proponent to restore, establish, enhance or preserve other aquatic resources in order to replace those affected by the proposed project. This compensatory mitigation process seeks to

replace the loss of existing aquatic resource functions and area. Project proponents required to complete mitigation are encouraged to use a watershed approach and watershed planning information. The new rule establishes performance standards, sets timeframes for decision making, and to the extent possible, establishes equivalent requirements and standards for the three sources of compensatory mitigation:

- Permittee-responsible mitigation
- Contribution of in-lieu fees
- Use of mitigation bank credits
- Require review of construction drawings by a certified wetland delineator as part of each project-specific environmental analysis to determine whether wetlands will be affected and, if necessary, perform a formal wetland delineation.

IMPACT BIO-4: Potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

SCAG Mitigation Measures

MM-BIO-1(a)(1) and MM-BIO-1(a)(2).

Project-Level Mitigation Measures

MM-BIO-1(b), MM-BIO-2(b), and MM-BIO-3(b).

MM-BIO-4(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant impacts on migratory fish or wildlife species or within established native resident and/or migratory wildlife corridors, and native wildlife nursery sites that are in the jurisdiction and responsibility of U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife, U.S. Forest Service, public agencies and/or Lead Agencies, as applicable and feasible. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with regulations of the USFWS, USFS, CDFW, and related regulations, goals and policies of counties and cities, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Consult with the USFWS, USFS, CDFW, and counties and cities in the SCAG region, where impacts to birds afforded protection pursuant to the Migratory Bird Treaty Act during the breeding season may occur.
- Consult with the USFS where impacts to migratory wildlife corridors may occur in an area afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-County area: Angeles, Cleveland, Los Padres, and San Bernardino.
- Consult with Counties, cities, and other local organizations when impacts may occur to open space areas that have been designated as important for wildlife movement.

- Prohibit construction activities within 500 feet of occupied breeding areas for wildlife afforded protection pursuant to Title 14 § 460 of the California Code of Regulations protecting fur-bearing mammals, during the breeding season.
- Conduct a survey to identify active raptor and other migratory nongame bird nests by a qualified biologist at least two weeks before the start of construction at project sites from February 1 through August 31.
- Prohibit construction activities with 250 feet of occupied nest of birds afforded protection pursuant to the Migratory Bird Treaty Act, during the breeding season.
- Ensure that suitable nesting sites for migratory nongame native bird species protected under the Migratory Bird Treaty Act and/or trees with unoccupied raptor nests should only be removed prior to February 1, or following the nesting season.
- Conduct site-specific analyses of opportunities to preserve or improve habitat linkages with areas on- and off-site. Analyze Habitat linkages/wildlife movement corridors on a broader and cumulative impact analysis scale to avoid adverse impacts from linear projects that have potential for impacts on a broader scale or critical narrow choke points that could reduce function of recognized movement corridors on a larger scale. Require review of construction drawings and habitat connectivity mapping provided by the CDFW or CNDDDB by a qualified biologist to determine the risk of habitat fragmentation.
- Pursue mitigation banking to preserve habitat linkages and corridors (opportunities to purchase, maintain, and/or restore offsite habitat).
- Demonstrate that proposed projects would not adversely affect movement of any native resident or migratory fish or wildlife species, wildlife movement corridors, or wildlife nursery sites through the incorporation of avoidance strategies into project design, wherever practicable and feasible.
- Evaluate the potential for overpasses, underpasses, and culverts in cases where a roadway or other transportation project may interrupt the flow of species through their habitat. Provide wildlife crossings in accordance with proven standards, such as FHWA's Critter Crossings or Ventura County Mitigation Guidelines and in consultation with wildlife corridor authorities with sufficient knowledge of both regional and local wildlife corridors, and at locations useful and appropriate for the species of concern.
- Install wildlife fencing where appropriate to minimize the probability of wildlife injury due to direct interaction between wildlife and roads or construction.
- Where avoidance is determined to be infeasible, design sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) and in accordance with the respective counties and cities general plans to establish plans to mitigate for the loss of fish and wildlife movement corridors and/or wildlife nursery sites. The consideration of conservation measures may include the following measures, in addition to the measures outlined in **MM-BIO-1(b)**, where applicable:
 - Wildlife movement buffer zones
 - Corridor realignment
 - Appropriately spaced breaks in center barriers
 - Stream rerouting
 - Culverts
 - Creation of artificial movement corridors such as freeway under- or overpasses
 - Other comparable measures

- Where the Lead Agency has identified that a RTP/SCS project, or other regionally significant project, has the potential to impact other open space or nursery site areas, seek comparable coverage for these areas in consultation with the USFWS, CDFW, NMFS, or other local jurisdictions.

IMPACT BIO-5: Potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

SCAG Mitigation Measures

MM-BIO-1(a)(1) and MM-BIO-1(a)(2).

Project-Level Mitigation Measures

MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), and MM-BIO-4(b).

MM-BIO-5(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant impacts related to conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, that are in the jurisdiction and responsibility of local jurisdictions and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to comply with county, city and local policies or ordinances, protecting biological resources, such as tree preservation policies or ordinances, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Consult with the appropriate local agency responsible for the administration of the policy or ordinance protecting biological resources.
- Prioritize retention of trees on-site consistent with local regulations. Provide adequate protection during the construction period for any trees that are to remain standing, as recommended by a certified arborist.
- If specific project area trees are designated as “Protected Trees,” “Landmark Trees,” or “Heritage Trees,” obtain approval for encroachment or removals through the appropriate entity, and develop appropriate mitigation measures at that time, to ensure that the trees are replaced. Mitigation trees shall be locally collected native species.
- Before the start of any clearing, excavation, construction or other work on the site, securely fence off every protected tree deemed to be potentially endangered by said site work. Keep such fences in place for duration of all such work. Clearly mark all trees to be removed. Establish a scheme for the removal and disposal of logs, brush, earth and other debris that will avoid injury to any protected tree.
- Where proposed development or other site work could encroach upon the protected perimeter of any protected tree, incorporate special measures to allow the roots to breathe and obtain water and nutrients. Minimize any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter. Require that no change in existing ground level occur from the base of any protected tree at any time. Require that no burning or use of equipment with an open flame occur near or

- within the protected perimeter of any protected tree.
- Require that no storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees occur from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. Require that no heavy construction equipment or construction materials be operated or stored within a distance from the base of any protected trees. Require that wires, ropes, or other devices not be attached to any protected tree, except as needed for support of the tree. Require that no sign, other than a tag showing the botanical classification, be attached to any protected tree.
- Thoroughly spray the leaves of protected trees with water periodically during construction to prevent buildup of dust and other pollution that would inhibit leaf transpiration.
- If any damage to a protected tree should occur during or as a result of work on the site, the appropriate local agency will be immediately notified of such damage. If, such tree cannot be preserved in a healthy state, require replacement of any tree removed with another tree or trees on the same site deemed adequate by the local agency to compensate for the loss of the tree that is removed.
- Remove all debris created as a result of any tree removal work from the property within two weeks of debris creation, and such debris shall be properly disposed of in accordance with all applicable laws, ordinances, and regulations.
- Design projects to avoid conflicts with local policies and ordinances protecting biological resources.
- Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the applicable policy or ordinance shall be developed, such as to support issuance of a tree removal permit. The consideration of conservation measures may include:
 - Avoidance strategies
 - Contribution of in-lieu fees
 - Planting of replacement trees at a minimum ratio of 2:1
 - Re-landscaping areas with native vegetation post-construction
 - Other comparable measures.

IMPACT BIO 6: Potential to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

SCAG Mitigation Measures

See MM-BIO-1(a)(1) and MM-BIO-1(a)(2).

Project-Level Mitigation Measures

See MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-BIO-4(b), and MM-BIO-5(b).

MM-BIO-6(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant impacts on HCP and

NCCPs that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with Section 7 or 10(a) of the federal Endangered Species Act or Section 2081 of the California Endangered Species Act; and implementing regulations, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Consult with the appropriate federal, state, and/or local agency responsible for the administration of HCPs or NCCPs.
- Wherever practicable and feasible, the project shall be designed to avoid through project design lands preserved under the conditions of an HCP or NCCP.
- Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the HCP and/or NCCP, which would include but not be limited to applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal Endangered Species Act or Section 2081 of the California Endangered Species Act, shall be developed to support issuance of an Incidental take permit or any other permissions required for development within the HCP/NCCP boundaries. The consideration of additional conservation measures would include the measures outlined in MM-BIO-1(b), where applicable.

3.4.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT BIO-1. Potential to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

The implementation of mitigation measures MM-BIO-1(a)(1), MM-BIO-1(a)(2), and MM-BIO-1(b) would reduce the level of direct, indirect, and cumulative impacts to federally and state-listed plant and wildlife species and their habitats, state rare and endangered plant species, state fully protected species, locally important furbearing mammals, and locally important desert native plants to below the level of significance. Each of these groups of species have federal and/or state statutes that prohibit the take of these protected species. Therefore, it is expected that compliance with these statutes would be sufficient to prevent impacts to these resources. However, there are no state or federal statutes that provide protection to other sensitive plant and wildlife species such as candidate species, plant species determined to be rare by the CNPS or wildlife species classified as California Species of Special Concern. Therefore, direct, indirect, and cumulative impacts to sensitive plant and wildlife species that are not specifically protected by federal and/or state statutes would remain significant and unavoidable.

IMPACT BIO-2. Potential to have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations; or by the California Department of Fish and Game or US Fish and Wildlife Service.

The implementation of mitigation measures MM-BIO-1(a)(1), MM-BIO-1(a)(2), MM-BIO-1(b), and MM-BIO-2(b) would reduce the level of direct, indirect, and cumulative impacts to State Jurisdictional riparian habitats to below the level of significance because Section 1600 of the State Fish and Game Code requires that a Streambed Alteration Agreement (SAA) be obtained prior to the alteration of any State Jurisdictional areas. An SAA requires that “no net loss” of habitat values or acreage occur. Therefore, it is expected that compliance with this statute would be sufficient to prevent direct, indirect, and cumulative impacts to State Jurisdictional riparian habitats. However, there are no state or federal statutes that provide protection to other sensitive plant communities or riparian communities in upland conditions that do not fall within areas under state jurisdiction. Therefore, direct, indirect, and cumulative impacts to sensitive plant communities and riparian communities that are not specifically protected by Section 1600 of the State Fish and Game Code would remain significant and unavoidable.

IMPACT BIO-3. Potential to have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

The implementation of mitigation measures MM-BIO-1(a)(1), MM-BIO-1(a)(2), MM-BIO-1(b), MM-BIO-2(b), and MM-BIO-3(b) would reduce the level of direct, indirect, and cumulative impacts to federal wetlands and waterways to below the level of significance because Section 404 of the Federal Clean Water Act requires that authorization pursuant to a Nationwide or Individual permit be obtained prior to any alteration of Waters of the United States. Conditions of Section 404 of the Clean Water Act require that “no net loss” of federal wetlands and waterways take place as a condition of permit issuance. Therefore, it is expected that compliance with this statute would be sufficient to reducedirect, indirect, and cumulative impacts to Waters of the United States, to below the level of significance.

IMPACT BIO-4: Potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

The implementation of mitigation measures MM-BIO-1(a)(1), MM-BIO-1(a)(2), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), and MM-BIO-4(b) would reduce the level of direct, indirect, and cumulative impacts to nursery sites for resident and migratory birds to below the level of significance. However, this mitigation measure would not protect nursery sites of other native wildlife species. The implementation of mitigation measures MM-BIO-1(a)(1), MM-BIO-1(a)(2), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), and MM-BIO-4(b) would minimize the level of potential impacts to migratory corridors and native nursery sites for other wildlife species. However, due to the large scale of the 2016 RTP/SCS, both spatially and temporally, impacts to migratory corridors and nursery sites for other wildlife species

would remain significant. Impacts to migratory corridors and net impacts to nursery sties cannot be reduced below the level of significance through mitigation. Therefore, direct, indirect, and cumulative impacts to migratory corridors and nursery sites would remain significant and unavoidable.

IMPACT BIO-5: Potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The implementation of mitigation measures MM-BIO-1(a)(1), MM-BIO-1(a)(2), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-BIO-4(b), and MM-BIO-5(b) would minimize the level of potential direct, indirect, and cumulative impacts related to conflicts with local policies and ordinances protecting biological resources. However, due to the large scale of the 2016 RTP/SCS, both spatially and temporally, direct, indirect, and cumulative impacts related to conflicts with local policies and ordinances protecting biological resources would remain significant and unavoidable.

IMPACT BIO 6: Potential to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The implementation of mitigation measures MM-BIO-1(a)(1), MM-BIO-1(a)(2), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-BIO-4(b), MM-BIO-5(b), and MM-BIO-6(b) would avoid or reduce the level of direct, indirect, and cumulative impacts related to conflicts with the provisions of adopted HCPs and NCCPs applicable to the 2016 RTP/SCS to below the level of significance. Any transportation improvement projects proposed for development within these HCPs and/or NCCPs would be required to comply with the provisions and policies of the respective plan. Therefore, it is expected that compliance with these provisions would be sufficient to reduce direct, indirect, and cumulative impacts related to conflicts with HCPs and NCCPs to below the level of significance.

3.5 CULTURAL RESOURCES

This section of the Program Environmental Impact Report (PEIR) describes cultural resources in the SCAG region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Plan,” or “Project”) on cultural resources, identifies mitigation measures for the impacts, and evaluates the residual impacts. Cultural resources were evaluated in accordance with Appendix G of the 2015 State California Environmental Quality Act (CEQA) Guidelines. Cultural resources within the SCAG region were evaluated at a programmatic level of detail, in relation to the general plans of the six counties and 191 cities within the SCAG region; review of general information characterizing the paleontological resources that have been reported from the SCAG region and review of Dibblee maps of geology and soils; general information characterizing prehistoric and historic human occupation within the SCAG region; general sensitivity of the SCAG region with respect to Native American Sacred sites and tribal cultural resources available through coordination with the Native American Heritage Commission (NAHC) and direct outreach to tribal governments within the SCAG region, including two Native American consultation workshops hosted by SCAG during preparation of the 2016 RTP/SCS and related PEIR; and review of known cemeteries in the SCAG region; a review of related literature germane to the SCAG region; as well as a review of SCAG’s 2012 RTP/SCS PEIR.¹

Cultural resources within the SCAG region are recorded in the paleontological fossils; archeological sites and artifacts, historic sites, artifacts, structures and buildings; and the built environment. There is a rich record of archived fossils that are estimated to represent over 500 million years.² The archaeological record provides evidence of over thousands of years of human occupation. Evidence of this occupation can be found in prehistoric archaeological sites, Native American sacred sites and remains, trails and transportation corridors, historic buildings, and locations tied to important events. Similarly, historical resources, including historic points of interest, landmarks, sites, and Districts provide insight in to the pre-history and history of development of the SCAG region.

Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for cultural resources are provided.

AD: The term Anno Domini (AD or A.D.) is used to label calendar years and is intended to be in relation to the beginning of the life of Jesus as a reference date.

Alluvium: An unconsolidated accumulation of stream-deposited sediments, including sands, silts, clays or gravels.

¹ Southern California Association of Governments. April 2012. *Final Program Environmental Report: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*. Available at: <http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

² U.S. and State Fossil Sites—Data for California. Accessed 9 September 2015. Website. Available at: <http://www.fossilites.com/STATES/CA.HTM>

Archaeological site: Defined by the National Register of Historic Places (NRHP) as the place or places where the remnants of a past culture survive in a physical context that allows for the interpretation of these remains. Archaeological remains usually take the form of artifacts (e.g., fragments of tools, vestiges of utilitarian, or non-utilitarian objects), features (e.g., remnants of walls, cooking hearths, or midden deposits), and ecological evidence (e.g., pollen remaining from plants that were in the area when the activities occurred). The Office of Historic Preservation (OHP) defines an archaeological “site” as consisting of three or more related resources discovered in one locality. In the event of archaeological discovery, the resources are collected, documented, and curated at an educational institution, such as a school or a museum. These can include prehistoric (pre-European contact), historic (post-contact), or combination thereof.

BCE: The term BCE is the abbreviation for Before the Common Era, and is used to label calendar years, prior to the demarcation of AD.

BP: “Before present,” which is defined as before 1950 and is used by archaeologists in conjunction with the commonly used term, AD.

Cretaceous: An interval of time relating to, or denoting the last period of the Mesozoic era, between the Jurassic and Tertiary periods.

CE: The term Common Era (CE) is an alternative naming of the calendar era AD.

Formation: A laterally continuous rock unit with a distinctive set of characteristics that make it possible to recognize and map from one outcrop or well to another. The basic rock unit of stratigraphy.

Holocene: An interval of time relating to, or denoting the present epoch, which is the second epoch in the Quaternary period, including the time period from approximately 11,000 years ago to the present.

Historic period: The period that begins with the arrival of the first nonnative population and thus varies by area. In 1769, Gaspar de Portolá became the first European to enter the San Fernando Valley, initiating the historic period in the SCAG region.

Historical resource: Defined by CEQA as any object, building, structure, site (including archaeological sites), area, place, record, or manuscript that is listed in, or is eligible for listing in, the California Register of Historical Resources (CRHR); officially designated or recognized as historically significant by a local government pursuant to a local initiative or resolution; or identified as significant in a historic resource survey conducted in accordance with the requirements of the CRHR statute (PRC Section 5024.1(g)). Properties listed in, or determined eligible for listing in, the NRHP are automatically listed in the CRHR and are therefore historical resources under CEQA.

Isolate: An isolated artifact or small group of artifacts that appear to reflect a single event, loci, or activity. It may lack identifiable context but has the potential to add important information about a region, culture, or person. Isolates are not considered under CEQA to be significant and, thus, do not require avoidance or mitigation under CEQA. All isolates located during the field effort, however, are recorded, and the data are transmitted to the appropriate California Historical Resources Information System (CHRIS) Information Center.

Miocene: An interval of time relating to or denoting the fourth epoch of the Tertiary period, between the Oligocene and Pliocene epochs, from approximately 23 to 5.5 million years ago.

Native American sacred site: An area that has been, and often continues to be, of religious significance to Native American peoples, such as an area where religious ceremonies are practiced or an area that is central to their origins as a people. They also include areas where Native Americans gather plants for food, medicinal, or economic purposes.

Oligocene: An interval of time relating to or denoting the third epoch of the Tertiary period, between the Eocene and Miocene epochs, from approximately 34 to 23 million years ago.

Outcrop: A rock formation that is visible on earth's surface.

Paleocene: An interval of time, relating to, or denoting the earliest epoch of the Tertiary period, between the Cretaceous period and the Eocene epoch.

Phase I archaeological resources survey: A literature review (background research), consultation with the NAHC, and fieldwork. Fieldwork consists of a physical inspection of the cultural resources survey area, generally through pedestrian surveys, or by other means when appropriate. The purpose of the Phase I survey is to identify the cultural resources known or likely to be present in the initiative's impact area and in the immediate vicinity.

Phase II archaeological investigation: Consisting of testing and evaluation, is conducted when the results of a Phase I investigation indicate the presence of potentially significant cultural resources. Phase II investigations are intended to evaluate the historical significance of historic and prehistoric archaeological sites and require a comprehensive and detailed scope of work, a research design, and fieldwork. Surface and subsurface testing is conducted during Phase II investigations to collect the data necessary to establish historical significance of archaeological sites.

Phase III data recovery: Implemented on those archaeological sites that are determined to be significant as a result of the Phase II investigations and that cannot feasibly be avoided or preserved with initiative implementation. Phase III efforts typically involve the collection of data intended to answer scientific or research questions that have been formulated during Phase II testing and formalized by a comprehensive Phase III research design. Most commonly, Phase III data collections are implemented on sites determined to be significant as a means of mitigating the effects of an initiative through salvage, recordation, and archiving of scientific data associated with the site.

Pleistocene: An interval of time, relating to or denoting the first epoch of the Quaternary period, between the Pliocene and Holocene epochs, from approximately 2.6 million years ago to 11,000 years ago.

Pliocene: An interval of time, relating to or denoting the last epoch of the Tertiary period, between the Miocene and Pleistocene epochs, from approximately 5.5 to 2.6 million years ago.

Plutonic igneous rocks: Igneous rocks that have crystallized beneath the earth's surface.

Prehistoric period: The era prior to AD 1769. The later part of the prehistoric period (post-AD 1542) is also characterized as the protohistoric period in some areas, which marks a transitional period during

which native populations began to be influenced by European presence resulting in gradual changes to their lifeways.

Quaternary: The most recent Period in geological time; includes the Pleistocene and Holocene Epochs.

Secretary of the Interior' Standards and Guidelines: The **Standards** are a series of concepts about maintaining, repairing, and replacing historic materials, as well as designing new additions or making alterations. The **Guidelines** offer general design and technical recommendations to assist in applying the Standards to a specific property. Together, they provide a framework and guidance for decision-making about work or changes to a historic property. The **Standards** and **Guidelines** can be applied to historic properties of all types, materials, construction, sizes, and use. They include both the exterior and the interior and extend to a property's landscape features, site, environment, as well as related new construction. Federal agencies use the **Standards** and **Guidelines** in carrying out their historic preservation responsibilities. State and local officials use them in reviewing both Federal and nonfederal rehabilitation proposals. Historic district and planning commissions across the country use the **Standards** and **Guidelines** to guide their design review processes. The **Standards** offer four distinct approaches to the treatment of historic properties—preservation, rehabilitation, restoration, and reconstruction with Guidelines for each. The **Standards for the Treatment of Historic Properties** are regulatory for all grant-in-aid projects assisted through the national Historic Preservation Fund. The **Standards for Rehabilitation**, codified in 36 CFR 67, are regulatory for the review of rehabilitation work in the Historic Preservation Tax Incentives program. The **Guidelines** are advisory, not regulatory.

Tribal Cultural Resources: Pursuant to Assembly Bill (AB) 52, a site feature, place, cultural landscape, sacred place or object, which is of cultural value to a Tribe and is either on or eligible for the California Historic Register or a local historic register, or such a resource that the lead agency, at its discretion, chooses to treat the resource as a Tribal Cultural Resources (see Public Resources Code [PRC] 21074 (a)(1)(A)-(B)). A tribal cultural resource may also include a unique archaeological resource (see PRC 21083.2(g)) or a "nonunique archaeological resource" (see PRC 21083.2(h), subject to the provisions of PRC 21074 (a)) may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Unique archeological resource: Pursuant to Section 21083.2 of the PRC, a unique archaeological resource includes artifacts or sites that meet any one or all of the following criteria:

- It has made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
- It is associated with the lives of persons important to California's past;
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; and/or
- It has yielded, or may be likely to yield, information important to the prehistory or history of California.

Unique geologic feature: An important and irreplaceable geological formation. Such features may have scientific and/or cultural values.

Unique paleontological resource: A fossil that meets one or more of the following criteria:

- It provides information on the evolutionary relationships and developmental trends among organisms, living or extinct.
- It provides data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein.
- It provides data regarding the development of biological communities or interaction between plant and animal communities.
- It demonstrates unusual or spectacular circumstances in the history of life.
- The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

3.5.2 REGULATORY FRAMEWORK

Cultural resources in the SCAG region include structures of national, state, or local significance; archaeological sites of historic or prehistoric origin; and fossil deposits of paleontological importance. These resources are regulated at the federal, state, and local levels as discussed below.

Federal

Antiquities Act of 1906

The Antiquities Act of 1906 (16 U.S. Code [USC] 431–433), which aimed to protect important historic and archaeological sites, initiated historic preservation legislation. It established a system of permits for conducting archaeological studies on federal land, as well as setting penalties for noncompliance. This permit process controls the disturbances that may be caused to archaeological sites. New permits are currently issued under the Archaeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands.

Historic Sites Act of 1935

The Historic Sites Act (HAS; 49 Stat. 666; 16 USC 461–467) became law on August 21, 1935, and declared that it is national policy to “Preserve for public use historic sites, buildings, and objects of national significance.” The NHPA expanded the scope to include important state and local resources. Provisions of NHPA established the National Register maintained by the National Park Service, advisory councils on Historic Preservation, State Historic Preservation Offices, and grants-in-aid programs. Section 106 of the NHPA requires all federal agencies to consult the Advisory Council before continuing any activity affecting a property listed on or eligible for listing on the National Register. The Advisory Council has developed regulations for Section 106 to encourage coordination of agency cultural resource compliance requirements (Executive Order 11593).

United States Department of Transportation (USDOT) Act of 1966 (Section 4(f))

Section 4(f) of the USDOT Act of 1966 affords special protection to public recreational lands and facilities, including local parks and school facilities that are open and available to the general public for recreational purposes, significant cultural resources, historical resources, and natural wildlife refuges. Federally funded transportation improvement projects are prohibited from the encroachment (direct or constructive use, or a take) of Section 4(f) lands unless it can be demonstrated that no feasible and prudent alternative exists.

National Historic Preservation Act of 1966

Enacted in 1966, the National Historic Preservation Act (NHPA; Public Law 89-665; 16 USC 470 et seq.) declared a national policy of historic preservation and instituted a multifaceted program, administered by the National Parks Service, to encourage the achievement of preservation goals at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP), established the position of State Historic Preservation Officer and provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assisted Native American tribes to preserve their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP). Section 106 of the NHPA states that federal agencies with direct or indirect jurisdiction over federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the NRHP, and that the ACHP must be afforded an opportunity to comment, through a process outlined in the ACHP regulations at 36 Code of Federal Regulations (CFR) Part 800, on such undertakings.

The National Park Service administers two Federal recognition programs, the National Register of Historic Places and the National Historic Landmarks Program.

National Register of Historic Places

Working with State Historic Preservation Offices, Tribal Historic Preservation Offices, and Federal Preservation Offices, the National Park Service maintains the NRHP. This is the official list of properties that are deemed worthy of preservation. Properties listed in the NRHP tell stories that are important to a local community, the citizens of a specific state, or all Americans. Properties listed in the NRHP may be owned by private individuals, universities, non-profits, governments, and/or corporations.

The NRHP was established by the NHPA of 1966 as “an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the Nation’s cultural resources and to indicate what properties should be considered for protection from destruction or impairment.” The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history.

- Criterion B: It is associated with the lives of persons who are significant in our past.
- Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history.

Cemeteries, birthplaces, or graves of historic figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, and properties that are primarily commemorative in nature are not considered eligible for the NRHP unless they satisfy certain conditions. In general, a resource must be at least 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

National Landmarks Program

The National Park Service also administers the National Historic Landmarks (NHL) Program. Properties designated as NHLs tell important stories related to the history of the nation overall. These properties must also possess a high level of historic integrity. All properties designated NHLs are automatically included in the NRHP.

Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines

The Standards and Guidelines are prepared under the authority of Sections 101(f) (g), and (h), and Section 110 of the National Historic Preservation Act of 1966, as amended. The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. These standards and guidelines are not regulatory and do not set or interpret agency policy. They are intended to provide technical advice about archeological and historic preservation activities and methods. The National Park Service has not republished "The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation" since 1983 (48 FR 44716). NPS has updated portions of the Standards and Guidelines. NPS has officially revised portions and published the revisions in the Federal Register, such as the Historic Preservation Project standards and the treatment definitions. The purposes of the Standards are:

- To organize the information gathered about preservation activities.
- To describe results to be achieved by Federal agencies, States, and others when planning for the identification, evaluation, registration and treatment of historic properties.
- To integrate the diverse efforts of many entities performing historic preservation into a systematic effort to preserve our nation's culture heritage.

Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 68, 1995)

The current version of The Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 68, 1995) consists of four treatment standards—Preservation, Rehabilitation, Restoration

and Reconstruction—and is regulatory for NPS Grants-in-Aid programs. The Secretary of the Interior's Standards for Rehabilitation (36 CFR Part 67, 1990), which are included in the treatment standards, are regulatory for the Federal Historic Preservation Tax Incentives program and used as the criteria to determine if a project qualifies as “a certified rehabilitation.” The 1990 and the 1995 versions of the Rehabilitation Standards are identical except for their use of “shall” and “will,” respectively. The Secretary of the Interior's Standards for the Treatment of Historic Properties, in particular the Standards for Rehabilitation, are intended as general guidance for work on all historic properties and are widely used and have been adopted at the Federal, State and local levels.

Archaeological and Historic Preservation Act of 1974

Passed and signed into law in 1974, the Archeological and Historic Preservation Act (AHPA; Public Law 86-523, 16 USC. 469–469c-2) amended and expanded the Reservoir Salvage Act of 1960. The AHPA requires that federal agencies provide for the preservation of historical and archaeological data (including relics and specimens) which might otherwise be irreparably lost or destroyed as the result of any alteration of the terrain caused by any federal construction project or federally licensed activity or program.

Archaeological Resources Protection Act of 1979

The Archeological Resource Protection Act of 1979 (ARPA; Public Law 96-95; 16 USC 470aa-mm) applies when a project may involve archaeological resources located on federal or tribal land. ARPA requires that a permit be obtained before excavation of an archaeological resource on such land can take place.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act (AIRFA; Public Law 95-341, 92 Stat. 469) proclaims that the U.S. Government will respect and protect the rights of Indian tribes to the free exercise of their traditional religions; the courts have interpreted this as requiring agencies to consider the effects of their actions on traditional religious practices.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA; Public Law 101-601; 25 USC 3001–3013) also applies if human remains of Native American origin are discovered on federal land. NAGPRA requires federal agencies and federally assisted museums to return “Native American cultural items” to the federally recognized Indian tribes or Native Hawaiian groups with which they are associated. Regulations (43 CFR Part 10) stipulate the following procedures be followed. If Native American human remains are discovered, the following provisions would be followed to comply with regulations:

- Notify, in writing, the responsible federal agency;
- Cease activity in the area of discovery and protect the human remains;
- Certify receipt of the notification;
- Take steps to secure and protect the remains;

- Notify the Native American tribes or tribes likely to be culturally affiliated with the discovered human remains within one working day; and
- Initiate consultation with the Native American tribe or tribes in accordance with regulations described in 43 CFR, Part 10, Subpart B, Section 10.5.

State

California Implementation of Federally and State-Mandated Historic Preservation Program

The California State Office of Historic Preservation (OHP) is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration and protection of California's irreplaceable archaeological and historical resources under the direction of the State Historic Preservation Officer (SHPO), a gubernatorial appointee, and the State Historical Resources Commission.

OHP's responsibilities include:

- Identifying, evaluating, and registering historic properties;
- Ensuring compliance with federal and state regulatory obligations;
- Encouraging the adoption of economic incentives programs designed to benefit property owners; and
- Encouraging economic revitalization by promoting a historic preservation ethic through preservation education and public awareness and, most significantly, by demonstrating leadership and stewardship for historic preservation in California.

OHP reviews and comments on thousands of federally sponsored projects annually pursuant to Section 106 of the National Historic Preservation Act and state programs and projects pursuant to Sections 5024 and 5024.5 of the PRC. OHP also reviews and comments on local government and state projects pursuant to CEQA.

The purpose of OHP's project review program is to promote the preservation of California's heritage resources by ensuring that projects and programs carried out or sponsored by federal and state agencies comply with federal and state historic preservation laws and that projects are planned in ways that avoid any adverse effects to heritage resources. If adverse effects cannot be avoided, the OHP assists Lead Agencies in developing measures to minimize or mitigate such effects.

OHP administers the NRHP, the California Register of Historical Resources, the California Historical Landmarks, and the California Points of Historical Interest programs. Each program has different eligibility criteria and procedural requirements; all register nominations must be submitted to the Commission for review and approval.

National Register of Historic Places

Applications to nominate California properties to the NRHP are submitted to OHP for review and approval by the State Historical Resources Commission. Authorized under the NHPA, the National Register is part of a national program to coordinate and support public and private efforts to identify,

evaluate, and protect historic and archeological resources. The National Register is administered by the National Park Service, which is part of the U.S. Department of the Interior. Prior to forwarding Nomination Packages for consideration for the National Register, OHP must review the package and make a determination that it conforms to the guidelines published by National Park Service Bulletin 16A. If approved by the SHRC, the nomination is sent to the State Historic Preservation Officer for nomination to the National Register.

California Register of Historical Resources

The California Register is an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change. The criteria for eligibility for the California Register are based upon National Register criteria. These criteria are:

- Criterion 1 – Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California of the United States;
- Criterion 2 – Associated with the lives of persons important to local, California or national history;
- Criterion 3 – Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; and
- Criterion 4 – Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

The California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed in the National Register of Historic Places (Category 1 in the State Inventory of Historical Resources) and those formally Determined Eligible for listing in the National Register of Historic Places (Category 2 in the State Inventory)
- California Registered Historical Landmarks from No. 0770 onward
- Those California Points of Historical Interest that have been evaluated by the Office of Historic Preservation (OHP) and have been recommended to the State Historical Resources Commission for inclusion in the California Register

Other resources which may be nominated for listing in the California Register include:

- Historical resources with a significance rating of Categories 3 through 5 in the State Inventory. (Categories 3 and 4 refer to potential eligibility for the National Register, while Category 5 indicates a property with local significance);
- Individual historical resources;
- Historical resources contributing to historic districts; and
- Historical resources designated or listed as a local landmark.

Additionally, a historic resource eligible for listing in the California Register must meet one or more of the criteria of significance described above and retain enough of its historic character or appearance to be recognizable as a historic resource and to convey the reasons for its significance. Historical resources that have been rehabilitated or restored may be evaluated for listing.

California Historical Landmarks

California Historical Landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. The specific standards now in use were first applied in the designation of Landmark # 770. California Historical Landmarks #770 and above are automatically listed in the California Register of Historical Resources.

To be designated as a California Historical Landmark, a resource must meet at least one of the criteria listed below; have the approval of the property owner(s); be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks.

Criteria for Designation. To be eligible for designation as a Landmark, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California).
- Associated with an individual or group having a profound influence on the history of California.
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer or master builder.

Effects of Designation.

- Limited protection: Environmental review may be required under California Environmental Quality Act (CEQA) if property is threatened by a project. Contact your local planning agency for more information.
- Local assessor may enter into contract with property owner for property tax reduction (Mills Act).
- Local building inspector must grant code alternative provided under State Historic Building Code. Registration will be recorded on the property deed.
- Automatic listing in California Register of Historical Resources.
- Bronze plaque at site (underwritten by local sponsor) ordered through OHP; highway directional sign available through local Department of Transportation (Caltrans) district office.

California Points of Historical Interest

If a site is primarily of local interest, it may meet the criteria for the California Points of Historical Interest Program. California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural,

economic, scientific or technical, religious, experimental, or other value. Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be designated as both a Landmark and a Point. If a Point is subsequently granted status as a Landmark, the Point designation will be retired.

Criteria for Designation. To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type within the local geographic region (City or County).
- Associated with an individual or group having a profound influence on the history of the local area.
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer or master builder.

Effects of Designation.

- Limited protection: Environmental review may be required under CEQA if property is threatened by a project. Contact your local planning agency for more information.
- Local assessor may enter into contract with property owner for property tax reduction (Mills Act).
- Local building inspector must grant code alternative provided under State Historic Building Code.
- Registration is recorded on property deed.
- A small enamel directional sign (no text) available through local Caltrans district office. Owner may place his or her own marker at the site.

California Environmental Quality Act

Under CEQA, a project that may cause a substantial adverse change in the significance of a historic resource is a project that may have a significant effect on the environment. This statutory standard involves a two-part inquiry. The first involves a determination of whether the project involves a historic resource. If so, then the second part involves determining whether the project may involve a “substantial adverse change in the significance” of the resource. To address these issues, guidelines that implement the 1992 statutory amendments relating to historical resources were adopted in final form on October 26, 1998 with the addition of State CEQA Guidelines Section 15064.5. The CEQA Guidelines provide that for the purposes of CEQA compliance, the term “historical resources” shall include the following:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register.
- A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in a historical resource survey meeting the requirements in Section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat such resources as significant for

purposes of CEQA unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets one of the criteria for listing on the California Register.
- The fact that a resource is not listed in, or determined to be eligible for listing in the California Register, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the PRC), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

Section 15064.5 of the CEQA Guidelines also provides that "substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." Material impairment occurs when a project alters or demolishes in an adverse manner "those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion" in a state or local historic registry.

California Coastal Act

The California Coastal Act (CCA; PRC Sections 30000 et seq.) includes protection of archaeological resources into Land Conservation Plans that regulate land uses within the coastal zone.

California Health and Safety Code, Section 7050 and Sections 18950 through 18961

Consistent with the provisions of Section 50907.9 of the PRC, Section 7050 of the Health and Safety Code (HSC) authorizes the Native American Heritage Commission (NAHC) to regulate Native American concerns regarding the excavation and disposition of Native American cultural resources. Among its duties, the Commission is authorized to resolve disputes relating to the treatment and disposition of Native American human remains and items associated with burials. Upon notification of the discovery of human remains by a county coroner, the Commission notifies the Native American group or individual most likely descended from the deceased.

The State Historic Building Code (HSC; Sections 18950–18961) provide alternative building regulations and building standards for the rehabilitation, preservation, restoration (including related reconstruction), or relocation of buildings or structures designated as historic buildings. Such alternative building standards and building regulations are intended to facilitate the restoration or change of occupancy so as to preserve their original or restored architectural elements and features, to encourage energy conservation and a cost-effective approach to preservation, and to provide for the safety of the building occupants.

California Penal Code Section 622 – Destruction of Historical Properties

This section of the California Penal Code makes it a misdemeanor for anyone (except the owner) to willfully injure or destroy anything of archaeological interest or value whether on private lands or within any public park or place. In addition, Penal Code Section 622.5 sets the penalties for the damage or removal of cultural resources.

California Public Resources Code, Sections 5024, 5024.5, 5025, 5097.5, 5097.9, and 5097.98-99

Sections 5024 and 5024.5 of the PRC were enacted as part of a larger effort to establish a state program to preserve historical resources. These sections of the code require state agencies to take a number of actions to ensure preservation of state-owned historical resources under their jurisdictions. These actions include evaluating resources for NRHP eligibility and California Historical Landmark (California Landmark) eligibility; maintaining an inventory of eligible and listed resources; and managing these historical resources so that they will retain their historic characteristics

Section 5028 of the PRC specifies that no structure that is listed on the NRHP, on the California Register of Historic Places, or on any local public register of historic places, and that has been damaged due to a natural disaster, including, but not limited to, an earthquake, fire, or flood, may be demolished, destroyed, or significantly altered, except for restoration to preserve or enhance its historical values, unless the structure presents an imminent threat to the public of bodily harm or of damage to adjacent property, or unless the State Office of Historic Preservation determines, that the structure may be demolished, destroyed, or significantly altered.

Section 5097.5 of the PRC defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands. This Section also prohibits the knowing destruction of objects of antiquity without a permit (expressed permission) on public lands, and provides for criminal sanctions. In 1987, it was amended to require consultation with the California NAHC whenever Native American graves are found. It also established that violations for taking or possessing remains or artifacts are felonies.

PRC Section 5097.9 establishes the California NAHC to make recommendations to encourage private property owners to protect and preserve sacred places in a natural state and to allow appropriate access to Native Americans for ceremonial or spiritual activities. The Commission is authorized to assist Native Americans in obtaining appropriate access to sacred places on public lands, and to aid State agencies in any negotiations with federal agencies for the protection of Native American sacred places on federally administered lands in California.

PRC Sections 5097.98 through 5097.99 requires that the California NAHC be consulted whenever Native American graves are found. According to these Sections, it is illegal to take or possess remains or artifacts taken from Native American graves; however, it does not apply to materials taken before 1984. Violations occurring after January 1, 1988, are felonies.

Senate Bill 18 – Traditional Tribal Cultural Places

Senate Bill (SB) 18, enacted in 2004, requires local governments to consult with Native American groups at the earliest point in the local government land use planning process. The consultation intends to establish a meaningful dialogue regarding potential means to preserve Native American places of prehistoric, archaeological, cultural, spiritual, and ceremonial importance. It allows for tribes to hold conservation easements and for tribal cultural places to be included in open space planning.

Assembly Bill 52

AB 52 creates a new category of environmental resources that must be considered under CEQA: “tribal cultural resources.” AB 52 is applicable to a project for which a Notice of Preparation (NOP) is filed on or after July 2015. Although the NOP for the 2016 RTP/SCS PEIR was filed in March 2015, and is therefore not subject to the provisions of AB 52, a brief summary of the provisions of AB 52 is provided for informational purposes and for consideration by future projects.

AB 52 adds tribal cultural resources to the categories of cultural resources in CEQA, which had formerly been limited to historic, archaeological, and paleontological resources. “Tribal cultural resources” are defined as either (1) “sites, features, places cultural landscapes, sacred places and objects with cultural value to a California Native American tribe” that are included in the state register of historical resources or a local register of historical resources, or that are determined to be eligible for inclusion in the state register; or (2) resources determined by the lead agency, in its discretion, to be significant based on the criteria for listing in the state register.

Recognizing that tribes may have expertise with regard to their tribal history and practices, AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe requests consultation within 30 days upon receipt of the notice, the lead agency must consult with the tribe. Consultation may include discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project’s impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe.

The parties must consult in good faith, and consultation is deemed concluded when either the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resource (if such a significant effect exists) or when a party concludes that mutual agreement cannot be reached.

Executive Order B-10-11

Executive Order B-10-11 states that it is the policy of the administration that every state agency and department subject to executive control is to encourage communication and consultation with California Native American tribes. It established the position of Governor’s Tribal Advisor in the Office of the Governor of California. This position will serve as a direct link between the Governor’s Office and tribal governments on matters including legislation, policy, and regulation.

Local

County General Plans

In addition to federal and state regulations, cities and counties in the SCAG region may also provide regulatory protection and advisement regarding cultural resources (Table 3.5.1-1, *County Policies and Ordinances Relevant to the SCAG Region*). California law requires that a general plan include seven elements (land use, open space, conservation, housing, circulation, noise, and safety). Many jurisdictions incorporate policies related to cultural and historical resources into the conservation element. Other jurisdictions choose to prepare a separate (optional) element dealing with cultural and/or historic preservation issues. Many jurisdictions also prepare ordinances addressing cultural resources and historic preservation.

**TABLE 3.5.1-1
COUNTY POLICIES AND ORDINANCES RELEVANT TO THE SCAG REGION**

County	County Policies and Ordinances
Imperial	Conservation and Open Space Element of General Plan Policy Numbers: Only one policy, Section IV.B. Policies Specific to Archaeological Resources: No Policies Specific to Paleontological Resources: No Policies Specific to Historic Resources: No
Los Angeles	Chapter 9: Conservation and Natural Resources Element of General Plan Policy Numbers: C/NR 14.1 – C/NR 14.6 Policies Specific to Archaeological Resources: Yes, very brief Policies Specific to Paleontological Resources: Yes, very brief Policies Specific to Historic Resources: Yes, very brief
Orange	Chapter VI: Resources Element of General Plan Policy Numbers: Goals 1, 2 and 3, each with multiple policy numbers Policies Specific to Archaeological Resources: Yes, extensive Policies Specific to Paleontological Resources: Yes, extensive Policies Specific to Historic Resources: Yes, extensive
Riverside	Chapter 5: Multipurpose Open Space Element of General Plan Policy Numbers: 19.1 – 19.10 Policies Specific to Archaeological Resources: Yes, brief Policies Specific to Paleontological Resources: Yes, brief Policies Specific to Historic Resources: Yes, brief
San Bernardino	Conservation Element (Subchapter C2) of General Plan Policy Numbers: CO 3.1 – CO 3.5 Policies Specific to Archaeological Resources: No – together with historic resources, extensive Policies Specific to Paleontological Resources: Yes, extensive Policies Specific to Historic Resources: No – together with archaeological resources, extensive
Ventura	Chapter 1: Resources (Subchapter 1.8) of General Plan Policy Numbers: 1 – 6 Policies Specific to Archaeological Resources: No Policies Specific to Paleontological Resources: No Policies Specific to Historic Resources: Yes, Policy #6

City General Plans and Ordinances

In accordance with Sections 6530(c) and (d) of the California Government Code, like the six counties in the SCAG region, all cities are required to have a conservation element and an open space element, as mandatory elements of their general plans. Many city general plans have provisions for historic districts and protection of locally important cultural resources that may or may not meet the criteria for eligibility for listing in the NRHP or CRHR.

3.5.3 EXISTING CONDITIONS

This subsection characterizes the existing conditions related to cultural and paleontological resources in the SCAG region which encompasses an area of more than 38,000 square miles within the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The SCAG region is rich with cultural and paleontological resources, stretching from millions of years ago to the Common Era. The baseline conditions in the SCAG region are described in relation four general topics: (1) Paleontology; (2) Archeological Resources (3) Historical Resources; and (4) Cemeteries and Native American Sacred Sites. For both Archaeological and Historical Resources, a brief context statement is provided.

Paleontological Resources

Paleontological resources are fossilized remains of non-human organisms that lived in the region in the geologic past. Paleontological sites and fossils are non-renewable resources that are important in our understanding of the prehistory and the geologic development of Southern California. Many paleontological sites include remains of species that are now extinct. Paleontological sites are predominantly found in sedimentary rock deposits, and most of the Los Angeles Basin is composed of these sedimentary deposits. Paleontological resources are most easily found in areas that have been uplifted and eroded, and they can be found anywhere that subsurface excavation is being carried out. Ancient marine fossils have been found both in the Santa Monica Mountains, particularly in exposed canyon areas, streambeds, along road cuts, and beneath the streets of Los Angeles during storm drain and subway construction.

The broad categories of paleontological resources are known to exist in the SCAG region:

- True Fossils – Lithified or replaced remains of plants and animals preserved in a rock matrix (e.g., microfossils, shells, animal bones and skeletons, and whole tree trunks)
- Trace Fossils – Molds, casts, tracks, trails and burrow impressions made in soft clays and muds which subsequently were turned to stone, preserving the images of past life (e.g., shells, footprints, leaf prints, and worm tubes)
- Breas – Seeps of natural petroleum that trapped extinct animals and preserved and fossilized their remains.

Both marine and land vertebrate and invertebrate fossils are found in the SCAG region.³ An associated formation is the matrix in which most fossils are found. These formations are different from modern soils and cannot be correlated with soil maps, which depict a thin veneer of surface soils. Geologic

³ Bedrossian, T.L. 1975. Vertebrate Fossils and the History of Animals with Backbones. *California Geology* 28(11): 243–59.

formations form complex relationships below the surface and may range in thickness from a few feet to hundreds of thousands of feet. Geologic maps (available through the U.S. Geological Survey [USGS] and the California Geological Survey [CGS]) show the surface expression of geologic formations along with other geologic features such as faults, folds, and landslides. Although sedimentary formations were initially deposited one atop the other over time the layers have been squeezed, tilted, folded, cut by faults and vertically and horizontally displaced, so that today, any one rock unit does not usually extend in a simple horizontal layer. A sensitive formation bearing fossils can be found at the surface in a rock outcrop that same formation may extend many feet down into the ground and also extend for miles just below the surface. Thus, predicting which areas are paleontologically sensitive is difficult.

Paleontologists consider all vertebrate fossils to be of significance. Other types of fossils are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations.

Fossil bearing sedimentary formations and crystalline basement rocks (metamorphic and plutonic) overlain by sedimentary and volcanic rocks are prevalent throughout Southern California. Although the exact locations of these formations are considered proprietary to help prevent the removal or destruction of these important, non-renewable resources (Table 3.5.2-1, *Significant Fossil Localities in the SCAG Region*).

**TABLE 3.5.2-1
SIGNIFICANT FOSSIL LOCALITIES IN THE SCAG REGION**

Location	Fossil Type	Formations
Octillo Area (Shell Canyon, Coyote Mountains, Painted Gorge, Yuma Buttes)	Microfossils, Invertebrates, Vertebrates	Imperial
Plaster City	Freshwater invertebrates	Lake Cahuilla Beds
La Brea Tar Pits	>500,000 specimens, >200 types of animals	
Palos Verdes Peninsula	Mastodon, mammoth, horse, camel, sloth	Palos Verdes Sand
Palos Verdes Peninsula	Grey whale, microfossils	San Pedro
Palos Verdes Peninsula	Fish, birds, sea lion, plants, baleen whale, horse, sloth, sea otter, mammoth, mastodon, bison, camel, tapir, microfossils	Monterey Shale
Palos Verdes Peninsula	Dolphin	Monterey Shale
Santa Monica Mountains (Topanga Canyon)	Cypraeid gastropod	Topanga
Santa Monica Mountains (Old Topanga Canyon Road, Piuma Road)	Numerous Fossils	Topanga
Mint Canyon	Oldest hawk in California	Tick Canyon
Mint Canyon	Horse, elephant, camel	Mint Canyon
Puente Hills (Hacienda Heights)	Fish	Puente
Puente Hills (Diamond Bar)	Fish and leaves	Puente
Buena Park (Ralph B. Clark Paleontological Park)	Ice age mammals including Imperial Mammoth	La Habra
Laguna Hills/Dana Point	Baleen whale (largest and most complete skull)	Capistrano
Laguna Hills/Dana Point (Costeau Park)	Terrestrial mammal	Capistrano
San Joaquin Hills, Laguna Niguel	Dolphin	Monterey

**TABLE 3.5.2-1
SIGNIFICANT FOSSIL LOCALITIES IN THE SCAG REGION**

Location	Fossil Type	Formations
Newport Bay East Bluffs	Invertebrates	Palos Verdes Sand
Santa Ana Mountains (Eastern Carriort)	76 Localities with various species	Ladd, Sespe-Vaqueros, Tapanga, Silverado, Santiago, Puente
Santa Ana Mountains (Robinson Ranch/Dove Canyon)	Wood. Leaves, ammonites	Silverado
Santa Ana Mountains (Black Star and Silverado Canyons)	Invertebrates	Ladd
Santa Ana Mountains (Gypsum Canyon)	Invertebrates, shark teeth	Topanga
Loma Linda to Banning (The Badlands)	Vertebrate fossil remains such as horse, camel and rhinoceros	San Timoteo
Soboba Hot Springs	80 varieties of fossilized chaparral and woodland plant species	Soboba
Lake Elsinore	Plants	Silverado
California Oaks	Horse, coyote, rodents, reptiles, amphibians	Unnamed sandstone
Margarita Creek	Horse fossils	Pauba
Bernasconi Hills	Mammoth, horse, saber toothed cat	Lakeview Hot Springs
Perris	Large oreodonts	Lake Matthews
Temecula (I-15 & I-79)	Vertebrate fossils	Temecula Arkose
Barstow, Rainbow Basin	Horse, camel	Barstow
Cajon Pass	Pleiosaurs	San Francisquito
Cajon Valley	Small mammals	Crowder, Punchbowl
Cady Mountains	Oldest tertiary vertebrates in Mojave	Hector
Badlands east of Barstow	Vertebrates	Manix
Boron Open Pit Mine	Lizards	Kramer Beds
Lava Mountains	Lizards, rodents	Bedrock Spring
Red Rock Canyon	Vertebrates	Dove Spring
Cache Peak	42 taxa including microvertebrates	Bopesta
Hills west of Mojave	23 mammalian taxa including 12 of microinvertebrates	Homed Toad
Lone Pine Road near I-15	Whales, invertebrates	Vaqueros
Calico Mountains	Non-marine insects, invertebrates	Barstow
Marble Mountains	Trilobites, brachiopods	Latham Shale, Chambless Limestone
Providence Mountains	Trilobites, brachiopods	Latham Shale
Kelso Mountains	Trilobites	Latham Shale
Striped Mountains	Coral and invertebrates	Bird Spring
Soda Mountains	Coral and brachiopods	Bird Spring
Las Posas Hills	Echinoids, small mammals, horse, saber, cat, rhino	Las Posas, Saugas
South Mountain	Small mammals, oreodont	Saugus
Tapo Ranch, Pearson Ranch	Lemurs, carnivores, rhino, monkey	Sespe
Balcom Canyon, Grimes Canyon	Plants, fish, insects	Monterey
Pine Mountain	Invertebrates	Santa Margarita
Rincon Beach	Pine Cones	Pico

**TABLE 3.5.2-1
SIGNIFICANT FOSSIL LOCALITIES IN THE SCAG REGION**

Location	Fossil Type	Formations
Simi Wash	Invertebrates	Las Lajas
Pitas Point	Invertebrates	Santa Barbara

Archeological Resources

Context: Prehistoric and Protohistoric Periods (Prior to 1769)

The Prehistoric cultural history of the SCAG region is best summarized in a nearly 8,000-year chronology that begins 6,000 years before the Common Era (BCE) and continues until the Historic Period by the Spanish, approximately 1,700 years after the Common Era (ACE):⁴

Early Man Horizon. Spanning the period from the end of the Pleistocene to approximately 6,000 BCE, archaeological resources attributed to this horizon are characterized by large projectile points and scrapers.

Milling Stone Horizon. Characterized by the appearance of hand stones and milling stones, this horizon tentatively dates to between 6000 BCE and 1000 BCE. Cultural resources from this period include choppers and scraper planes but generally lack projectile points. Larger projectile points appeared in the latter portion of the Milling Stone Horizon.

Intermediate Horizon. Dated to between 1000 BCE and 750 ACE, the Intermediate Horizon represents a transitional period. Cultural resources from the Intermediate Horizon sites contain large-stemmed or notched projectile points and portable mortar and pestles.

Late Prehistoric Horizon. Extending from 750 ACE to Spanish contact in 1769 ACE, the Late Prehistoric Horizon reflects an increased sophistication and diversity in technology. This is characterized by the presence of small projectile points, which imply the use of the bow and arrow. Additional cultural resources include steatite bowls, asphaltum, grave goods, and elaborate shell ornaments.

Protohistoric Period (1542 to 1769). Although early Spanish explorers and mission fathers recorded information on the local Native American populations, professional anthropological studies did not begin until the end of the 19th century after most of the SCAG region Indian groups had been either assimilated by Spanish, Mexican, and American cultures or relocated to reservations.

The SCAG region once was the home to at least 11 distinct Native American groups. These include the Cahuilla, Chumash, Gabrielino, Halchidhoma, Kitanemuk, Luiseno, Mohave, Quechan, Serrano, Southern Paiute, Tataviam, and Tipai. The territorial boundaries of the Native Americans who were residing in Southern California at the time of first European contact do not coincide with today's political

⁴ Wallace, W.J. 1955. A suggested chronology for Southern California coastal archeology. *Southwestern Journal of Anthropology* 11(3): 214–30.

boundaries. Moreover, many tribal boundaries overlapped and most groups migrated within their general boundaries throughout the years.

The federal government established reservations in Southern California between 1875 and 1891. This includes the Martinez, Fort Yuma, and Colorado River reservations in Imperial County. In Riverside County are Chemehuevi, Fort Mojave, Torres, Cabazon, Augustine, Santa Rosa, Ramona, Pechanga, Soboba, Agua Caliente, Mission Creek, and Morongo. The two reservations in San Bernardino County are the San Manuel and Twentynine Palms reservations. No reservations were established in Los Angeles, Ventura, or Orange Counties. It was believed that the local Native American groups in those counties had become extinct.

Archaeological Sites

Archaeological resources are the physical remains of past human activity, and humans have occupied Southern California for thousands of years. If an archeological resource is determined to be a historical resource as defined in Section 15064.5(a) of the State CEQA Guidelines, it is evaluated in light of the provisions of Section 15126.4 of the State CEQA Guidelines. If the resource is not a historical resource, meets the definition of a unique archeological resource in Section 21083.2 of the PRC, the site is required to be treated in accordance with the provisions of Section 21083.2 of the PRC. Since all subsequent future projects will be subject to provisions of AB 52, the scope of such consideration would include archeological resources that are determined to be tribal cultural. As articulated by tribal representatives that participated in the Native American Workshops hosted by SCAG during preparation of this PEIR, such resources may be underrepresented in the record and archival information available in the information centers, as it may underlay existing developed areas of community, where such development occurred prior to enactment of CEQA.

The SCAG region is rich in archaeological resources that range from the early prehistoric period to the historic period. As of May 2015, nearly 100,000 archaeological resource locations have been identified in the SCAG region (Table 3.5.2-2, *Archeological Site Distribution by County*). The location of known archaeological sites is confidential to help prevent scavenging of artifacts. Detailed information, especially their location, is considered proprietary under state law.

**TABLE 3.5.2-2
ARCHAEOLOGICAL SITE DISTRIBUTION BY COUNTY**

County	Approximate Number of Archaeological Sites
Imperial	14,864
Los Angeles	16,662
Orange	5,426
Riverside	24,000
San Bernardino	34,156
Ventura	3,121
SCAG Region Total	98,229

SOURCE:

Sapphos Environmental, Inc. 2015. Personal communication with South Central Coastal Information Center (SCCIC) at the California State University, Fullerton, South Coastal Information Center (SCIC) at the San Diego State University, San Bernardino Archaeological Information Center (SBAIC) at the San Bernardino County Museum, and Eastern Information Center (EIC) at the University of California Riverside.

Due to the proprietary nature of archaeological information, the exact location of most of these locales cannot be discussed. However, some of the sites have been made public in county, regional, state, and federal parks, or listed on public registers:

- The site of the Puvunga Indian Village (NR) Los Angeles County
- Vasquez Rocks (NR) Los Angeles County
- Black Star Canyon Indian Village Site (CHL-217) Orange County
- Fairview Indian Site (NR) Orange County
- Desert Intaglios (CHL-101) Riverside County
- Site of the Indian Village of Pochea (CHL-104) Riverside County
- Carved Rock (CHL-187) Riverside County
- Painted Rock (CHL-190) Riverside County
- The Hemet Maze (CHL-557) Riverside County
- The Calico "Early Man" Site San Bernardino County
- Anacapa Island Archaeological District (NR) Ventura County

The SCAG region was occupied during both the prehistoric and protohistoric periods; therefore, archaeological sites are widespread and numerous. Rock outcrops, river and stream drainages, and coastal strips were often prime locations for Native American village sites or processing camps. These locations now include highly urbanized locations, such as cities, and undeveloped areas of the high desert. Often archaeological sites are covered by three feet or more of topsoil; however, it is possible that construction may not disturb the surface soils by more than a foot or two, thereby protecting remains even after an area has been fully urbanized. In 1998, a large undisturbed Native American burial ground, dating from the Protohistoric Period, was exposed during construction at the ARCO Refinery in Los Angeles. The refinery had been there for 75 years, yet the burial level was located under three to five feet of flood deposits from the nearby Los Angeles River.

Historical Resources

Historical resources are defined in Section 15064.5(a) of the State CEQA Guidelines, and are evaluated in light of the provisions of Section 15126.4 of the State CEQA Guidelines. Since all subsequent projects will be subject to AB 52, the scope of such consideration would include historical resources that are determined to be tribal cultural resources. As articulated by tribal representatives that participated in the Native American Workshops hosted by SCAG during preparation of this PEIR, such resources may be underrepresented in the record and archival information available in the information centers, as it may underlay existing developed areas of community, where such developed occurred prior to enactment of CEQA.

Historic Period (1769 to Present)

Historic resources are classified into three distinct time periods of the region's history: the Spanish Period, the Mexican Period, and the American Period.

Spanish Period (1769–1822). Western exploration of California first occurred in 1540 when a land expedition under the command of Hernando de Alarcon traversed inland along the Colorado River. Two years later, Juan Rodriquez Cabrillo was commissioned by the Spanish government to investigate the

western shores of the newly acquired territory. In the following two centuries, little interest was given to California.

By the late 18th century, European political powers created renewed interest in California. Military “explorers” from Great Britain, France, and Russia began investigating the resources along the western shores of the entire North American continent. The Spanish government, realizing that settlement by any of these foreign parties north of Mexico could become a threat, decided it was time to establish its own settlements in California. In 1769, plans were put in place to found a series of freestanding towns (*pueblos*), forts (*presidios*), and Catholic missions along the Alta California coast extending as far north as Monterey Bay.

Over the course of the next half century, four presidios, 20 missions, and three towns were established. The presidios were located at San Diego, Santa Barbara, Monterey, and San Francisco. The pueblos were founded at Los Angeles (1781), San Jose (1777), and Branciforte (1797) near Santa Cruz.

The settlement at Branciforte failed within 5 years due to its location and the social construct of the inhabitants, but all the other pueblos were successful.

During the early decades of the 19th century, independence groups sprang up throughout the Spanish Empire. Mexico declared its independence in 1810. This attempt failed, but a second attempt 10 years later succeeded. At that time, California was considered a province of Mexico. Throughout the Spanish Period, California remained largely unsettled. There are 47 California Historical Landmarks from the Spanish Period (Table 3.5.2-3, *California Historic Landmarks of the Spanish Period [1769-1821]*).

**TABLE 3.5.2-3
CALIFORNIA HISTORIC LANDMARKS OF THE SPANISH PERIOD (1769–1821)**

CA Historic Landmark No.	Site Name	General Location	Year
43	The Zanja	Redlands	1819–1820
95	Guahama Rancheria	Redlands	1810
101	Giant Desert Figures	16 miles N of Blythe	N/A
103	De Anza Camp Site	SE of Anza	1774
104	Village of Pochea	Hemet	1774
113	Site of Junipero Serra’s Cross	Ventura	1782
114	Old Mission Reservoir	Ventura	1805–1815
114-1	San Buenaventura Aqueduct	Ventura	1805–1815
145	Avila Adobe	Los Angeles	1818
156	Los Angeles Plaza	Los Angeles	1781
157	Mission San Fernando Rey de Espana	Mission Hills	1797
158	Mission San Gabriel Archangel	San Gabriel	1771
161	Site of Mission Vieja	Montebello	1770s
186	Serrano Tanning Vats	8 miles SE of Corona	1819
187	Carved Rock	8 miles S of Corona	N/A
190	Painted Rock	7 miles S of Corona	N/A
200	Mission San Juan Capistrano	San Juan Capistrano	1776
204	Old Santa Ana	Orange	1769
302	Old Mill	San Marino	1816

**TABLE 3.5.2-3
CALIFORNIA HISTORIC LANDMARKS OF THE SPANISH PERIOD (1769–1821)**

CA Historic Landmark No.	Site Name	General Location	Year
310	Mission San Buenaventura	Ventura	1782
350	Mission Purisima Concepcion	S of Winterhaven	1780
363	Centinela Springs	Inglewood	N/A
383	Site of Jose Dolores Sepulveda Adobe	Torrance	1818
451	Ortega-Vigare Adobe	San Gabriel	1792–1805
522	Serra Springs	Los Angeles	1769
556	Rancho San Francisco	Valencia	1804
557	Hemet Maze Stone	Hemet	N/A
568	Hernando de Alarcon Expedition	Andrade	1540
618	Garces-Smith Monument	San Bernardino National Forest	1776
620	Yucaipa Rancheria	Yucaipa	1822
624	Warring Park	Piru	1769
638	Old Temescal Road	South of Corona	1820
655	Portola Trail Campsite (I)	Los Angeles	1769
659	Stagecoach Inn	Newbury Park	1876
665	Portola Camp Site (II)	Beverly Hills	1769
689	Los Encinos State Historic Park	Encino	1797
727	Portola Expedition Campsite	Santa Paula	1769
753	San Fernando Cemetery	Sylmar	1800s
781	National Old Trails	Needles	1776
787	De Anza Crossing	Riverside	1775, 1776
911	Chatsworth Calera Site	Chatsworth	1800s
921	Site of Mission San Pedro y San Pablo	Northeast of Bard	1781
965	Point Dume	Malibu	1793
977	The Arrowhead	San Bernardino	N/A
984	Casa Rancho San Antonio	Bell Gardens	1810
1008	Yuha Well	Near Seeley	1774

SOURCE:

California Department of Parks and Recreation, Office of Historic Preservation. Accessed 11 May 2015. California State Historic Landmarks listed by County. Available at: http://ohp.parks.ca.gov/?page_id=21387

Mexican Period (1822–1848). When Mexico first gained political independence from Spain, little changed for the citizens of California. The defining event from this time period was the secularization of the Catholic Missions in 1834, following the Act of Secularization of 1833. Over the following 16 years, all of the former mission lands were granted to secular landowners.

Secularization proved disastrous for the Native Americans who were part of the mission system. In fact, the Native Americans were self-sufficient long before the arrival of Spanish domination. The mission system made the indigenous population completely dependent on the missions. When the missions were closed the Indians were left to fend for themselves.

During the two-decade period between the 1830s until 1848, one government after another ruled California. Meanwhile, the United States pushed west across the North American continent. By 1846, a number of Americans had settled in California, often marrying into landed Hispanic families. Between

1835 and 1846 relations between Mexico and the United States deteriorated. In 1846, a revolt was attempted in Northern California. Although it was quickly thwarted, it planted the seeds for the eventual insurrection that succeeded. Within three weeks, an American naval force appeared off the California coast and formally proclaimed rule over the presidios and coastal towns. On January 13, 1847, Captain John C. Fremont accepted the surrender of Governor Pio Pico and Commander Jose Maria Flores. The United States annexed California by the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican War and beginning the American Period. There are 36 California Historical Landmarks from the Mexican Period (Table 3.5.2-4, *California Historic Landmarks Of The Mexican Period [1822–1848]*).

**TABLE 3.5.2-4
CALIFORNIA HISTORIC LANDMARKS OF THE MEXICAN PERIOD (1822–1848)**

CA Historic Landmark No.	Site Name	General Location	Year
42	San Bernardino Asistencia	Redlands	1830
44	Mormon Stockade	San Bernardino	1839
102	Site of Louis Rubidoux House	Rubidoux	1844
115	Olivas Adobe	Ventura	1837, 1849
121	Agua Mensa	Colton	1845
127	Casa de Governor Pió Pico	Whittier	1830s?
144	Nuestra Señora la Reina de Los Angeles	Los Angeles	1822
151	Campo de Cahuenga	North Hollywood	1847
152	Domínguez Ranch House	Compton	1826
167	La Mesa Battlefield	Vernon	1847
168	Oak of the Golden dream	Newhall	1842
185	Serrano Adobe Site	South of Corona	1824
189	Dana Point	Dana Point	1835
199	Serrano Adobe	El Toro	1842
217	Black Star Canyon Indian Village Site	Near Silverado	1878
224	Site of Third Serrano House	Southeast of Corona	1840's
226	Bernardo Yorba Ranch Site	Yorba Linda	1834
227	Diego Sepulveda Adobe Costa Mesa	Costa Mesa	Late 1820s
301	Site of Lugo Adobe	Los Angeles	1840s
303	Site of Old Rubidoux Grist Mill	Rubidoux	1846-7
360	Tapia Adobe	Rancho Cucamonga	1839
362	Romulo Pico Adobe	Mission Hills	1834
368	Hugo Reid Adobe	Arcadia	1839
385	Rio San Gabriel Battlefield	Montebello	1847
490	Cucamonga Rancho Winery	Rancho Cucamonga	1839
528	Yucaipa Adobe	Yucaipa	1842
553	Rancho Camulos	2 miles E of Piru	1839
637	Catalina Adobe	Glendale	1830s
756	Sycamore Tree	4 miles E of Santa Paula	1846
920	Casa de San Pedro	San Pedro	1823
942	Site of Rancho Chino Adobe	Chino	1841
944	Site of Fort Romualdo Pacheco	West of Imperial	1822
963	Mojave Road	Northeast of Barstow	1826
978	Rancho Los Cerritos	Long Beach	1844

**TABLE 3.5.2-4
CALIFORNIA HISTORIC LANDMARKS OF THE MEXICAN PERIOD (1822–1848)**

CA Historic Landmark No.	Site Name	General Location	Year
979	Rancho Simi	Simi Valley	1842
1005	Santa Rosa Rancho	Murrieta	1846

SOURCE:

California Department of Parks and Recreation, Office of Historic Preservation. Accessed 11 May 2015. California State Historic Landmarks listed by County. Available at: http://ohp.parks.ca.gov/?page_id=21387

American Period (1848–Present). Shortly after the United States annexed California, gold was discovered in central California, changing the State forever. Within months of the news, droves of foreigners poured into California. At the same time, the cattle industry flourished, causing some ranch owners to become wealthy. However, the legality of the land grants issued by the Spanish and Mexican governments came into question. It took the American courts years to decide each individual case. In the meantime, many of the Mexican landowners lost their great ranches to the new Americans through marriage or more often, through deceit.

By the time of the American Civil War (1861–1865), Americans were the dominant group in Southern California, both politically and economically. Their feelings toward the war were divided, but generally Southern sympathizers outnumbered Northern supporters. During this same decade, a great drought struck Southern California, devastating the cattle industry. As a result, many of the former cattle ranches were sold off and used for agricultural purposes. The railroad came to Southern California during the 1870s, resulting in the first great land boom. New towns began to spring up along the new rail lines. Places once thought too desolate soon attracted settlers. As a result of new towns in places like the Mojave Desert, exploration for mineral deposits soon produced new strikes in places such as Calico in San Bernardino County in 1881. During the next several decades, many such mining camps were established in the eastern counties, most of these camps remained in existence only for a short time.

In the 20th century, the region underwent a metamorphosis from a primarily agricultural region into an urban metropolis. Southern California has attracted and maintained millions of people and employment opportunities and has developed into the second-largest metropolitan region in the country.

The activities and achievements of the recent past have generated many important cultural resources throughout the region. There are 138 California Historical Landmarks from the American Period (**Table 3.5.2-5, *California Historic Landmarks of the American Period [1849 to Present]***).

**TABLE 3.5.2-5
CALIFORNIA HISTORIC LANDMARKS OF THE AMERICAN PERIOD (1849 TO PRESENT)**

CA Historic Landmark No.	Site Name	General Location	Year
20	Parent Orange Tree	Riverside	1870
96	Mormon Road	W of Crestline	1851
112	North Gate of City of Anaheim	Anaheim	1857
147	Banning Park	Wilmington	1850s
150	Brand Park (Memory Garden)	Los Angeles	1920

**TABLE 3.5.2-5
CALIFORNIA HISTORIC LANDMARKS OF THE AMERICAN PERIOD (1849 TO PRESENT)**

CA Historic Landmark No.	Site Name	General Location	Year
159	Pico House (Hotel)	Los Angeles	1869–1870
160	Oldest House in Hollywood	Hollywood	1870s
169	Drum Barracks	Wilmington	1862
170	Hancock Park La Brea	Los Angeles	1916
171	Merced Theater	Los Angeles	1870
172	Pioneer Oil Refinery	Newhall	1870
182	Tumco Mines	5 miles NE of Ogilby	1884
188	Butterfield Stage Station	S of Corona	1858
191	Yorba-Slaughter Adobe	S of Chino	1850–1853
193	Picacho Mines	N of Winterhaven	1852
194	Mountain Springs Stage Station	Mountain Springs	1850s
198	Old Landing	Newport Beach	1870
201	Pioneer House of the Mother Colony	Anaheim	1857
202	Silverado	Silverado	1878
203	Red Hill	Santa Ana	1893
205	Modjeska’s Home	NE of Lake Forest	1888
218	Barton’s Mound	Irvine	1857
219	Anaheim Landing	Seal Beach	1857
225	Flores Peak	Modjeska Canyon	1857
228	Carbondale	Silverado	1878
235	Casa de San Rafael	Glendale	1875
289	First Home of Pomona College	Pomona	1887
367	E.J. Baldwin’s Queen Anne Cottage	Arcadia	1865
372	Adobe de Palomares	Pomona	1881
373	Old Salt Lake	Redondo Beach	1850s
380	Site of Diego Sepulveda Adobe	San Pedro	1854
381	Old Whaling Station	Rancho Palos Verdes	1850s
384	Timm’s Point and Landing	San Pedro	1852
386	La Casa de Carrión	La Verne	1864
514	Pomona Power Plant	Claremont	1892
516	Well No. 4 CSO	Newhall	1876
516-2	Mentryville	Newhall	1876
531	Lummis House	Los Angeles	1895
536	Original Building of the University of Southern California	Los Angeles	1880
554	DeMille Studio	Hollywood	1913
567	St. Vicent’s Place	Los Angeles	1868
573	Sycamore Grove	W of Devore	1851
576	Santa Fe/Salt Lake Trail	N of San Bernardino	1917
577	Mormon Trail Monument	N of San Bernardino	1851
578	Stoddard-White Monument	N of San Bernardino	1849
579	Daly Road Monument	E of Rim Forest	1870
580	Alamitos 1	Long Beach	1921
590	Lang Station	E of Canyon Country	1876
617	Fort Benson	Colton	1856–1857

**TABLE 3.5.2-5
CALIFORNIA HISTORIC LANDMARKS OF THE AMERICAN PERIOD (1849 TO PRESENT)**

CA Historic Landmark No.	Site Name	General Location	Year
619	Holcomb Valley	NE of Big Bear	1860
622	Harry Wade Exit Route	Near Baker	1849
632	Old Short Cut	Angeles National Forest	1900
646	Grave of George Caralambo, Greek George	Whittier	1867
653	The Cascades	San Fernando Valley	1913
656	Bella Union Hotel Site	Los Angeles	1858
658	Western Hotel	Lancaster	1913
664	Heritage House	Compton	1869
669	Gov. Stoneman Adobe, Los Robles	San Marino	1880
681	Paradox Hybrid Walnut Tree	Whittier	1907
688	Lyons Station Stagecoach Stop	Newhall	1850s
716	Griffith Ranch	San Fernando	1912
717	Angeles National Forest	La Canada	1892
717	Angeles National Forest	San Bernardino Mountains	1892
718	First International Air Meet	Carson	1910
725	Old Bear Valley Dam	W of Big Bear	1884
729	Old Maizeland School	Buena Park	1868
730	Old Plaza Firehouse	Los Angeles	1884
737	Chimney Rock	Lucerne Valley	1867
738	Corona Founders Monument	Corona	1886
744	Butterfield State Station Site	Los Angeles	1858
749	Saahatpa	Brookside Rest Area	1851
761	Mission Inn	Riverside	1876
774	Searles Lake Borax Discovery	Trona	1862
775	Site of First Water-to-Water Flight	Newport Beach	1912
782	Calico	Near Yermo	1881
789	Site of the Los Angeles Star	Los Angeles	1851
794	McFadden Wharf	Newport Beach	1888
806	Fort Yuma	Winterhaven	1849
808	Camp Salvation	Calexico	1849
822	First Jewish Cemetery in Los Angeles	Los Angeles	1854
837	Santa Ana Courthouse	Santa Ana	1900
840	Old Santa Monica Forestry Station	Los Angeles	1887
845	Plank Road	W of Winterhaven	1915?
847	Ventura County Courthouse	Ventura	1913
859	Von Schmidt Boundary	N of Needles	1873
871	The Gamble House	Pasadena	1908
874	Workman Home	Industry	1842
881	Site of Port of Los Angeles Long Wharf	Pacific Palisades	1893
887	Pasadena Playhouse	Pasadena	1924
892	Harvey House	Barstow	1893
894	S.S. Catalina	Lost	1924
912	Glendora Bougainvillea	Glendora	1901
918	Olinda	Brea	1897
919	St. Francis Dam Disaster Site	N of Saugus	1928

**TABLE 3.5.2-5
CALIFORNIA HISTORIC LANDMARKS OF THE AMERICAN PERIOD (1849 TO PRESENT)**

CA Historic Landmark No.	Site Name	General Location	Year
933	Site of Llano Colony	Llano	1916?
934	Japanese Detention Center	Arcadia	1942
943	Cornelius and Mercedes Jenson Ranch	Rubidoux	1854
947	Reform School Juvenile Offenders (F.C. Nelles)	Whittier	1891
948	Site of Blythe Intake	N of Blythe	1877
950	U.S. Rabb Experimental Station	Fontana	1928
959	Balboa Pavilion	Balboa	1905
960	Los Angeles Memorial Coliseum	Los Angeles	1923
961	Harold Lloyd Estate, Green Acres	Beverly Hills	1929
963-1	Camp Cady	24 miles N of Barstow	1860
966	Adamson House	Malibu	1926
972	Navy and Marine Corps Reserve Center	Los Angeles	1941
975	El Monte-1 st So. Cal. Settlement by U.S. Immigrants	El Monte	1850s
985	Camp Young	28 miles E of Indio	1942
985	Camp Coxcomb	45 miles E of Indio	1942
985	Camp Granite	45 miles E of Indio	1942
985	Camp Iron Mountain	45 miles E of Indio	1942
985	Camp Clipper	37 miles W of Needles	1942
985	Camp Ibis	8 miles E of Needles	1942
988	Pacific Asia Museum	Pasadena	1929
989	Soviet Transpolar Landing Site	San Jacinto	1937
990	Christmas Tree Lane	Pasadena	1920
992	Site of Contractor's General Hospital	Desert Center	1933
993	Watts Towers	Los Angeles	1955
994	A.K. Smiley Public Library	Redlands	1898
996	Union Oil Company Building	Simi Valley	1890
997	Tuna Club of Avalon	Avalon	1898
1004	Old Town Irvine	Irvine	1887
1006	Beale's Cut Stagecoach Pass	Santa Clarita	1862
1009	Ramona Bowl	Hemet	1923
N115	Ennis House	Los Angeles	1924
1014	Long Beach Marine Stadium	Long Beach	1932
1015	Richard Nixon Birthplace	Yorba Linda	1912
1018	Manhattan Beach State Pier	Manhattan Beach	1920
1019	Kimberly Crest	Redlands	1897
1021	Liberty Hill Site	San Pedro	1923
1028	Madonna of the Trail	Upland	1929
1034	Tecolote Rancho Site	Holtville	1907

SOURCE:

California Department of Parks and Recreation, Office of Historic Preservation. Accessed 11 May 2015. California State Historic Landmarks listed by County. Available at: http://ohp.parks.ca.gov/?page_id=21387

There are numerous historical resources that have been listed or determined eligible for listing in the National Regions of Historic Places and/or the California Register of Historical Resources. These historical sites are generally open to the public. Additionally, registries are maintained by counties, cities, and local historical societies within the SCAG region.

Federal Registers. There are over 85,000 listings in NRHP, of which 800 are located in the SCAG region (Table 3.5.2-6, *National Registered Places and Landmarks in the SCAG Region*, and Table CUL-1 in Appendix F, *Cultural Resources Technical Appendix*).

There are over 2,400 listings in the NHL of which 26 are located in the SCAG region (Table 3.5.2-6 and Appendix F).

**TABLE 3.5.2-6
NATIONAL REGISTERED PLACES AND LANDMARKS IN SCAG REGION**

County	Registered Places	Landmarks
Imperial	10	0
Los Angeles	517	20
Orange	117	2
Riverside	58	2
San Bernardino	62	1
Ventura	36	1
Total	800	26

SOURCE:

National Park Service, National Historic Landmarks Program. Accessed 11 May 2015. National Historic Landmarks Survey. Available at: <http://www.nps.gov/nhl/find/statelists/ca.htm>
National Park Service. Accessed 11 May 2015. National Register of Historic Places. Available at: <http://www.nps.gov/nr/research/index.htm>

State Registers. There are over 1,000 listings in the CHL of which 224 are located in the SCAG region (Table 3.5.2-7, *Summary of California Historical Landmarks in the SCAG Region*, and Appendix F).

**TABLE 3.5.2-7
SUMMARY OF CALIFORNIA HISTORICAL LANDMARKS
IN SCAG REGION**

County	Pre-European Period	Spanish Period	Mexican Period	American Period	Total
Imperial	0	3	1	10	14
Los Angeles	3	16	11	73	103
Orange	0	2	4	19	25
Riverside	4	5	5	13	27
San Bernardino	2	5	7	27	41
Ventura	0	6	3	5	14
Total	9	36	31	147	224

SOURCE:

California Department of Parks and Recreation, Office of Historic Preservation. Accessed 11 May 2015. California State Historic Landmarks listed by County. Available at: http://ohp.parks.ca.gov/?page_id=21387

There are 850 PHI listings, of which 281 are located in the SCAG region (Table 3.5.2-8, *Summary of California Points of Historical Interest in the SCAG Region*, and Appendix F).

**TABLE 3.5.2-8
SUMMARY OF CALIFORNIA POINTS OF HISTORICAL INTEREST
IN SCAG REGION**

County	Points of Historical Interest
Imperial	4
Los Angeles	64
Orange	21
Riverside	72
San Bernardino	116
Ventura	4
Total	281

SOURCE:

California Department of Parks and Recreation, Office of Historic Preservation. Accessed 11 May 2015. California State Historic Landmarks listed by County. Available at: http://ohp.parks.ca.gov/?page_id=21387

These registers are administered by the California Office of Historic Preservation (OHP) and the State Historical Resources Commission (SHRC), which are a part of the California Department of Parks and Recreation.

City and County Registers. Registries may also be maintained by county and city commissions. Examples of these types of organizations include the Riverside County Historical Commission, the Santa Ana Historic Resources Commission, and the Santa Monica Landmarks Commission.

Local Registers. Local groups have also created registries within their area of interest, generally at the community level. An example is Ontario Heritage, a local non-profit organization that aims to protect the historic and cultural resources of Ontario, California.

Local Historic Districts. A number of local cities and counties maintain historic districts. Projects within the borders of these districts are often subject to additional conditions and review by planning staff and historic commissions.

HUMAN REMAINS AND SACRED SITES

Human Remains

Human remains in the SCAG region occur within the nearly 200 formal cemeteries in the six-county area and those interred outside of formal cemeteries (Table 3.5.2-9, *Formal Cemeteries by County*).

**TABLE 3.5.2-9
FORMAL CEMETERIES BY COUNTY**

County	Number of Formal Cemeteries
Imperial	8
Los Angeles	85
Orange	20
Riverside	27
San Bernardino	32
Ventura	15
Total	187

SOURCE: SCAG data, 2015.

In the SCAG region, there are many opportunities for encountering human remains beyond formal cemeteries. In addition to existing formal cemeteries, many cemeteries have been relocated. While the goal of such relocation projects is to repatriate human remains to a new location, there have been instances where human remains have been encountered at the original location of a relocated cemetery during subsequent ground-disturbing activities. There is also a potential to find human remains that are the result of foul play. There are also burial features associated with historic settlements and other indigenous people.

Burial features can range in complexity from a simple isolated inhumation (burial or cremation) to more elaborate interments containing numerous bodies. These features may represent specially designated interment areas or remnants of larger archaeological sites. Burial associations often include shell beads and ornaments as well as ground and polished stone artifacts. In some areas, human burials are expected to be found in raised earthen mounds. In the case of the Gabrielinos, cremation ashes were placed in a stone bowl (or a shell dish) and then buried.

The exact location of burial grounds in regard to the communities is unclear. They might have been situated outside, but always near the settlements, as was the case with Chumash and Kitanemuk graveyards. Gabrielino graves were marked in a number of ways. Along the coast, etched grave markers were erected commemorating the deceased. In other areas, masterfully woven urn-shaped baskets were left on graves as markers.

A major difference between the Chumash and the Gabrielino (Tongva) was their burial practices. The Chumash mainly used interment as a burial method, while the Gabrielino practiced cremation. Some Gabrielino from the Channel Islands and the coastal areas practiced interment, probably reflecting Chumash mortuary practices. At some point in time, they both buried their dead and cremated them. Most of the Native American groups belonging to the Uto-Aztecan linguistic family practiced cremation. The exceptions were the smaller groups to the west, such as the Kitanemuk. Although displaying cultural affinities to the Serranos, the Kitanemuk did not cremate their dead. Instead, they interred the bodies like their neighbors to the west, the Chumash. Cremation was practiced among the Cupeno, Cahuilla, and Luiseno communities as well.

After the European contact, cremation ceased as a mortuary practice, due mainly to its ban by Catholic missionaries. At the pueblo villages where Roman Catholic missions were established, burials within church grounds or graveyards consecrated in accordance with Christian doctrine were encouraged for

those who had been converted to the faith. During the American Period, concerns about land conservation prompted the revival of the practice of incineration and urn burial. The cremation movement gathered momentum rapidly around the turn of the twentieth century, and resulted in construction of crematories in many major cities. Community mausoleums were erected in cemeteries to expand the number of burials that could be accommodated with the least sacrifice of ground space.

Native American Sacred Sites

There are 16 federally recognized Tribal Reservations in the SCAG region:⁵

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Cahuilla Indians
- Cabazon Band of Mission Indians
- Cahuilla Band of Mission Indians
- Chemehuevi Indian Tribe
- Colorado River Reservation
- Fort Mojave Indian Tribe
- Fort Yuma (Quechan Tribe) Reservation
- Morongo Band of Mission Indians
- Pechanga Band of Luiseno Indians
- Romona Band of Mission Indians
- San Manuel Band of Mission Indians
- Santa Rosa Band of Cahuilla Indians
- Soboba Band of Luiseno Indians
- Torres-Martinez Desert Cahuilla Indians
- Twenty-Nine Palms Band of Mission Indians

Each federally recognized Band of Native Americans constitutes a sovereign nation with a distinct cultural heritage and belief system. Native American sacred sites reflect the evolution of the Southern California landscape, reflecting the rich cultural heritage of Native American cultures that predate and continued beyond European contact. Native American sacred sites may be related to a range of topics, including origins of the universe, the shifting of tectonic plates, and an evolving array of plants and animals that give Southern California its unique features today. Some sites are associated with the migration of humans into the region, where they settled, and how they lived. These sites document the view of Native American cultures of their own history and way of life. These sites may be associated story of the First People, of unforgettable shamans and heroes, and of the origins and migrations of the human beings.

Although the NOP for this PEIR was posted on March 7, 2015, prior to the July 1, 2015, trigger date for compliance with AB 52, SCAG has reached out to the NAHC and representatives of the 16 federally recognized tribes and other Native American tribes with ties to the SCAG region in an effort to share information early in the planning process regarding proposed alignments for major projects addressed in the RTP as well as anticipated patterns of land use development that would result from the 2016 RTP/SCS and alternative under consideration. During preparation of the 2016

⁵ U.S. Census Bureau. 2010. 2005–2009 American Community Survey. Washington, DC.

RTP/SCS and the PEIR, SCAG made a presentation to the Tribal Alliance of Sovereign Indian Nations on September 14, 2015 and hosted two Native American Consultation Workshops on October 14 and 19, 2015. The purpose of these meetings was to share information regarding anticipated transportation infrastructure improvement projects and determine if these projects would have the potential to effect Tribal cultural resources. SCAG submitted a list of USGS 7.5 minute series topographic quadrangles where locations for major transportation improvement projects that would be expected to require ground-disturbing activity that may have the potential to affect Native American sacred sites have been identified as a result of the GIS analysis. A response from the NAHC was received on November 9, 2015, regarding the presence of Sacred Sites in the SCAG region (Table 3.5.2-10, *Sacred Lands Recorded by the NAHC by County*).

**TABLE 3.5.2-10
SACRED LANDS RECORDED BY THE NAHC BY COUNTY**

County	Number of Formal Cemeteries
Imperial	1
Los Angeles	7
Orange	26
Riverside	13
San Bernardino	2
Ventura	Pending
Total	49

SOURCE:

Rob Wood, Associate Environmental Planner, NAHC. 9 November 2015.
Letter to Sapphos Environmental, Inc.

3.5.3 THRESHOLDS OF SIGNIFICANCE

Based on CEQA Guidelines Appendix G and as appropriate for the 2016 RTP/SCS, the Plan would have the potential for significant impact related to cultural resources if it would:

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Cause a substantial adverse change in the significance of a historical resource, including tribal cultural resources, as defined in CEQA Guidelines Section 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource, including tribal cultural resources, pursuant to CEQA Guidelines Section 15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries and those interred in Native American Sacred Sites.

Methodology

The methodology for determining the significance of cultural impacts compares the existing conditions to the future (2040) 2016 RTP/SCS conditions, as required by CEQA Guidelines Section 15126.2(a). The known paleontological, historical, and archaeological resources located within the SCAG region were evaluated using the criteria set forth by the OHP, the California Register of Historic Resources, and the State CEQA Guidelines. The research analysis for archeological and historic was limited to state and

federally recognized resources and landmarks, consistent with the definitions provided in Section 15064.5 of the State CEQA Guidelines.

All of the counties within the SCAG region are rich with fossil-bearing sedimentary formations and have been documented to contain historic and archaeological sites. All areas within the region have the potential for yielding as yet undiscovered paleontological and archaeological resources. The development of new transportation facilities may affect archaeological and paleontological resources, primarily through the disturbance of buried resources. Frequently, these resources are previously unidentified. Therefore, any excavation in previously undisturbed soil or geologic formation has the potential to impact paleontological resources. Paleontological sites are also numerous in the SCAG region (**Table 3.5.2-1**); therefore the potential for transportation projects to result in significant impacts was considered in light of the potential for excavation, blasting, or grading in parent material that has a moderate or high potential to yield fossils.

The development of transportation projects and land use strategies may affect historic architectural resources (structures 50 years or older), either through direct effects to buildings or through indirect effects to the area surrounding a resource if it creates a visually incompatible structure adjacent to a historic structure. Impacts to historic resources fall into three categories: (1) direct disturbance of buried resources; (2) direct impact or alteration of structures; and (3) indirect impacts to structures, such as vibration and corrosive air contaminants or the creation of a visually incompatible environment. All counties in the SCAG region contain a large number of historic properties and historic residential districts (**Tables 3.5.2-3 through 3.5.2-8**); therefore, the analysis focused on the potential for major transportation projects included in the 2016 RTP/SCS to necessitate demolition of previously recorded historic resources or ground-disturbing activities in native (or previously undisturbed soils) that have the potential to yield such resources.⁶ Transportation projects occurring within existing rights-of-way are less likely to affect historical architectural resources. However, new highway segments through historic districts would constitute a significant impact. Also, reducing buffer zones between transportation corridors and reduction of historic resources through lane widening could cause significant impacts.

Subsequent transportation projects with an NOP or Notice of Intent to adopt a negative declaration for a project adopted on or after July 1, 2015, if applicable, will be subject to AB 52. The scope of such consideration would include historic resources that are determined to be Tribal cultural resources. As articulated by Tribal representatives who participated in the Native American workshops hosted by SCAG during preparation of this PEIR, such resources may be underrepresented in the record and archival information available in the information centers, as it may underlay existing developed areas of community, where such developed occurred prior to enactment of CEQA.

Over 32,000 historic and archaeological locations have been identified in the SCAG region (**Table 3.5.2-2**). Each of these sites is documented at the Archaeological Information Center, which holds location information on archaeological sites for each region in California. These known resources are limited to areas that have been the subject of Phase 1 Walkover Surveys or other research or investigation. Areas that have been subject to surveys represent only a fraction of the total area with the potential to yield such resources. Therefore, the analysis focuses on the potential for major transportation projects to

⁶ Major Transportation Projects include but are not limited to projects that involve ground disturbing activities and projects outside of existing rights-of-way such as projects that require new rights-of-way, adding traffic lanes, and grade separation.

necessitate ground-disturbing activities in areas where significant archeological resources have been previously recorded or require work in native (or previously undisturbed soils) that have not been previously surveyed or data recovered.

3.5.4 IMPACT ANALYSIS

IMPACT CUL-1: Potential to directly or indirectly destroy unique paleontological resources or sites or unique geological features.

Significant Impact

Transportation projects and anticipated development resulting from implementation of land use strategies included in the 2016 RTP/SCS would result in substantial adverse effects to paleontological resources and sites, and unique geological features, constituting a significant impact. Where transportation projects involve construction of new or rehabilitation of existing infrastructure, construction or rehabilitation activities for such projects generally occurs within 150 feet on either side of the footprint of the transportation project. In addition, the 2016 RTP/SCS includes land use strategies that focus new growth and land use development throughout the region (although focused in urbanized areas such as high-quality transit areas [HQTAs], livable corridors, neighborhood mobility areas, suburban town centers and walkable mixed-used communities). However, urbanized areas in the SCAG region are often underlain by parent material that has a moderate to high potential to yield unique paleontological resources or sites. Excavation related to construction of transportation projects included in the 2016 RTP/SCS as well as development projects undertaken to support anticipated growth and land use development pattern consistent with the Plan could cause exposure of unique paleontological resources, such as true fossils, fossil casts, and breas. Construction and anticipated growth and land use development patterns occurring in previously undisturbed parent material with a moderate to high potential to yield paleontological resources and deep excavation activities would have the greatest likelihood to encounter unique paleontological resources or sites.

New transportation projects or development influenced by land use strategies would also have the potential to permanently alter unique geologic features, particularly in rock outcroppings, canyons, coastal areas, and mountain passes. Many of the transportation projects included in the 2016 RTP/SCS would occur in urbanized portions of the SCAG region, particularly in HQTAs (over half of anticipated development growth would occur in HQTAs). Nonetheless, because new transportation projects or development influenced by land use strategies require earthwork. Where earthwork extends beyond man-made fills in to underlying parent material, or unique geologic features, the potential for earth-moving activities to alter parent material with a moderate to high probability to contain unique paleontological resources or alter unique geologic features, constitutes a significant impact, requiring the consideration of mitigation measures.

IMPACT CUL-2: Potential to cause a substantial adverse change in the significance of a historical resource, including tribal cultural resources, as defined in CEQA Guidelines Section 15064.5.

Significant Impact

Transportation projects and anticipated development resulting from land use strategies included in the 2016 RTP/SCS would have the potential to result in substantial adverse changes to the significance of historical resources, including tribal cultural resource, as defined in Section 15064.5 of the State CEQA Guidelines, constituting a significant impact. The transportation projects considered in the 2016 RTP/SCS have the potential to effect over 1,000 historical resources that have been evaluated in the SCAG region, including the 800 sites listed in the NRHP (Table 3.5.2-6 and Appendix F); 26 sites listed in the NHL (Table 3.5.2-6 and Appendix F); 224 sites listed in the CHL (Table 3.5.2-7 and Appendix F); and 281 listed in the CPHI (Table 3.5.2-8 and Appendix F). Many of the over 1,000 historical resources may also constitute Tribal Cultural Resources. In addition to sites that have been recognized and listed in federal and state lists, there are many unrecognized historic resources. Unrecognized historical resources are those structures that exist whose historic value has not previously been assessed or documented. In more remote areas or areas not previously subject to a systematic survey, structures of historic importance may not be currently listed on state or federal registers and even in urban areas some jurisdictions have not undertaken a detailed inventory of potential resources. The extent of such resources may also include Tribal cultural resources that meet the definition of historical resources pursuant to Section 15064.5 of the State CEQA Guidelines, or where the lead agency has determined to treat the resource as a Tribal Cultural Resource.

In instances where buildings 50 years or older are located on or adjacent to the site, it is important to treat these structures as historic resources, if they meet the criteria that would make them eligible for the NRHP or the CRHR. In general, for new construction, the evaluation of the potential for indirect and direct impacts to historic resources should extend at least 1,000 feet from new construction. This should be applied in evaluating impacts during project-level analyses.

Projects that would have the potential to cause an impact to historic resources include transportation projects that entail the development of new lanes or tracks and in some instances acquisition of new right-of-ways, and arterials and interchange projects that entail the development of new lanes and right-of-way acquisition or other projects influenced by land use strategies. Specifically, transportation projects proposed in existing "rights of way," such as high-occupancy vehicle (HOV) lanes, high-occupancy toll (HOT) lanes, bus rapid transit (BRT) and goods movement capacity enhancement projects, mixed flow lanes, and "right of way" maintenance (such as pot-hole repair) would have a limited potential to result in an impact to historic resources. In addition to the transportation investments and land use strategies, the 2016 RTP/SCS includes regional land use strategies that would focus new growth and anticipated development in urbanized areas such as HQTAs or suburban town centers. Many urbanized areas are located in older urban or suburban town centers where structures of architectural or historical significance are likely to be located. This could result in a potential significant impact to historical resources, including Tribal cultural resources. As such, construction and implementation of transportation projects, as well as construction of anticipated development potentially resulting from the Plan's land use strategies that could impact the physical and aesthetic integrity of historic buildings and communities, as well as negatively impact the structures through

increased levels of corrosive air contaminants and vibrations, which may damage the exterior of historic buildings, constituting a significant impact, requiring the consideration of mitigation measures.

IMPACT CUL-3: Potential to cause a substantial adverse change in the significance of an archaeological resource, including tribal cultural resources, pursuant to CEQA Guidelines Section 15064.5.

Significant Impact

The OHP defines an archaeological “site” as consisting of three or more related resources discovered in one locality. In the event of archaeological discovery, the resources are collected, documented, and curated at an educational institution, such as a school or a museum.

The 2016 RTP/SCS includes transportation projects anticipated development resulting from implementation of land use strategies that have the potential to cause a substantial adverse change in the significance of an archaeological resource, including tribal cultural resources, pursuant to CEQA Guidelines Section 15064.5, constituting a significant impact. The transportation project considered in the 2016 RTP/SCS have the potential to effect the nearly 100,000 archeological resources (Table 3.5.2-2). Many of the nearly 100,000 archeological resources may also constitute Tribal Cultural Resources. In addition to the archeological sites that have been recognized and listed in federal and state lists, there are many unrecognized historic resources. Unrecognized archeological resources are those that have not previously been assessed or documented. Specifically, transportation system-related projects such as improvements and modifications to existing rights-of-way, such as HOV lanes, HOT lanes, bus-ways and capacity enhancement facilities, mixed flow lanes, other transportation facilities and right-of-way maintenance, would have less potential to impact archaeological resources because these project locations have previously been disturbed. However, activities to increase roadway capacity such as the construction of additional lanes would potentially impact archaeological resources, if it would entail grading, trenching, excavation, and/or soil removal of any kind, in an area not previously disturbed. In addition, construction of any new transportation facilities has the potential to impact archaeological resources where previous disturbance has not occurred.

The 2016 RTP/SCS also includes land use strategies that aim to focus new growth in urbanized areas that are generally developed and therefore previously disturbed. In most cases the potential for discovering buried archeological resources in previously disturbed areas is low, as any resources that may have existed have likely been either removed or destroyed during previous excavations. Nonetheless, it is possible that some development encouraged by the land use strategies included in the 2016 RTP/SCS could be expected to occur on previously undisturbed sites. In such an instance, the potential to disturb previously undiscovered archeological resources would be a significant impact.

As described in the cultural setting, the region has a rich Native American history, and therefore it is likely that transportation projects and development encouraged by land use strategies included in the 2016 RTP/SCS would have the potential to result in the unanticipated disturbance of Tribal Cultural Resources, where such resource may not be visible at the ground surface, but are buried in native soils below the ground surfaces, and in some instance below development that has been undertaken during the historic period. Construction and implementation of transportation projects contained in the 2016 RTP/SCS, as well as anticipated growth and land use development have the potential to expose and/or

displace archeological resources, including Tribal cultural resources, constituting a potentially significant impact requiring the consideration of mitigation measures.

IMPACT CUL-4: Potential to disturb human remains, including those interred outside of formal cemeteries and those interred in Native American Sacred Sites.

Significant Impact

Construction and implementation of transportation projects included in the 2016 RTP/SCS would not be expected to disturb human remains within areas being operated as existing formal cemeteries. However, the 2016 RTP/SCS includes transportation projects that have the potential to disturb human remains interred outside of formal cemeteries or those interred in Native American sacred sites, constituting a significant impact.

Humans have occupied the six-county SCAG region for at least 10,000 years. Although it is not always possible to predict where human remains may occur outside of formal burials, it is possible that excavation and construction activities, regardless of depth, may yield human remains that may not be interred in marked, formal burials. Earthmoving activities for transportation projects would generally be within 150 feet on either side of any project and could result in a significant impact relative to the discovery of human remains.

Similarly construction of development encouraged by land use strategies throughout the region focus new growth in urbanized areas while preserving natural lands, may have a potential to encounter human remains as well. Under CEQA, human remains are protected under the definition of archaeological materials as being “any evidence of human activity.” Human remains are also protected under NAGPRA, which was enacted to provide protection to Native American graves, as well as culturally affiliated items, associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony.

Because transportation projects included in the 2016 RTP/SCS could take place in previously undisturbed or areas with only little previous disturbance, and excavation and soil removal of any kind, irrespective of depth, have the potential to encounter human remains or encroach on Native American Sacred sites, implementation of the 2016 RTP/SCS has the potential to disturb previously undiscovered human remains, including Native American Sacred Sites, thereby constituting a potentially significant impact requiring the consideration of mitigation measures.

3.5.5 CUMULATIVE IMPACTS

The 2016 RTP/SCS includes strategies for land use and transportation investments to increase mobility, target new growth and land use development pattern in HQTAs, livable corridors, and other urban or suburban town centers opportunity areas that are well served by transit and are conducive to walkable and mixed-used communities. The 2016 RTP/SCS’s regional land use strategies, at the policy level, have the potential to influence future developments, thereby contributing to regional impacts on existing and previously undisturbed and undiscovered cultural resources as described above. Impacts of the Plan, combined with impacts in other areas of Southern California, have the potential to contribute to a

cumulative loss of cultural resources in the SCAG region, thus requiring the consideration of mitigation measures.

IMPACT CUL-1: Potential to directly or indirectly destroy unique paleontological resources or sites or unique geological features.

Significant Cumulative Impact

The incremental impacts of the transportation projects and land use strategies included in the 2016 RTP/SCS to unique paleontological resources or sites, and unique geological features, when considered with related past, present, or reasonably foreseeable, probable future projects in the SCAG region and surrounding Southern California region, would be expected to result in a significant cumulative impact with regards to cultural resources. The extensive distribution of parent material with a moderate to high potential to yield unique paleontological resources or sites and the presence of unique geological features in conjunction with the diverse physiographic settings within the SCAG region create a relatively high probability for encountering such resources, constituting a significant impact requiring the consideration of mitigation measures.

IMPACT CUL-2: Potential to cause a substantial adverse change in the significance of a historical resource, including tribal cultural resources, as defined in CEQA Guidelines Section 15064.5.

Significant Cumulative Impact

The vast spatial distribution of the transportation projects and land use strategies included in the 2016 RTP/SCS increases the potential to cause a substantial adverse change in the significance of historical resources of the SCAG region. Due to its climatic favorability, the increasingly urban habitation settings coupled with a highly mobile lifestyle, have brought about the creation of exceptional historic patterns within this region, which ironically are under the same threat from the same forces that created them. Historic districts, national and state register sites and historic landmarks are concentrated in urban areas and other locations of historic settings. Furthermore, local projects and the additional effects of redevelopment around the projects would potentially result in the removal of historical buildings in urban sections of the region. In addition, the number of unrecognized historic resources and those structures that exist whose historic value has not been assessed beforehand will surge incrementally in the future, making impact highly possible and requiring the consideration of mitigation measures.

IMPACT CUL-3: Potential to cause a substantial adverse change in the significance of an archaeological resource, including tribal cultural resources, pursuant to CEQA Guidelines Section 15064.5.

Significant Cumulative Impact

The cumulative impacts of the transportation projects and land use strategies included in this 2016 RTP/SCS increases the potential to cause a substantial adverse change in the significance of archaeological resources of the SCAG region. The unknown sites are mostly at risk of being affected, as

their locations are unknown and cannot be avoided prior to pedestrian surveys. There could be a loss of significant cultural artifacts, and due to this likelihood, cumulative impacts would be considerable. The likelihood of adverse change to archaeological and tribal cultural resources increases in the suburban and rural settings, since many undisturbed areas are located away from urban centers. New highway segments and lane widening would have the potential to cause significant impacts to these cultural localities, requiring the consideration of mitigation measures.

IMPACT CUL-4: Potential to disturb human remains, including those interred outside of formal cemeteries and those interred in Native American Sacred Sites.

Significant Cumulative Impact

Implementation of the projects in the 2016 RTP/SCS, along with any foreseeable development in the vicinity, would have the potential to result in cumulative impacts to areas with human remains, including those interred outside of formal cemeteries and those interred in Native American Sacred Sites. Transportation projects are very likely to yield undiscovered human remains, because many projects would take place in previously undisturbed or areas with only little previous disturbance. The long span of human occupancy of the SCAG region, decreases the chances to predict where human remains might be found, therefore increasing the chances of significant impacts to areas of informal burial settings. Therefore there would be significant cumulative impacts, requiring the consideration of mitigation measures.

3.5.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to cultural resources are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT CUL 1: Potential to directly or indirectly destroy unique paleontological resources or sites or unique geological features.

SCAG Mitigation Measures

MM-CUL-1(a): Impacts to cultural resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as Toolbox Tuesday series and sharing of associated online Training materials. SCAG shall consult with resource agencies such as the National Park Service, Office of Historic Preservation, and Native American Heritage Commission to identify opportunities for early and effective consultation to identify unique paleontological resources, unique geological features, archeological sites, historical resources, Tribal Cultural Resources, cemeteries, and Native American sacred sites to avoid such resources wherever

practicable and feasible and reduce or mitigation for conflicts in compatible land use to the maximum extent practicable.

Project-Level Mitigation Measures

MM-CUL-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on unique paleontological resources or sites and unique geologic features that are within the jurisdiction and responsibility of National Park Service, Office of Historic Preservation, and Native American Heritage Commission, other public agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures consistent with Section 15064.5 of the State CEQA Guidelines capable of avoiding or reducing significant impacts on unique paleontological resources or sites or unique geologic features. Ensure compliance with the National Historic Preservation Act, Section 5097.5 of the Public Resources Code (PRC), state programs pursuant to Sections 5024 and 5024.5 of the PRC, adopted county and city general plans, and other federal, state and local regulations, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Obtain review by a qualified geologist or paleontologist to determine if the project has the potential to require excavation or blasting of parent material with a moderate to high potential to contain unique paleontological or resources, or to require the substantial alteration of a unique geologic feature.
- Avoid exposure or displacement of parent material with a moderate to high potential to yield unique paleontological resources.
- Where avoidance of parent material with a moderate to high potential to yield unique paleontological resources is not feasible:
 - All on-site construction personnel receive Worker Education and Awareness Program (WEAP) training to understand the regulatory framework that provides for protection of paleontological resources and become familiar with diagnostic characteristics of the materials with the potential to be encountered.
 - Prepare a Paleontological Resource Management Plan (PRMP) to guide the salvage, documentation and repository of representative samples of unique paleontological resources encountered during construction. If unique paleontological resources are encountered during excavation or blasting, use a qualified paleontologist to oversee the implementation of the PRMP.
 - Monitor blasting and earth-moving activities in parent material, with a moderate to high potential to yield unique paleontological resources using a qualified paleontologist or archeologists cross-trained in paleontology to determine if unique paleontological resources are encountered during such activities, consistent with the specified or comparable protocols.
 - Identify where excavation and earthmoving activity is proposed in a geologic unit having a moderate or high potential for containing fossils and specify the need for a paleontological or archeological (cross-trained in paleontology) to be present during earth-moving activities or blasting in these areas.
- Avoid routes and project designs that would permanently alter unique features with archaeological and/or paleontological significance

- Salvage and document adversely affected resources sufficient to support ongoing scientific research and education.

IMPACT CUL-2: Potential to cause a substantial adverse change in the significance of a historical resource, including tribal cultural resources, as defined in CEQA Guidelines Section 15064.5.

SCAG Mitigation Measures

MM-CUL-1(a).

Project-Level Mitigation Measures

MM-CUL-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects of on historical resources within the jurisdiction and responsibility of the Office of Historical Preservation, Native American Heritage Commission, other public agencies, and/or Local Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures consistent with Section 15064.5 of the State CEQA Guidelines capable of avoiding or reducing significant impacts on historical resources, to ensure compliance with the National Historic Preservation Act, Section 5097.5 of the Public Resources Code (PRC), state programs pursuant to Sections 5024 and 5024.5 of the PRC, adopted county and city general plans and other federal, state and local regulations. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Pursuant to CEQA Guidelines Section 15064.5, conduct a record search at the appropriate Information Center to determine whether the project area has been previously surveyed and whether historic resources were identified.
- Obtain a qualified architectural historian to conduct historic architectural surveys as recommended by the Information Center. In the event the records indicate that no previous survey has been conducted, the Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for historical resources within 1,000 feet of the project.
- Comply with Section 106 of the National Historic Preservation Act (NHPA) including, but not limited to, projects for which federal funding or approval is required for the individual project. This law requires federal agencies to evaluate the impact of their actions on resources included in or eligible for listing in the National Register. Federal agencies must coordinate with the State Historic Preservation Officer in evaluating impacts and developing mitigation. These mitigation measures may include, but are not limited to the following:
 - Employ design measures to avoid historical resources and undertake adaptive reuse where appropriate and feasible. If resources are to be preserved, as feasible, carry out the maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation or reconstruction in a manner consistent with the Secretary of the Interior's Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. If resources would be

- impacted, impacts should be minimized to the extent feasible.
- Where feasible, noise buffers/walls and/or visual buffers/landscaping should be constructed to preserve the contextual setting of significant built resources.
 - Secure a qualified environmental agency and/or architectural historian, or other such qualified person to document any significant historical resource(s), by way of historic narrative, photographs, and architectural drawings, as mitigation for the effects of demolition of a resource.
 - Consult with the NAHC to determine whether known sacred sites are in the project area, and identify the Native American(s) to contact to obtain information about the project site.
 - Prior to construction activities, obtain a qualified archaeologist to conduct a record search at the appropriate Information Center of the California Archaeological Inventory to determine whether the project area has been previously surveyed and whether resources were identified.
 - Prior to construction activities, obtain a qualified archaeologist or architectural historian (depending on applicability) to conduct archaeological and/or historic architectural surveys as recommended by the Information Center. In the event the records indicate that no previous survey has been conducted, the Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for archaeological resources.
 - If a record search indicates that the project is located in an area rich with cultural materials, retain a qualified archaeologist to monitor any subsurface operations, including but not limited to grading, excavation, trenching, or removal of existing features of the subject property.
 - Conduct construction activities and excavation to avoid cultural resources (if identified). If avoidance is not feasible, further work may be needed to determine the importance of a resource. Retain a qualified archaeologist familiar with the local archaeology, and/or as appropriate, an architectural historian who should make recommendations regarding the work necessary to determine importance. If the cultural resource is determined to be important under state or federal guidelines, impacts on the cultural resource will need to be mitigated.
 - Stop construction activities and excavation in the area where cultural resources are found until a qualified archaeologist can determine the importance of these resources.

IMPACT CUL-3: Potential to cause a substantial adverse change in the significance of an archaeological resource, including tribal cultural resources, pursuant to CEQA Guidelines Section 15064.5.

SCAG Mitigation Measures

MM-CUL-1(a).

Project-Level Mitigation Measures

See MM-CUL-2(b)

IMPACT CUL-4: Potential to disturb human remains, including those interred outside of formal cemeteries, including Native American Sacred Sites.

SCAG Mitigation Measures

See MM-CUL-1(a).

Project-Level Mitigation Measures

MM-CUL-4(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects to human remains that are within the jurisdiction and responsibility of the Native American Heritage Commission, other public agencies, and/or Local Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency should consider mitigation measures capable of avoiding or reducing significant impacts on human remains, to ensure compliance with the California Health and Safety Code, Section 7060 and Section 18950-18961 and Native American Heritage Commission, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- In the event of discovery or recognition of any human remains during construction or excavation activities associated with the project, in any location other than a dedicated cemetery, cease further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of the county in which the remains are discovered has been informed and has determined that no investigation of the cause of death is required.
- If any discovered remains are of Native American origin:
 - Contact the County Coroner to contact the NAHC to ascertain the proper descendants from the deceased individual. The coroner should make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. This may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.
 - If the NAHC is unable to identify a descendant, or the descendant failed to make a recommendation within 24 hours after being notified by the commission, obtain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance where the following conditions occur:
 - The NAHC is unable to identify a descendent;
 - The descendant identified fails to make a recommendation; or

- The landowner or their authorized representative rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

3.5.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT CUL 1: Potential to directly or indirectly destroy unique paleontological resources or sites or unique geological features.

Implementation of Mitigation Measures MM-CUL-1(a) and MM-CUL-1(b) would reduce the potential impacts to paleontological resources or sites or unique geological features. However, due to the regional scale of the Plan and the large number of paleontological localities and unique geologic features found throughout the SCAG region that could be disturbed as a result of the implementation of the proposed 2016 RTP/SCS transportation and land use strategies contained in the Plan, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT CUL-2: Potential to cause a substantial adverse change in the significance of a historical resource, including tribal cultural resources, as defined in CEQA Guidelines Section 15064.5.

Implementation of Mitigation Measures MM-CUL-1(a) and MM-CUL-2(b) would reduce the potential impacts to historical resources. However, due to the regional scale of the Plan and potentially large number of historical resources that could be disturbed as a result of the implementation of 2016 RTP/SCS transportation projects and land use strategies contained in the Plan, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT CUL-3: Potential to cause a substantial adverse change in the significance of an archaeological resource, including tribal cultural resources, pursuant to CEQA Guidelines Section 15064.5.

Implementation of Mitigation Measures MM-CUL-1(a) and MM-CUL-3(b) would reduce the potential impacts to archaeological resources. However, due to the regional scale of the Plan and potentially large number of archaeological resources that could be disturbed as a result of implementation of the 2016 RTP/SCS transportation and land use strategies contained in the Plan, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT CUL-4: Potential to disturb human remains, including those interred outside of formal cemeteries, including Native American Sacred Sites.

Implementation of Mitigation Measures MM-CUL-1(a) and MM-CUL-4(b) would reduce the potential impacts to human remains. However, excavation and construction are anticipated for some transportation projects included in the 2016 RTP/SCS, as well as anticipated development pursuant to the land use strategies contained in the Plan. The 2016 RTP/SCS has the potential to adversely disturb human remains on lands that are part of ancient Native American burial sites or sacred lands; Therefore, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

3.6 ENERGY

This section of the Program Environmental Impact Report (PEIR) considers the energy implications of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Plan,” or “Project”), including a discussion of the potential energy impacts of the proposed policies, programs, and projects included in the 2016 RTP/SCS, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy, identifies mitigation measures for the impacts, and evaluates the residual impacts. Energy resources including non-renewable energy consumption, residential and commercial building energy consumption, and water-related energy consumption were evaluated in accordance with Appendix F of the 2015 California Environmental Quality Act (CEQA) Guidelines. Energy resources within the SCAG region were evaluated at a programmatic level of detail, in relation to the General Plans of six counties and 191 cities within the SCAG region; data available from the U.S. Energy Information Administration (EIA) for California;¹ a review of related literature germane to the SCAG region; and review of SCAG’s 2012 RTP/SCS PEIR.²

The EIA profiles California in relation to energy production and consumption, demonstrating the vast potential for production and one of the most efficient users of energy in the nation:

- “Excluding federal offshore areas, California ranked third in the nation in crude oil production in 2013, despite an overall decline in production rates since the mid-1980s.
- California also ranked third in the nation in refining capacity as of January 2014, with a combined capacity of almost 2 million barrels per calendar day from its 18 operable refineries.
- In 2012, California’s per capita energy consumption ranked 49th in the nation; the state’s low use of energy was due in part to its mild climate and its energy efficiency programs.
- In 2013, California ranked fourth in the nation in conventional hydroelectric generation, second in net electricity generation from other renewable energy resources, and first as a producer of electricity from geothermal energy.
- In 2013, California ranked 15th in net electricity generation from nuclear power after one of its two nuclear plants was taken out of service in January 2012; as of June 2013, operations permanently ceased at that plant, the San Onofre Nuclear Generating Station.
- Average site electricity consumption in California homes is among the lowest in the nation (6.9 megawatt-hours per year), according to EIA’s Residential Energy Consumption Survey.”³

¹ U.S. Energy Information Administration. Accessed 7 September 2015. *State Profile and Energy Estimates: California*. Available at: <http://www.eia.gov/state/?sid=ca>

² Southern California Association of Governments. April 2012. Final Program Environmental Report: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy. Available at: <http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

³ U.S. Energy Information Administration. Accessed 7 September 2015. *State Profile and Energy Estimates: California*. Available at: <http://www.eia.gov/state/?sid=ca>

3.6.1 REGULATORY FRAMEWORK

This regulatory framework focuses on the federal, state, and local statutes and regulations where the primary objective is energy efficiency, incorporating renewable energy sources, or energy supply/distribution. However, there are other regulations that are focused on reducing greenhouse gas emissions, improving air quality, and transportation improvements, that if accomplished would be expected to contribute to these energy goals. Those regulations have been addressed respectively in Section 3.3, *Air Quality*; Section 3.8, *Greenhouse Gas Emissions and Climate Change*; and Section 3.18, *Transportation, Traffic, and Safety*.

Federal

Energy Policy and Conservation Act of 1975

The Energy Policy and Conservation Act of 1975 (EPCA; Public Law 94–163, 89 Stat. 871, enacted December 22, 1975) was enacted for the purpose of serving the nation’s energy demands and promoting conservation methods when feasibly obtainable.

The EPCA was amended to:

- Grant specific authority to the President to fulfill obligations of the U.S. under the international energy program;
- Provide for the creation of a Strategic Petroleum Reserve capable of reducing the impact of severe energy supply interruptions;
- Conserve energy supplies through energy conservation programs, and the regulation of certain energy uses;
- Provide for improved energy efficiency of motor vehicles, major appliances, and certain other consumer products;
- Provide a means for verification of energy data to assure the reliability of energy data; and
- Conserve water by improving the water efficiency of certain plumbing products and appliances.⁴

National Energy Act of 1978

In response to the energy crisis in the 1970s, Congress passed the National Energy Act of 1978 (NEA) to establish energy efficiency programs, tax incentives, tax disincentives, energy conservation programs, alternative fuel programs, and regulatory and market-based initiatives. It includes five statutes:

- Public Utility Regulatory Policies Act (PURPA) (Public Law 95–617)
- Energy Tax Act (Public Law 95–618)
- National Energy Conservation Policy Act (NECPA) (Public Law 95–619)
- Power Plant and Industrial Fuel Use Act (Public Law 95–620)
- Natural Gas Policy Act (Public Law 95–621)

⁴ USLegal, Inc. Accessed 17 August 2015. *Energy Policy and Conservation*. Available at: <http://energylaw.uslegal.com/energy-policy-and-conservation/>

Of the five statutes, one, PURPA, is relevant to the consideration of the 2016 RTP/SCS.

Public Utility Regulatory Policies Act of 1978 (PURPA)

PURPA was passed in response to the unstable energy climate of the late 1970s. PURPA sought to promote conservation of electric energy. Additionally, PURPA created a new class of nonutility generators, small power producers, from which, along with qualified cogenerators, utilities are required to buy power.

PURPA was in part intended to augment electric utility generation with more efficiently produced electricity and to provide equitable rates to electric consumers. Utility companies are required to buy all electricity from “Qfs” (qualifying facilities) at avoided cost (avoided costs are the incremental savings associated with not having to produce additional units of electricity). PURPA expanded participation of nonutility generators in the electricity market, and demonstrated that electricity from nonutility generators could successfully be integrated with a utility’s own supply. PURPA requires utilities to buy whatever power is produced by Qfs (usually cogeneration or renewable energy). Utilities want these provisions repealed, critics argue that it will decrease competition and impede development of the renewable energy industry. The Fuel Use Act (FUA) of 1978 (repealed in 1987) also helped Qfs become established. Under FUA, utilities were not allowed to use natural gas to fuel new generating technologies but Qfs which were by definition not utilities, were able to take advantage of abundant natural gas and abundant new technologies (such as combined cycle). The technologies lowered the financial threshold for entrance into the electricity generation business as well as shortened the lead time for constructing new plants.

Energy Policy Act of 1992

The Energy Policy Act (Public Law 102-486; abbreviated as EPACT92) is a United States government act. It was passed by Congress and set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. EPACT92 established regulations requiring certain federal, state, and alternative fuel provider fleets to build an inventory of alternative fuel vehicles. It was amended several times in the Energy Conservation and Reauthorization Act of 1998 and in 2005 via the Energy Policy Act in 2005, which emphasized alternative fuel use and infrastructure development.⁵

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

In 2005, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU; Public Law 109-159) was signed into law. SAFETEA-LU provides funding for highways, highway safety, and public transportation totaling \$244.1 billion, representing the largest surface transportation investment ever. SAFETEA-LU promotes energy efficiency in vehicles and encourages agencies to find ways to reduce fuel use in its transit operations. SAFETEA-LU expired in 2009, but Congress extended the legislation; the most recent extension is known as Moving Ahead for Progress in

⁵ U.S. Department of Energy, Alternative Fuels Data Center. Accessed 18 August 2015. *Key Federal Legislation*. Available at: http://www.afdc.energy.gov/laws/key_legislation

the 21st Century (MAP-21). MAP-21 reauthorized most SAFETEA-LU highway, transit and Safety programs through September 2014.

Energy Policy Act of 2005

On August 8, 2005, President George W. Bush signed the National Energy Policy Act of 2005 (Public Law 109-58) into law. This comprehensive energy legislation contains several electricity-related provisions that aim to:

- Help ensure that consumers receive electricity over a dependable, modern infrastructure;
- Remove outdated obstacles to investment in electricity transmission lines;
- Make electric reliability standards mandatory instead of optional; and
- Give Federal officials the authority to site new power lines in DOE-designated national corridors in certain limited circumstances.

The Renewable Fuel Standard (RFS) program was created under the Energy Policy Act (EPA) of 2005, and established the first renewable fuel volume mandate in the United States. The program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders. As required under EPA, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act (EISA; Public Law 110-140) was signed into law by President George W. Bush on December 19, 2007. The Act's goal is to achieve energy security in the United States by increasing renewable fuel production, improving energy efficiency and performance, protecting consumers, improving vehicle fuel economy, and promoting research on greenhouse gas capture and storage. Under the EISA, the RFS program (RFS2) was expanded in several key ways:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel, and set separate volume requirements for each one.
- EISA required EPA to apply lifecycle greenhouse gas performance threshold standards to ensure that each category of renewable fuel emits fewer greenhouse gases than the petroleum fuel it replaces.

RFS2 lays the foundation for achieving significant reductions of greenhouse gas emissions from the use of renewable fuels, for reducing imported petroleum, and encouraging the development and expansion of our nation's renewable fuels sector.

The EISA also includes a variety of new standards for lighting and for residential and commercial appliance equipment. The equipment includes residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, and commercial walk-in coolers and freezers.

Moving Ahead for Progress in the 21st Century

MAP-21 (Public Law 112-141) replaces SAFETEA-LU as the nation's surface transportation program and extended the provisions for fiscal year (FY) 12 with new provisions for FY 13. MAP-21 funds surface transportation programs at over \$105 billion for FY 2013 and FY 2014. It is intended to create a streamlined, performance-based, and multimodal program to address challenges facing the U.S. transportation system. These challenges include improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery. MAP-21 addresses economic growth, accessibility, social equity, energy security and public health by setting transparent performance benchmarks. It is anticipated that the following bill will address a broader set of performance measures linking energy consumption to investment dollars.

Heavy-Duty National Program

The Heavy-Duty National Program was adopted on August 9, 2011, to establish the first fuel efficiency requirements for medium- and heavy-duty vehicles beginning with the model year 2014.

Proposed Rulemaking: Phase 2 Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles

As of June 2015, The U.S. Environmental Protection Agency (EPA) and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) are jointly proposing a national program that would establish the next phase of greenhouse gas (GHG) emissions and fuel efficiency standards for medium- and heavy-duty vehicles. The Phase 2 program significantly reduces carbon emissions and improves the fuel efficiency of heavy-duty vehicles, helping to address the challenges of global climate change and energy security. Phase 2 would save the heavy duty vehicle industry billions of dollars' worth of fuel, reduce the cost of transporting goods, cut fuel consumption, and reduce GHG emissions by 1 billion metric tons. Fuel consumption of tractor trailers alone could decrease by 24 percent. The proposed Phase 2 standards, which begin in the model year 2021 (model year 2018 for trailers and 2021 for NHTSA's trailer standards) and culminate in standards for model year 2027, are the product of a comprehensive assessment of existing and advanced technologies and extensive stakeholder outreach.⁶

Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance

Executive Order (EO) 13514 was signed by President Obama on October 5, 2009. It expands on the energy reduction and environmental performance requirements for federal agencies identified in EO 13423, Strengthening Federal Environmental, Energy, and Transportation Management. The goals of EO 13514 are as follows:

⁶ Environmental Protection Agency. June 2015. *Cutting Carbon Pollution, Improving Fuel Efficiency, Saving Money, and Supporting Innovation for Trucks*. Available at: <http://www3.epa.gov/otaq/climate/documents/420f15900.pdf>

- Reduce petroleum consumption by 2% per year through FY2020 (applies to agencies with fleets of more than 20 vehicles) (Baseline FY2005).
- Reduce by 2% annually:
 - Potable water intensity by FY2020 (26% total reduction) (Baseline FY2007).
 - Industrial, landscaping, and agricultural water intensity by FY2020 (20% total reduction) (Baseline FY2010).
- Achieve 50% or higher diversion rate:
 - Non-hazardous solid waste by FY2015.
 - Construction and demolition materials and debris by FY2015.
- Ensure at least 15% of existing buildings and leases (>5,000 gross square feet) meet the Guiding Principles by FY2015, with continued progress towards 100%.
- Ensure 95% of all new contracts, including non-exempt contract modifications, require products and services that are energy-efficient, water-efficient, bio-based, environmentally preferable, non-ozone depleting, contain recycled-content, non-toxic or less-toxic alternatives.

Executive Order 13693, Planning for Federal Sustainability in the Next Decade

EO 13693 was signed by President Obama on October 5, 2009. The goal of EO 13693 is to maintain federal leadership in sustainability and GHG emissions reductions. EO 13693 promotes building energy conservation, efficiency, and management by reducing agency building energy intensity measured in British thermal units per gross square foot by 2.5 percent annually through the end of fiscal year 2025, relative to the baseline of the agency's building energy use in fiscal year 2015 and taking into account agency progress to date. EO 13693 also sets agency water use efficiency standards and management practices as well as mandates a fleet-wide per-mile GHG emissions reduction from agency fleet vehicles.

State

Assembly Bill 2075, Reducing Dependence on Petroleum

The CEC and CARB are directed by law, 2000 AB 2075 (2000), to develop and adopt recommendations for reducing dependence on petroleum. A performance based goal is to reduce petroleum demand to 15 percent below 2003 demand. The options include the following:⁷

Near-Term Options (could be fully implemented by 2010):

- Use more fuel efficient replacement tires with proper inflation;
- Improve fuel economy in government fleets; and
- Improve private vehicle maintenance.

Mid-Term Options (could be fully implemented in the 2010–2020 time frame):

- Double fuel efficiency of current model light duty vehicles to 40 miles/gallon; and
- Use natural gas-derived Fischer-Tropsch fuel as a 33 percent blending agent in diesel.

⁷ California Energy Commission and California Air Resources Board. 14 August 2003. *Reducing California's Petroleum Dependence*. Adopted Joint Agency AB 2076 Report, Publication # 600-03-006F. Sacramento, CA.

Long-Term Options:

- Introduce fuel cell light duty vehicles in 2012, increasing to 10 percent of new vehicle sales by 2020, and 20 percent by 2030.

Recommendations include:⁸

- The Governor and Legislature should adopt the recommended statewide goal of reducing demand for on-road gasoline and diesel to 15 percent below the 2003 demand level by 2020 and maintaining that level for the foreseeable future;
- The Governor and Legislature should work with the California delegation and other states to establish national fuel economy standards that double the fuel efficiency of new cars, light trucks and SUVs; and
- The Governor and Legislature should establish a goal to increase the use of non-petroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

Senate Bill 1 (Million Solar Roofs)

The Million Solar Roofs program under SB 1 (2006) sets a goal to install 3,000 megawatts of new solar capacity by 2017, moving the state toward a cleaner energy future and helping lower the cost of solar systems for consumers. This is a ratepayer-financed incentive program aimed at transforming the market for rooftop solar systems by driving down costs over time. It provides up to \$3.3 billion in financial incentives that decline over time.

Senate Bill 1368, Greenhouse Gas Emissions Performance Standard for Major Power Plant Investments

SB 1368 was passed in September 2006 and requires the CEC to develop and adopt by regulation a GHG emissions performance standard for long-term procurement of electricity by local publicly owned utilities.

Assembly Bill 32: Global Warming Solutions Act

Governor Arnold Schwarzenegger signed AB 32 (Global Warming Solutions Act) into law on September 27, 2006, requiring that the CARB reduce GHG emissions by 25 percent by 2020.⁹ In the interim, CARB will begin to measure the GHG emissions of the industries it determines to be significant emitters. The bill also provides the governor the ability to invoke a safety valve and suspend the emissions caps for up to one year in the case of an emergency or significant economic harm. Pursuant to AB 32, CARB must adopt regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. The full implementation of AB 32 will help mitigate risks associated with climate change,

⁸ California Energy Commission and California Air Resources Board. 14 August 2003. *Reducing California's Petroleum Dependence*. Adopted Joint Agency AB 2076 Report, Publication # 600-03-006F. Sacramento, CA.

⁹ California Air Resources Board. 5 August 2014. *Assembly Bill 32 Overview*. Available at: <http://www.arb.ca.gov/cc/ab32/ab32.htm>

while improving energy efficiency, expanding the use of renewable energy resources, cleaner transportation, and reducing waste.

AB 32 requires CARB to develop a Scoping Plan which lays out California's strategy for meeting the goals. The Scoping Plan must be updated every five years. In December 2008, CARB approved the initial Scoping Plan, which included a suite of measures to sharply cut GHG emissions. In May 2014, CARB approved the First Update to the Climate Change Scoping Plan (Update), which builds upon the initial Scoping Plan with new strategies and recommendations.¹⁰ The Update highlights California's progress toward meeting the near-term 2020 GHG emissions reduction goals, highlights the latest climate change science, and provides direction on how to achieve long-term emission reduction goal described in EO S-3-05. As energy is one of the state's largest contributors to GHG emissions, efforts to reduce energy-related emissions are a key component of the Scoping Plan. The actions outlined in the Update also support California's efforts to build a state-of-the-art energy generation, supply and distribution system that is clean, affordable and reliable. A core element of the Update is the development of a comprehensive greenhouse gas reduction program for the state's electric and energy utilities by 2016. This approach will give utilities, electricity providers and a range of other businesses the flexibility and the right incentives to pursue the most innovative strategies to cut emissions. The Update recommends the following actions for the energy sector in California:

- Thoroughly account for the carbon intensity and air quality impacts of various energy resources, generation technologies, and associated fuels.
- Maximize local and regional benefits of energy facilities.
- Minimize emissions of criteria and toxic air pollutants.
- Avoid disproportionate impacts to disadvantaged communities.
- An enforceable program for all energy and electricity service providers.
- Recordkeeping and reporting mechanisms to monitor and enforce the GHG emissions reduction requirements.

Assembly Bill 1007, Alternative Fuels Plan

The Alternative Fuels Plan adopted in 2007 by the State Energy Resources Conservation and Development Commission and the State Air Resources Board as required under state law, AB 1007, recommends that the governor set targets on a gasoline gallon equivalent basis for use of 10 different alternative motor fuels in the on-road and off-road sectors by nine percent by 2012, which has been achieved, and 11 percent by 2017 and 26 percent by 2022. These targets do not apply to air, rail or marine fuel uses. These goals will require a dramatic expansion in the use of such fuels as electricity, compressed natural gas, hydrogen, renewable diesel, bio-diesel and ethanol in motor vehicles.

Also built into the Alternative Fuels Plan is a multi-part strategy to develop hybrid and electric vehicle technologies; build the infrastructure to deliver the alternative fuels; increase the blending of more biofuels into gasoline and diesel; improve the fuel efficiency of vehicles; and reduce vehicle miles traveled by California motorists with more effective land use planning.

¹⁰ State of California. May 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework Pursuant to AB 32*. Available at: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf

Assembly Bill 758 Energy: Energy Audit

New state law promulgated under AB 758 mandates the California Energy Commission (CEC) to develop a comprehensive energy efficiency program for existing buildings. This bill will be implemented in three phases. In phase I, during the American Recovery and Reinvestment Act of 2009 (ARRA) implementation period (2010–2012), the CEC used ARRA funds to do state and local upgrade programs, workforce training, financing, and an outreach campaign. The CEC published the Comprehensive Energy Efficiency Program for Existing Buildings Scoping Report and adopted the AB 758 Action Plan. Phase II will focus on implementing the roadmap necessary for foundational No Regrets Strategies to take hold and Voluntary Pathways to scale to achieve energy efficiency goals, partnerships, and market development. Phase III will develop and institute Mandatory Approaches that will move energy efficiency practices into the mainstream. Transformation and maturation of the energy efficiency marketplace will require the formation of partnerships and cooperation among all stakeholders.¹¹

On August 28, 2015, the CEC published the final version of the Existing Buildings Energy Efficiency Action Plan. The Plan provides a 10-year roadmap to activate market forces and transform California’s existing residential, commercial, and public building stock into high-performing and energy-efficient buildings. The results of this effort will be accelerated growth of energy efficiency markets, more effective targeting and delivery of building upgrade services, improved quality of occupant and investor decisions, and vastly improved performance of California’s buildings. Equally important, this effort will deliver substantial energy savings and greenhouse gas emissions reductions, contributing to the collective goal of reducing the impacts of climate change while improving the resilience of the state’s built environment and economy.¹²

Assembly Bill 1493 (2009) / Advanced Clean Cars Program

The Advanced Clean Cars Program under AB 1493 (referred to as Pavley I), requires the California Air Resources Board (CARB) to develop and adopt standards for vehicle manufacturers to reduce GHG emissions coming from passenger vehicles and light-duty trucks at a “maximum feasible and cost effective reduction” by January 1, 2005. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as “LEV (Low Emission Vehicle) III GHG” will cover 2017 to 2025. Fleet average emission standards would reach 22 percent reduction by 2012 and 30 percent by 2016.¹³

As of January 2012, CARB adopted the Advanced Clean Cars program to extend AB 1493 through model years 2017 to 2025. This program will promote all types of clean fuel technologies such as plug-in hybrids, battery electric vehicles, compressed natural gas (CNG) vehicles, and hydrogen powered vehicles while reducing smog and saving consumers’ money in fuel costs. By 2025, when the rules will be fully implemented:

¹¹ California Energy Commission. Accessed September 1, 2015. *Comprehensive Energy Efficiency Program for Existing Buildings*. Available at: <http://www.energy.ca.gov/ab758/>

¹² California Energy Commission. 28 August 2015. *Existing Buildings Energy Efficiency Action Plan*. Available at: http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN205919_20150828T153953_Existing_Buildings_Energy_Efficiency_Action_Plan.pdf

¹³ California Air Resources Board. 6 May 2013. *Clean Car Standards – Pavley, Assembly Bill 1493*. Available at: <http://www.arb.ca.gov/cc/ccms/ccms.htm>

- New automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.
- Environmentally superior cars will be available across the range of models, from compacts, to SUVs, pickups and minivans.
- Consumer savings on fuel costs will average \$6,000 over the life of the car. The savings more than offsets the average \$1,900 increase in vehicle price for the ultra-clean, high-efficiency technology.¹⁴

Senate Bill 2 Renewable Portfolio Standard

California's Renewable Portfolios Standard (RPS), under Senate Bill (SB) 2 of 2011, sets a procurement goal for electricity retail sellers including investor-owned utilities, electric service providers, and community choice aggregators to 33 percent renewable energy sources by 2020. The RPS has three compliance periods: Period 1 (2011–2013), Period 2 (2014–2016), and Period 3 (2017–2020) as intermediate targets before full compliance in 2020. The CEC is responsible for designating electrical generation facilities as renewable energy sources and enforcing RPS.¹⁵

Part 11 of the California Code of Regulations: Green Building Code

The California Green Building Standards Code, which is Part 11 of the California Code of Regulations, is commonly referred to as the CALGreen Code. The 2008 edition, the first edition of the CALGreen Code, contained only voluntary standards. The 2010 CALGreen Code is a code with mandatory requirements for state-regulated buildings and structures throughout California beginning on January 1, 2011. The code requires building commissioning, which is a process for the verification that all building systems, such as heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

California Building Energy Efficiency Standards: 2013 Title 24, Part 6 (California Energy Code)

The Code California Energy Code (Title 24, Section 6) was created as part of the California Building Standards Code (Title 24 of the California Code of Regulations) by the California Building Standards Commission in 1978 to establish statewide building energy efficiency standards to reduce California's energy consumption.¹⁶ These standards include provisions applicable to all buildings, residential and nonresidential, which describe requirements for documentation and certificates that the building meets

¹⁴ California Air Resources Board. Accessed 20 August 2015. *California's Advanced Clean Car Program*. Available at: http://www.arb.ca.gov/msprog/consumer_info/advanced_clean_cars/consumer_acc.htm

¹⁵ California Public Utilities Commission. 6 April 2015. *California Renewables Portfolio Standard*. Available at: <http://www.cpuc.ca.gov/PUC/energy/Renewables/>

¹⁶ California Building Standards Commission. Accessed 26 June 2015. *History*. Available at: http://www.bsc.ca.gov/abt_bsc/history.aspx

the standards.¹⁷ These provisions include mandatory requirements for efficiency and design of the following types of systems, equipment, and appliances:

- Air conditioning systems
- Heat pumps
- Water chillers
- Gas- and oil-fired boilers
- Cooling equipment
- Water heaters and equipment
- Pool and spa heaters and equipment
- Gas-fired equipment including furnaces and stoves/ovens
- Windows and exterior doors
- Joints and other building structure openings (“envelope”)
- Insulation and cool roofs
- Lighting control devices

The standards include additional mandatory requirements for space conditioning (cooling and heating), water heating, and indoor and outdoor lighting systems and equipment in non-residential, high-rise residential, and hotel or motel buildings. Mandatory requirements for low-rise residential buildings cover indoor and outdoor lighting, fireplaces, space cooling and heating equipment (including ducts and fans), and insulation of the structure, foundation, and water piping. In addition to the mandatory requirements, the standards call for further energy efficiency that can be provided through a choice between performance and prescriptive compliance approaches. Separate sections apply to low-rise residential and to non-residential, high-rise residential, and hotel or motel buildings. In buildings designed for mixed use (e.g., commercial and residential), each section must meet the standards applicable to that type of occupancy.

The performance approach set forth under these standards provides for the calculation of an energy budget for each building and allows flexibility in building systems and features to meet the budget. The energy budget addresses space-conditioning (cooling and heating), lighting, and water heating. Compliance with the budget is determined by the use of a CEC-approved computer software energy model. The alternative prescriptive standards require demonstrating compliance with specific minimum efficiency for components of the building such as building envelope insulation R-values, fenestration (areas, U-factor and solar heat gain coefficients of windows and doors) and heating and cooling, water heating and lighting system design requirements. These requirements vary depending on the building’s location in the state’s 16 climate zones.

California’s Building Energy Efficiency Standards are updated on an approximately three-year cycle as technology and methods have evolved. As a result of new law under AB 970, passed in the fall of 2000 in response to the state’s electricity crisis, an emergency update of the standards went into effect in June 2001. The CEC then initiated an immediate follow-on proceeding to consider and adopt updated standards that could not be completed during the emergency proceeding. The 2013 Standards went into effect July 1, 2014. The 2016 Standards, which will go into effect on January 1, 2017, will continue

¹⁷ California Energy Commission. Accessed 20 August 2015. *2013 Building Energy Efficiency Standards for Residential and Nonresidential Buildings*. Available at: <http://www.energy.ca.gov/2012publications/CEC-400-2012-004/CEC-400-2012-004-CMF-REV2.pdf>

to improve upon the current 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings.

The 2013 Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings, and include requirements that will enable both demand reductions during critical peak periods and future solar electric and thermal system installations.

California Senate Bill 350

SB 350 was approved by Governor Brown on October 7, 2015. SB 350 will: (1) increase the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030; (2) require the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; (3) provide for the evolution of the Independent System Operator (ISO) into a regional organization; and (4) require the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. Among other objectives, the Legislature intends to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

California Solar Initiative

On January 12, 2006, the California Public Utilities Commission (CPUC) approved the California Solar Initiative (CSI; R.04-03-017), which provides \$2.9 billion in incentives between 2007 and 2017. The CPUC will oversee a \$2.5 billion program for commercial and existing residential customers, funded through revenues and collected from gas and electric utility distribution rates. Furthermore, the CEC will manage \$350 million targeted for new residential building construction, utilizing funds already allocated to the CEC to foster renewable projects between 2007 and 2011.

On March 2, 2006, the CPUC opened a proceeding to develop rules and procedures for the California Solar Initiative and to continue consideration of policies for the development of cost-effective, clean, and reliable distributed generation. On August 21, 2006, the governor signed SB 1, which directs the CPUC and the CEC to implement the CSI program consistent with specific requirements and budget limits set forth in the legislation and directs the CPUC and the CEC to create 3,000 megawatts of new, solar-produced electricity by 2017.

The CPUC has a rulemaking in progress to reconcile its decisions with SB 1, and it also continues to hold public workshops to continue designing program elements.

Current incentives provide an upfront, capacity-based payment for a new system. The CSI incentive system will change in 2007 when it moves to performance-based payments. In its August 24, 2006, decision, the CPUC shifted the program from volume-based to performance-based incentives and clarified many elements of the program's design and administration.¹⁸

¹⁸ California Solar Initiative. Accessed 31 October 2007. Website. Available at: <http://www.gosolarcalifornia.ca.gov/csi/index.html>

California Cap and Trade Program

CARB adopted the California Cap and Trade Program final regulations on October 20, 2011. An amended regulation was adopted on September 12, 2012, with the first auction for GHG allowances on November 14, 2012. The cap and trade program is a market based mechanism to reduce GHG emissions in a cost-effective and economically efficient manner. California is the first multi-sector cap and trade program in North America following the northeast Regional Greenhouse Gas Initiative (RGGI) and the European Union Emission Trading Scheme (EU-ETS). It sets a GHG emissions limit that will decrease by 2 percent each year until 2015 and then 3 percent from 2015 to 2020 to achieve the goals set forth in AB 32. The program initially applies to large electric power plants and large industrial plants, but will include fuel distributors by 2015. By 2015, these rules will apply to 85 percent of all of California's GHG emissions.

Scoping Plan and First Update of the Scoping Plan

Pursuant to AB 32, CARB developed a Scoping Plan to detail the approach towards reducing GHG emissions to 1990 levels by 2020. The Scoping Plan was first considered by CARB in 2008 and must be updated every five years. CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014.¹⁹ The First Update identifies opportunities to leverage existing and new funds to further drive GHG emissions reductions through strategic planning and targeted low carbon investments. The First Update defines CARB's climate change priorities for the next five years, and also sets the groundwork to reach long-term goals set forth in EO S-3-05 and EO B-16-2012 (below). The Update highlights California's progress toward meeting the "near-term" 2020 GHG emissions reduction goals defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use.²⁰

Executive Order S-3-05

On June 1, 2005, Governor Arnold Schwarzenegger signed EO S-3-05, which establishes GHG emissions reduction targets for California, and directs the California Environmental Protection Agency Secretary to coordinate the oversight of efforts to achieve them.

The targets established by Governor Schwarzenegger call for a reduction of GHG emissions to 2000 levels by 2010; a reduction of GHG emissions to 1990 levels by 2020; and a reduction of GHG emissions to 80 percent below 1990 levels by 2050.

¹⁹ California Air Resources Board. 13 July 2015. *AB 32 Scoping Plan*. Available at: <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>

²⁰ California Air Resources Board. 27 May 2014. *First Update to the AB 32 Scoping Plan*. Available at: <http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>

Executive Order B-16-2012

EO B-16-2012 establishes long-term targets of reaching 1.5 million zero emission vehicles (ZEVs) on California's roadways by 2025 and sets ZEV purchasing requirements for State Government fleets. EO B-16-2012 also sets a target for 2050 of a reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels. In February 2013, an interagency working group developed the ZEV Action Plan, which identifies specific strategies and actions that State agencies will take to meet the milestones of the Executive Order. The ZEV Action Plan states:

ZEVs are crucial to achieving the state's 2050 greenhouse gas goal of 80 percent emission reductions below 1990 levels, as well as meeting federal air quality standards. Achieving 1.5 million ZEVs by 2025 is essential to advance the market and put the state on a path to meet these requirements.

Executive Order B-18-12

Governor Edmund G. Brown, Jr. signed EO B-18-12 into law on April 25, 2012, which directs state agencies to reduce their grid-based energy purchases by at least 20 percent by 2018, as compared to a 2003 baseline. Pursuant to EO B-18-12, all new state buildings and major renovations beginning design after 2025 shall be constructed as Zero Net Energy facilities with an interim target for 50 percent of new facilities beginning design after 2020 to be Zero Net Energy. State agencies shall also take measures toward achieving Zero Net Energy for 50 percent of the square footage of existing state-owned building area by 2025. Further, the following measures relevant to energy are required:

- Any proposed new or major renovation of state buildings larger than 10,000 square feet shall use clean, on-site power generation, such as solar photovoltaic, solar thermal and wind power generation, and clean back-up power supplies, if economically feasible;
- New or major renovated state buildings and build-to-suit leases larger than 10,000 square feet shall obtain LEED "Silver" certification or higher, using the applicable version of LEED;
- New and existing buildings shall incorporate building commissioning to facilitate improved and efficient building operation; and
- State agencies shall identify and pursue opportunities to provide electric vehicle charging stations, and accommodate future charging infrastructure demand, at employee parking facilities in new and existing buildings.

Executive Order B-30-15

EO B-30-15 reiterates EO S-3-05's 2050 GHG emissions target of 80 percent below 1990 levels and sets a new interim target of 40 percent below 1990 levels by 2030. It further orders in relevant part:

- CARB to update the Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent;
- CARB to update every three years the state's climate adaptation strategy;
- "State agencies shall take climate change into account in their planning and investment decisions, and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives."

- “State agencies’ planning and investment shall be guided by the following principles:
 - Priority should be given to actions that both build climate preparedness and reduce greenhouse gas emissions;
 - Where possible, flexible and adaptive approaches should be taken to prepare for uncertain climate impacts;
 - Actions should protect the state’s most vulnerable populations; and
 - Natural infrastructure solutions should be prioritized.”
- OPR to establish a technical advisory group to help state agencies incorporate climate change impacts into planning and investment decisions.

Regional

Clean Cities Program

The U.S. Department of Energy’s Clean Cities Program promotes voluntary, locally based government/industry partnerships for the purpose of expanding the use of alternatives to gasoline and diesel fuel by accelerating the deployment of alternative fuel vehicles (AFVs) and building a local AFV refueling infrastructure. The mission of the Clean Cities Program is to advance the nation’s economic, environmental and energy security by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption. The Clean Cities Program carries out this mission through a network of more than 80 volunteer coalitions, which develop public/private partnerships to promote alternative fuels and vehicles, fuel blends, fuel economy, hybrid vehicles, and idle reduction.

San Gabriel Valley Energy Efficiency Partnership

In April 2006, SCAG’s Regional Council authorized its Executive Director to enter into a partnership with Southern California Edison (SCE) to incentivize energy efficiency programs in the San Gabriel Valley Subregion. The partnership program agreement was fully executed on October 20, 2006, and the program will run through 2008. The main goal of the San Gabriel Valley Energy Wise Program is to save a combined 3,000,000 kilowatt-hours (kWh) by providing technical assistance and incentive packages to cities. This program is funded by California utility customers and administered by SCE under the auspices of the CPUC.

3.6.2 EXISTING CONDITIONS

The production and consumption of energy are closely related to other environmental issues evaluated in this PEIR: Section 3.8, *Greenhouse Gas Emissions*, Section 3.17, *Transportation, Traffic and Safety*, and Section 3.18, *Utilities and Service Systems*. In accordance with Appendix F of the CEQA Guidelines, the existing conditions for Energy are evaluated by energy supply and current patterns of energy use.

Existing Energy Supplies and Consumptions

Traditional Energy Sources

The major energy sources consumed in the United States are petroleum (oil), natural gas, coal, nuclear, and renewable energy. Primary energy includes petroleum, natural gas, coal, nuclear fuel, and

renewable energy. Electricity is a secondary energy source that is generated from these primary forms of energy. The major users are residential and commercial buildings, industry, transportation, and electric power generators.²¹

Total U.S. energy use in 2013 was about 97.5 quadrillion Btu (British thermal units). In physical energy terms, one quad represents 172 million barrels of oil (about 9 days of U.S. petroleum use), 51 million tons of coal (about 5.5 percent of total U.S. coal consumption in 2013), or 1 trillion cubic feet of dry natural gas (about 1.4 percent of total U.S. natural gas use in 2013). Petroleum accounts for the largest share of U.S. primary energy consumption, followed by natural gas, coal, renewable energy (including hydropower, wind, biomass, geothermal, and solar), and nuclear electric power (Figure 3.6.2-1, *Primary Energy Use by Source, 2013*).²²

California consumes more energy than any other state except Texas. However, in terms of energy consumption per person, in 2012, California ranks 49th among the 50 states and District of Columbia (Figure 3.6.2-2, *California Energy Consumption Estimates, 2013*). Current annual energy consumption in California (for all purposes including transportation) is approximately 7,641 trillion Btu, which represents approximately 7.9 percent of the nation's total energy consumption.²³

Transporting water into California is a very energy intensive process. The California State Water Project (SWP) is the single largest user of energy in the state. The SWP uses approximately 5 billion kWh/year of electricity which is equal to 2 to 3 percent of the total electricity consumed in California. Water-related energy use consumes approximately 20 percent of the total electricity consumed in California.

Petroleum. Petroleum is a broadly defined class of liquid hydrocarbon mixtures including crude oil, lease condensate, unfinished oils, refined products obtained from the processing of crude oil, and natural gas plant liquids.²⁴ The United States consumes more energy from petroleum than from any other energy source. In 2013, total U.S. petroleum consumption was 18.9 million barrels per day, or 36 percent of all the energy we consumed. Nearly three-fourths of total U.S. petroleum consumption was in the transportation sector.²⁵ The U.S. relied on net imports for approximately 40 percent of the petroleum (including crude oil and refined petroleum products) that was consumed in 2012. Just over half of these imports came from the Western Hemisphere. About 29 percent of our imports of crude oil and petroleum products came from the Persian Gulf countries of Bahrain, Iraq, Kuwait, Qatar, Saudi Arabia, and United Arab Emirates. The largest sources of net crude oil and petroleum product imports were Canada and Saudi Arabia. Dependence on foreign petroleum has declined since peaking in 2005. This trend is attributed to a combination of declining consumption and shifts in supply patterns as a result of the economic downturn after the financial crisis in 2008. In addition, increased use of ethanol

²¹ U.S. Department of Energy, Energy Information Administration. Accessed 12 July 2015. *What Are the Major Sources and Users of Energy in the United States?* Available at: http://www.eia.gov/energy_in_brief/article/major_energy_sources_and_users.cfm

²² U.S. Department of Energy, Energy Information Administration. Accessed 12 July 2015. *What Are the Major Sources and Users Of Energy in the United States?* Available at: http://www.eia.gov/energy_in_brief/article/major_energy_sources_and_users.cfm

²³ U.S. Department of Energy, Energy Information Administration. Accessed 12 July 2015. *State Profile and Energy Estimates*. Available at: <http://www.eia.gov/state/data.cfm?sid=CA>

²⁴ U.S. Department of Energy, Energy Information Administration. Accessed 20 August 2015. *Glossary*. Available at: <http://www.eia.gov/tools/glossary/index.cfm?id=P#petro>

²⁵ U.S. Department of Energy, Energy Information Administration. Accessed 12 July 2015. *Oil: Crude and Petroleum Products Explained*. Available at: http://www.eia.gov/energyexplained/index.cfm?page=oil_use

Figure 3.6.2-1:
Primary Energy Use by Source, 2013

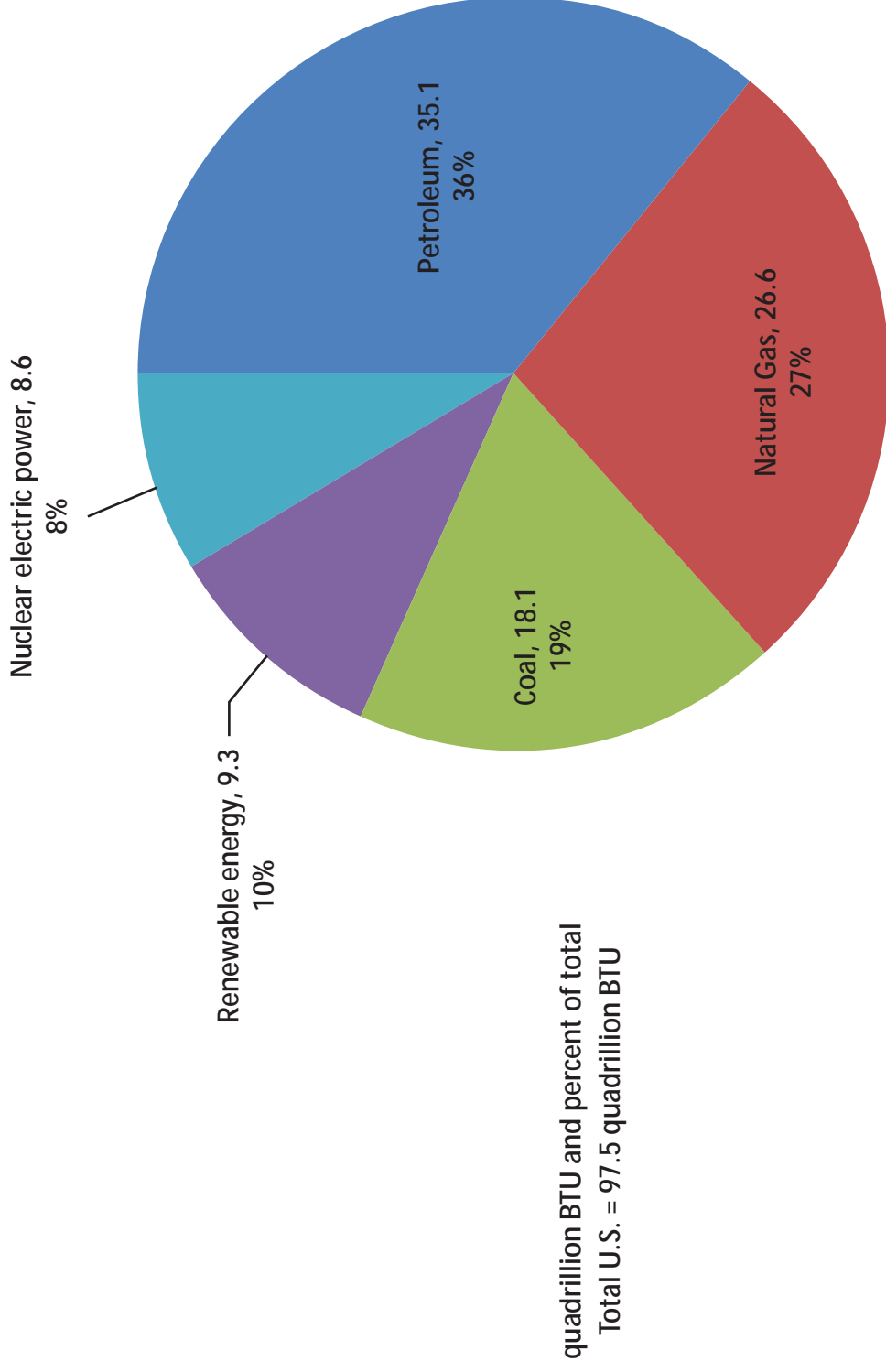
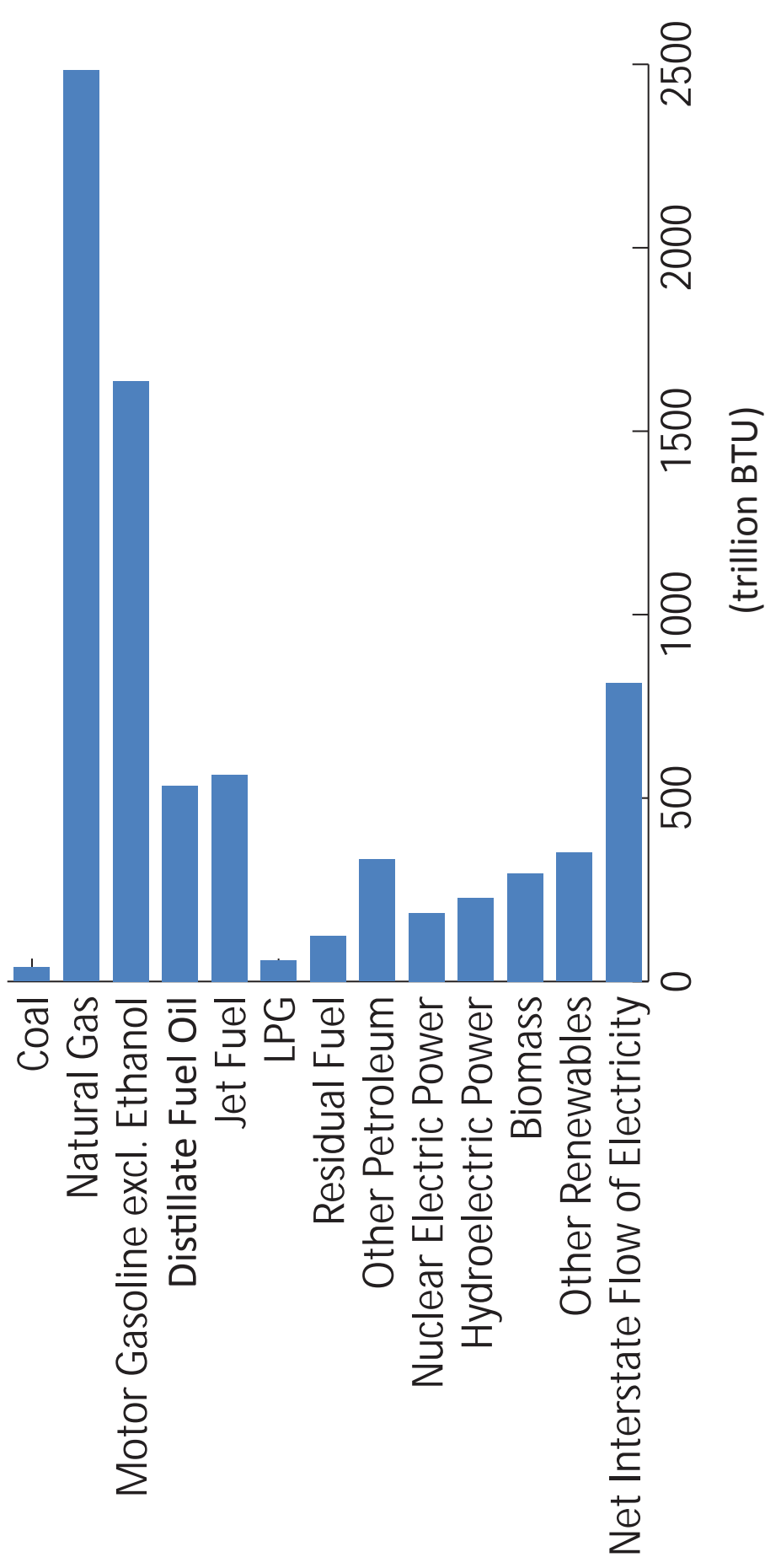


Figure 3.6.2-2:

California Energy Consumption Estimates, 2013



and biodiesel, and gains in production of crude oil and natural gas have expanded domestic supplies and reduced the need for imports.²⁶

California as a state ranks third in the U.S. in petroleum-refining capacity as of January 2014, with a combined capacity of almost 2 million barrels per calendar day from its 18 operable refineries. California accounts for more than one-tenth of total U.S. capacity. In 2013, California consumed 628.7 million barrels of petroleum.²⁷

Oil is a finite and nonrenewable resource, and it is uncertain how future energy consumption trends will be sustained with the current political, environmental and technological constraints. Our nation's reliance on petroleum for our energy needs is even more problematic because of the global trend toward an inevitable turning point often referred to as "peak oil," the peak and then decline of global oil production. Peak oil is the point of maximum oil production whether from a single well, a country, or the planet as a whole. The maximum point of production is expected to happen when about half or slightly more of the ultimately recoverable oil has been produced. To be clear, peaking does not mean "running out." Rather, it indicates the point where global production can no longer be maintained or increased. Production will begin to decline, year after year. Geophysicist M. King Hubbert correctly predicted the 1971 peak in U.S. oil production and further predicted that sometime between 2005 and 2025, world oil production would reach a peak and begin a sharp decline.²⁸

Petroleum in Transportation. In the United States, 28 percent of total U.S. energy consumption is used for transportation. Of the fuels used in transportation, petroleum fuels account for 92 percent, while biofuels contribute 5 percent, natural gas 3 percent, and electricity less than 1 percent in 2014. Gasoline was the most dominant petroleum fuel, accounting for 56 percent of total U.S. transportation energy use in 2014.²⁹

In 2013, in California, transportation is the largest end-use sector for energy use, accounting for 37.8 percent of energy consumption.³⁰ Petroleum fuels account for 96 percent of the state's transportation energy use as the state is a net importer of oil.³¹ Within the SCAG region, Southern Californians consumed 9.3 billion gallons of fuel for transportation in 2012.³² This value is expected to decline as California incorporates alternative fuel technologies and policies. For example, AB 118 created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). ARFVTP is a \$100 million public investment fund to help California reach its GHG reduction goals by integrating low carbon fuels such as electricity, hydrogen, biofuels, natural gas and renewable natural gas into the fueling

²⁶ U.S. Department of Energy, Energy Information Administration. 10 May 2013. *Petroleum, How Dependent Are We on Foreign Oil?* Available at: http://www.eia.gov/energy_in_brief/article/foreign_oil_dependence.cfm

²⁷ U.S. Department of Energy, Energy Information Administration. Accessed 12 July 2015. *State Profile and Energy Estimates*. Available at: <http://www.eia.gov/state/data.cfm?sid=CA>

²⁸ Udall, R., and S. Andrews. January 1999. When Will the Joy Ride End? A Petroleum Primer. *Hubbert Center Newsletter* 99(1): 1–8.

²⁹ U.S. Department of Energy, Energy Information Administration. Accessed 17 July 2015. *Use of Energy in the United States*. Available at: http://www.eia.gov/Energyexplained/?page=us_energy_transportation

³⁰ U.S. Department of Energy, Energy Information Administration. Accessed 20 August 2015. *California State Profiles and Energy Estimates*. Available at: <http://www.eia.gov/state/?sid=CA#tabs-2>

³¹ California Energy Almanac. Accessed 19 August 2015. *California Petroleum Statistics and Data*. Available at: <http://energyalmanac.ca.gov/petroleum/>

³² SCAG Transportation Modeling, 2015.

infrastructure and vehicle technology development. Other efforts include collaboration between the California Energy Commission and the Governor's Office Zero-emission Vehicle (ZEV) Task Force, Plug-in Electric Vehicle (PEV) Collaborative, CPUC proceedings, and Fuel Cell Partnership.³³

Natural Gas. Natural gas supply and demand data are compiled by the state's natural gas utilities in the annual California Gas Report and in the CPUC's Integrated Energy Policy Report. Since 1994, California began to rely on natural gas from Canada and the Rocky Mountains region and has seen both the physical amount and the percentage produced within California as well as imported from the Southwest decrease.³⁴ As with crude oil production, California's natural gas gross production has experienced a gradual overall decline in the past two decades. Reserves and production are located primarily in geologic basins in the Central Valley, the coastal basins onshore in Northern California, and offshore along the Southern California coast. California production accounts for a very small percentage of total U.S. natural gas production and satisfies about one-tenth of state demand.³⁵

The SCAG region is served primarily by the investor-owned Southern California Gas Company (SoCalGas), a unit of Sempra Energy. SoCalGas provides natural gas service throughout the SCAG region, except for the southern portion of Orange County, and portions of San Bernardino County. San Diego Gas & Electric Company (SDG&E) provides natural gas service to the southern portion of Orange County. In San Bernardino County, Southwest Gas Corporation provides natural gas service to Victorville, Big Bear, Barstow, and Needles. The Los Angeles Department of Water and Power (LADWP) utilizes natural gas for electrical generation in the City of Los Angeles. **Figure 3.6.2-3, *Gas Utility Service Areas***, shows the gas utility service areas for the SCAG region.

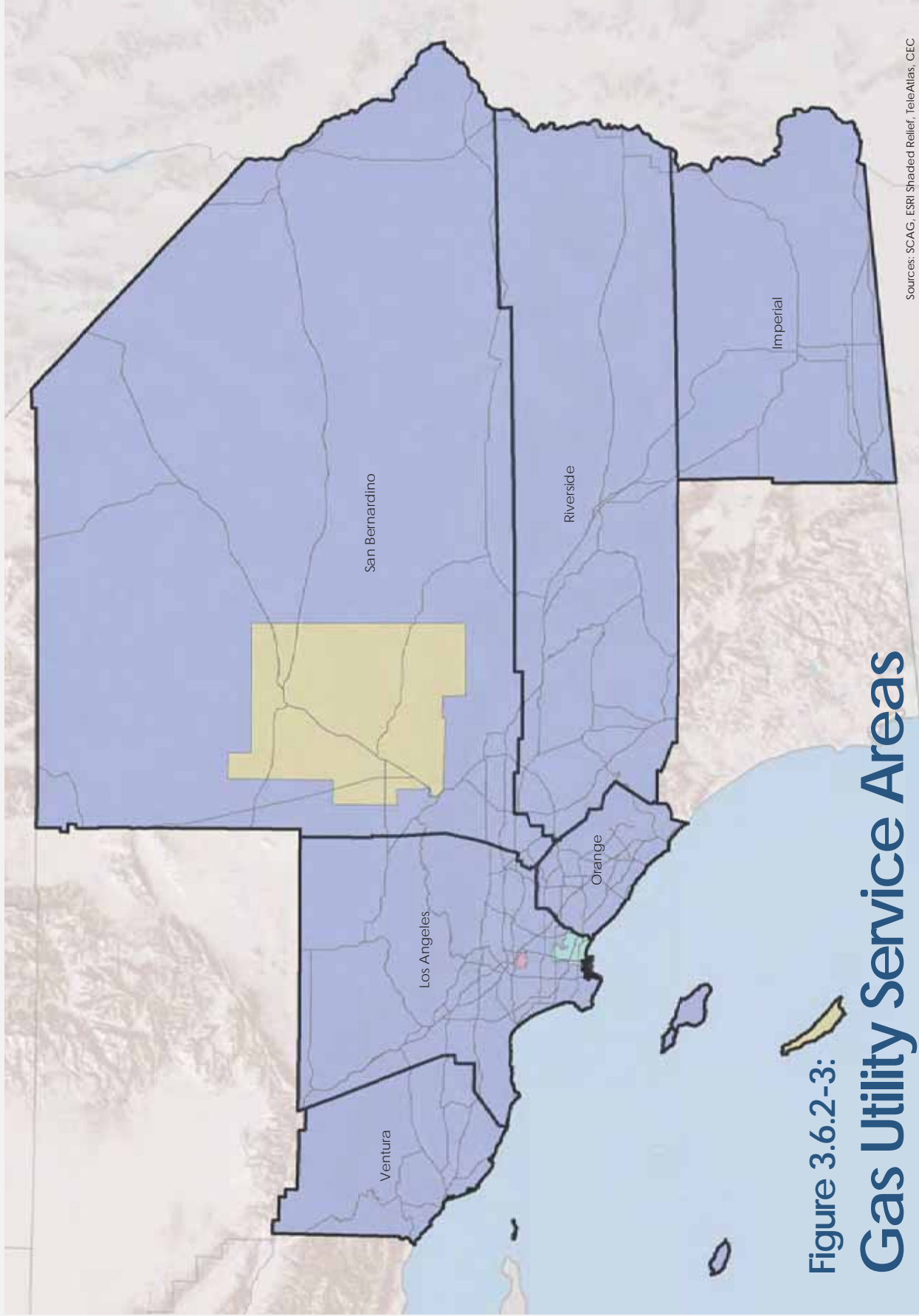
Electricity. Local electricity distribution service is provided to customers within the SCAG region by both Investor-Owned Utilities (IOUs) and Publicly Owned Utilities (POUs) (**Figure 3.6.2-4, *Electric Utility Service Areas***, and **Table 3.6.2-1, *Energy Mix for Electricity Service Providers in the SCAG Region***). The two IOUs operating in the region are SCE and SDG&E. SCE is the largest electricity utility in Southern California with a service area that covers all or nearly all of Orange, San Bernardino, and Ventura Counties, and most of Los Angeles and Riverside Counties. The SCE territory also includes areas outside of SCAG including Inyo, Tulare, and Mono County as well as portions of Kern, Fresno, and Tolumne Counties. SDG&E provides local distribution service to the southern portion of Orange County. In the SCAG region, the Southern California Public Power Authority (SCPPA) members consist of the municipal utilities of Anaheim, Azusa, Banning, Burbank, Cerritos, Colton, Glendale, Los Angeles, Pasadena, Riverside, and Vernon, and the Imperial Irrigation District. Together, these municipal utilities deliver electricity to over 2 million customers in the Southern California region that spans an area of 7,000 square miles and has a total population that exceeds 5 million.³⁶ The LADWP is the largest of the publicly owned electric utilities in Southern California.

³³ California Energy Commission, Fuels and Transportation Division. Accessed 19 August 2019. Website. Available at: <http://www.energy.ca.gov/transportation/>

³⁴ California Energy Commission. Accessed 22 August 2011. *California Natural Gas Supply by Source*. Available at: http://www.energy.ca.gov/naturalgas/statistics/gas_supply_by_source.html

³⁵ U.S. Department of Energy, Energy Information Administration. Accessed 12 July 2015. *State Profile and Energy Estimates*. Available at: <http://www.eia.gov/state/data.cfm?sid=CA>

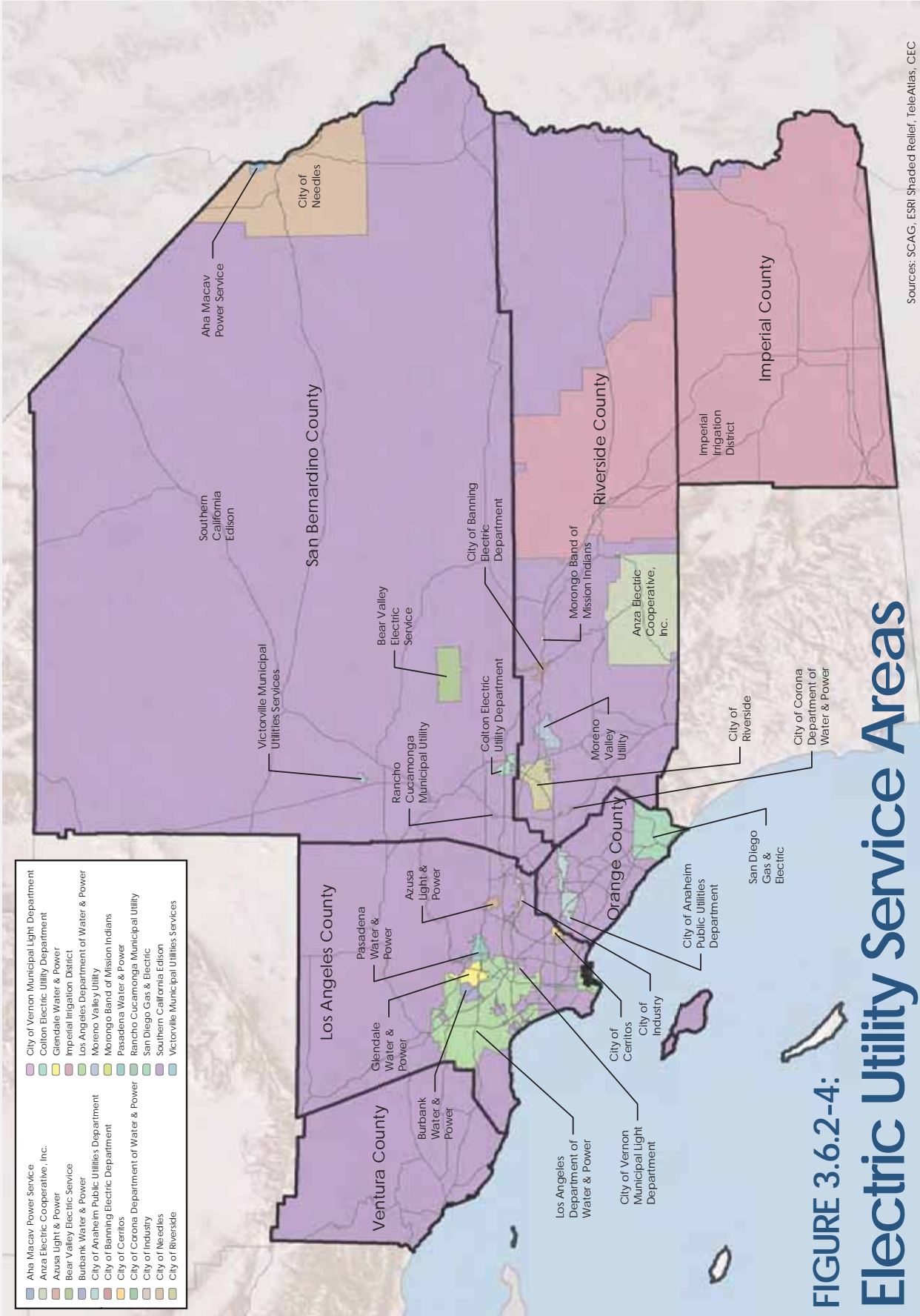
³⁶ Southern California Public Power Authority. Accessed 12 July 2015. *2012-13 Annual Report*. Available at: <http://www.scppa.org/Downloads/Annual%20Report/SCPPA%202013%20Annual%20Report.pdf>



**Figure 3.6.2-3:
Gas Utility Service Areas**

- City of Vernon Gas System
- Long Beach Gas and Oil
- Southern California Gas
- Southwest Gas Corporation

0 5 10 20 Miles



Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CEC

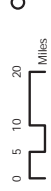


FIGURE 3.6.2-4:
Electric Utility Service Areas

- City of Vernon Municipal Light Department
- Anza Electric Cooperative, Inc.
- Azusa Light & Power
- Bear Valley Electric Service
- Burbank Water & Power
- City of Anaheim Public Utilities Department
- City of Banning Electric Department
- City of Cerritos
- City of Corona Department of Water & Power
- City of Industry
- City of Needles
- City of Riverside
- City of Vernon Municipal Light Department
- Colton Electric Utility Department
- Glendale Water & Power
- Imperial Irrigation District
- Los Angeles Department of Water & Power
- Moreno Valley Utility
- Moreno Band of Mission Indians
- Pasadena Water & Power
- Rancho Cucamonga Municipal Utility
- San Diego Gas & Electric
- Southern California Edison
- Victorville Municipal Utilities Services

**TABLE 3.6.2-1
ENERGY MIX FOR ELECTRICITY SERVICE PROVIDERS IN THE SCAG REGION**

Electricity Provider	County	Eligible Renewable						Nonrenewable				
		Biomass and Waste	Geothermal	Small Hydroelectric	Solar	Wind	Coal	Large Hydroelectric	Natural Gas	Nuclear	Unspecified ^a	
Imperial Irrigation District	Imperial	11.5%	6.2%	7.7%	4.8%	4.1%	12.3%	3.7%	34.6%	2.9%	12.3%	
Azusa Light & Power	Los Angeles	—	—	—	—	13%	74%	2%	—	7%	3%	
Burbank Water & Power	Los Angeles	18%	<1%	2%	<1%	4%	43%	2%	14%	6%	11%	
City of Cerritos ^b	Los Angeles	—	—	—	—	—	—	—	69%	—	31%	
City of Industry	Los Angeles	19%	—	—	—	—	3.5%	7.5%	24.9%	7.5%	37.4%	
City of Vernon Municipal Light Department	Los Angeles	8%	—	—	—	6%	—	2%	56%	7%	21%	
Glendale Water & Power	Los Angeles	13.4%	—	2.1%	—	12.4%	28.5%	5.5%	25.9%	7.6%	4.6%	
Los Angeles Department of Water & Power	Los Angeles	6%	1%	1%	1%	14%	42%	4%	17%	10%	4%	
Pasadena Water & Power	Los Angeles	16%	7%	1%	<1%	3%	52%	5%	5%	7%	4%	
City of Anaheim Public Utilities Department	Orange	7%	14%	<1%	<1%	11%	34%	2%	17%	—	14%	
San Diego Gas & Electric	Orange	3%	2%	—	4%	15%	3%	—	67%	—	6%	
Anza Electric Cooperative, Inc.	Riverside	—	—	—	—	—	85%	6%	—	—	6%	

**TABLE 3.6.2-1
ENERGY MIX FOR ELECTRICITY SERVICE PROVIDERS IN THE SCAG REGION**

Electricity Provider	County	Eligible Renewable						Nonrenewable				
		Biomass and Waste	Geothermal	Small Hydroelectric	Solar	Wind	Coal	Large Hydroelectric	Natural Gas	Nuclear	Unspecified ^a	
City of Banning Electric Department	Riverside	—	15%	—	—	—	66%	1%	—	5%	13%	
City of Corona Department of Water & Power	Riverside	22%	—	—	9%	1%	—	6%	—	—	62%	
City of Riverside	Riverside	7%	14%	—	<1%	3%	31%	2%	3%	4%	36%	
Moreno Valley Utility	Riverside	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Morongo Band of Mission Indians	Riverside	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Bear Valley Electric Service	San Bernardino	—	—	—	—	21%	—	—	<1%	—	79%	
City of Needles	San Bernardino	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Colton Electric	San Bernardino	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Rancho Cucamonga Municipal Utility	San Bernardino	30%	—	—	—	—	—	—	—	—	70%	
Victorville Municipal Utilities Services	San Bernardino	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Southern California Edison	All SCAG counties	1%	9%	1%	1%	10%	6%	4%	28%	6%	34%	

NOTE:

- a. Unspecified = electricity from transactions that are not traceable to specific generation sources.
- b. Southern California Edison supplies energy to the City of Cerritos.

SOURCE:

California Energy Commission. 2013. Utility Annual Power Content Labels for 2013. Available at: <http://www.energy.ca.gov/sb1305/labels/index.html>

Alternative Energy Sources

Alternative fuels, as defined by the Energy Policy Act of 1992, include ethanol, natural gas, propane, hydrogen, biodiesel, electricity, methanol, and p-series fuels. These fuels are being used worldwide in a variety of vehicle applications. Use of these fuels for transportation can generally reduce air pollutant emissions and can be domestically produced and derived from renewable sources. The Energy Policy Act of 2005 further directed the Department of Energy to carry out a study to plan for the transition from petroleum to hydrogen in a significant percentage of vehicles sold by 2020. AB 118 (2007) created the CEC's Alternative and Renewable Fuel and Vehicle Technology Program. The statute, subsequently amended by AB 109 (2008), and AB 8 (2013), authorizes the CEC to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change policies. The CEC has an annual program budget of approximately \$100 million to support projects that develop and improve alternative and renewable low-carbon fuels; optimize alternative and renewable fuels for existing and developing engine technologies; produce alternative and renewable low-carbon fuels in California; decrease, on a full fuel cycle basis, the overall impact and carbon footprint of alternative and renewable fuels and increase sustainability; expand fuel infrastructure, fueling stations, and equipment; improve light-, medium-, and heavy-duty vehicle technologies; retrofit medium- and heavy-duty on-road and non-road vehicle fleets; expand infrastructure connected with existing fleets, public transit, and transportation corridors; establish workforce training programs; conduct public education and promotion; and create technology centers.³⁷

There are over 1,500 alternative fueling stations within the SCAG region (Table 3.6.2-2, *Alternative Fueling Stations in the SCAG Region*; Figure 3.6.2-5, *Alternative Fueling Facilities*). The following descriptions of alternative fuels are from the U.S. Department of Energy's Alternative Fuels Data Center website.³⁸

³⁷ California Energy Commission. Accessed 12 July 2015. *Alternative and Renewable Fuel and Vehicle Technology Program Proceedings*. Available at: <http://www.energy.ca.gov/altfuels/>

³⁸ U.S. Department of Energy, Alternative Fuels Data Center. Accessed 12 July 2015. Website. Available at: <http://www.eere.energy.gov/afdc/fuels/index.html>

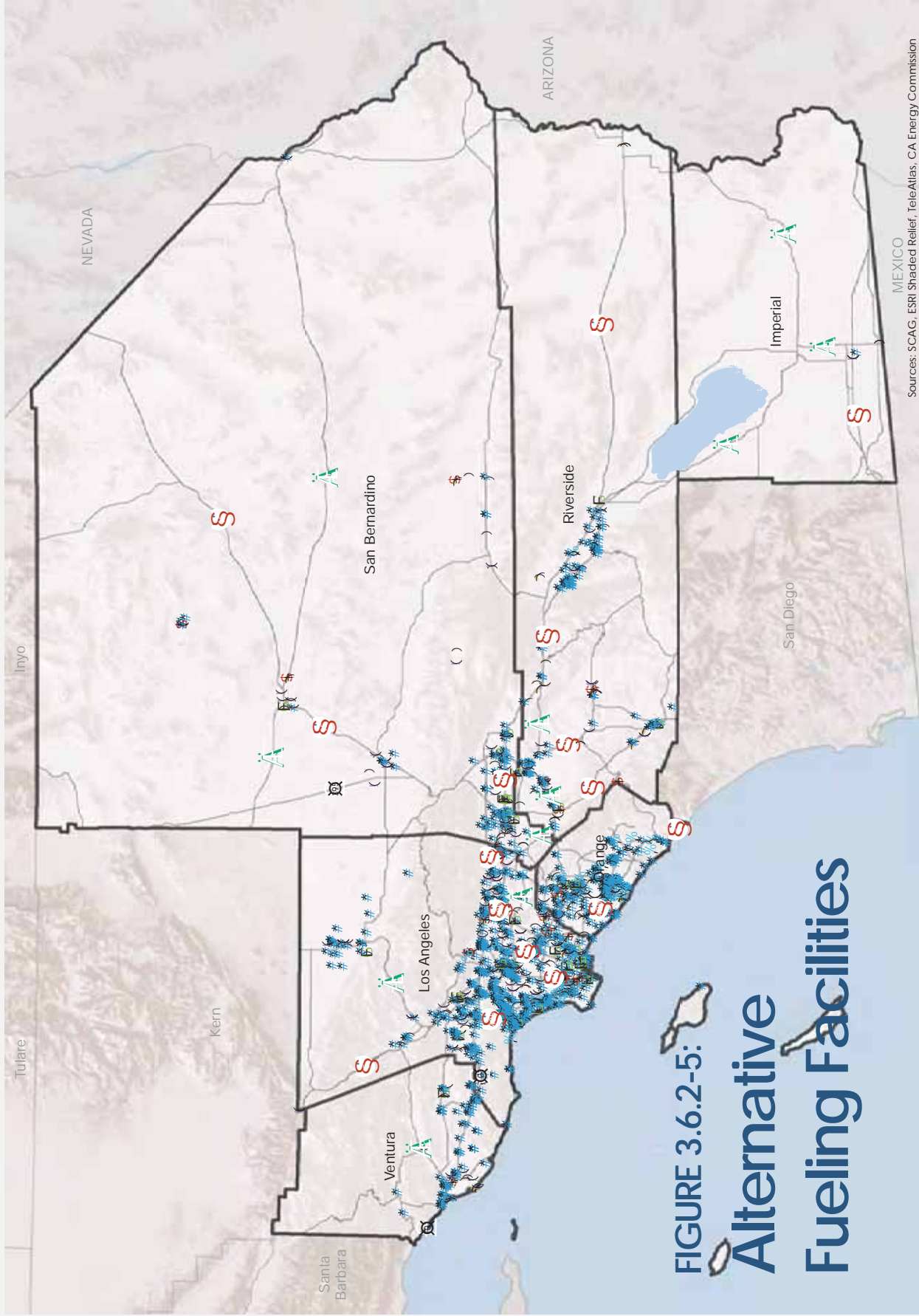


FIGURE 3.6.2-5:
Alternative Fueling Facilities

**TABLE 3.6.2-2
ALTERNATIVE FUELING STATIONS IN THE SCAG REGION**

County	Fuel Type	Count
Imperial	CNG	2
	ELEC	1
	LPG	2
Los Angeles	BD	9
	CNG	93
	E85	13
	ELEC	658
	HY	19
	LNG	18
	LPG	90
	Orange	BD	1
Orange	CNG	30
	E85	9
	ELEC	191
	HY	11
	LNG	2
	LPG	26
	Riverside	BD	4
CNG		34
E85		8
ELEC		111
HY		2
LNG		5
LPG		17
San Bernardino	BD	4
	CNG	24
	E85	6
	ELEC	79
	HY	2
	LNG	8
Ventura	LPG	24
	BD	1
	CNG	6
	E85	3
	ELEC	63
	LNG	1
Total	LPG	9
		1,586

NOTE:

BD = Biodiesel; CNG = Compressed Natural Gas; ELEC = Electric; E85 = Ethanol; HY = Hydrogen; LNG = Liquefied Natural Gas; LPG = Propane.

SOURCE:

U.S. Department of Energy, Alternative Fuels Data Center. Accessed 12 July 2015. Website. Available at: <http://www.eere.energy.gov/afdc/fuels/index.html>

Ethanol. Ethanol is a clear, colorless liquid made from various plant materials collectively known as biomass. Blends of at least 85 percent ethanol are considered alternative fuels under the Energy Policy Act E85. A blend of 85 percent ethanol and 15 percent gasoline is used in flexible fuel vehicles (FFVs) that are currently offered by most major auto manufacturers. FFVs can run on gasoline, E85, or any combination of the two and qualify as alternative fuel vehicles under Energy Policy Act regulations.

Natural Gas. Natural gas is an odorless, gaseous mixture of hydrocarbons—mainly methane (CH₄)—and accounts for about a quarter of the energy used in the United States. The vast majority of natural gas in the United States is considered a fossil fuel because it is made from sources formed over millions of years by the action of heat and pressure on organic materials. Alternatively, renewable natural gas (RNG), also known as biomethane, is produced from organic materials—such as waste from landfills and livestock—through anaerobic digestion. RNG qualifies as an advanced biofuel under the Renewable Fuel Standard. Two forms of natural gas are currently used in vehicles: compressed natural gas (CNG) and liquefied natural gas (LNG). Both are domestically produced, relatively low priced, and commercially available.

Propane. Propane is produced as a by-product of natural gas processing and crude oil refining. It accounts for about 2 percent of the energy used in the United States. Of that, less than 2 percent is used for transportation fuel. Its main uses include home and water heating, cooking and refrigerating food, clothes drying, powering farm and industrial equipment. Interest in propane as an alternative transportation fuel stems mainly from its domestic availability, high-energy density, clean-burning qualities, and its relatively low cost. It is the world's third most common transportation fuel and is considered an alternative fuel under the Energy Policy Act of 1992.

Hydrogen. Hydrogen gas is the simplest and lightest fuel (H₂). Hydrogen is in a gaseous state at atmospheric pressure and ambient temperatures. Hydrogen is being explored for use in combustion engines and fuel cell electric vehicles. The ability to create hydrogen from a variety of sources (water, hydrocarbons, and other organic matter) and its clean-burning properties make it a desirable alternative fuel. One of the challenges of using hydrogen as fuel comes from being able to efficiently extract hydrogen from these compounds. Although there is no significant transportation distribution system currently for hydrogen transportation use, hydrogen could be transported and delivered using the established hydrogen infrastructure; for significant market penetration, the infrastructure will need further development.

California is leading the nation in hydrogen fueling stations for fuel cell vehicles. By the end of 2015, there should be more than 50 public stations available fuel cell vehicles. Vehicle manufacturers are beginning to offer fuel cell vehicles to consumers who live in regions where these hydrogen stations exist.

Biodiesel. Biodiesel is a domestically produced, renewable fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant greases. Biodiesel is safe, biodegradable, and reduces serious air pollutants such as particulates, carbon monoxide, hydrocarbons, and air toxics. According to the U.S. Department of Energy, pure biodiesel (B100) is considered an alternative fuel under Energy Policy Act. Like petroleum diesel, biodiesel is used to fuel compression-ignition engines, which run on petroleum diesel. Lower-level biodiesel blends are not considered alternative fuels, but covered fleets can earn one Energy Policy Act credit for every 450 gallons of B100 purchased for use in blends of 20 percent or higher.

Electricity. Electricity can be used as a transportation fuel to power plug-in and fuel cell vehicles. When used to power plug-in electric vehicles or EVs, electricity is stored in an energy storage device such as a battery. Fuel cell vehicles use electricity produced from an electrochemical reaction that takes place when hydrogen and oxygen are combined in the fuel cell “stack.” The production of electricity using fuel cells takes place without combustion or pollution and leaves only two byproducts, heat and water.

Electric vehicles have several different charging systems: 120-volt, 240-volt, and direct-current. An electric vehicle that accepts 120-volt power can do so from any standard electrical outlet with a 12- or 16-amp dedicated branch circuit (with no other receptacles or loads on the circuit). A 240-volt system (Level 2 charging station) requires the installation of a home charging station and is available at most public charging stations. Direct-current fast charging equipment (480 volt) provides 50 kW to the battery. Many plug-in vehicle owners will do the majority of their charging at home (or at fleet facilities, in the case of fleets). Some employers offer access to charging at the workplace. In many states, plug-in vehicle drivers also have access to public charging stations at libraries, shopping centers, hospitals, and businesses. Charging infrastructure is rapidly expanding, providing drivers with the convenience, range, and confidence to meet more of their transportation needs with plug-in vehicles.

Methanol. Methanol, also known as wood alcohol, can be used as an alternative fuel in flexible fuel vehicles that run on M85 (a blend of 85 percent methanol and 15 percent gasoline). However, it is not commonly used because automakers are no longer manufacturing methanol-powered vehicles. Today most of the world's methanol is produced by a process using natural gas as a feedstock. However, the ability to produce methanol from non-petroleum feedstocks such as coal or biomass is of interest for reducing petroleum imports. The Massachusetts Institute of Technology is researching the future of natural gas as a feedstock to enable more widespread adoption of methanol as a transportation fuel. The National Renewable Energy Laboratory has researched ways to use methanol fuel in fuel cell vehicles.

P-Series fuel. P-Series fuel is a unique blend of natural gas liquids (pentanes plus), ethanol, and the biomass-derived co-solvent methyltetrahydrofuran (MeTHF). P-Series fuels are clear, colorless, 89-93 octane, liquid blends that are formulated to be used in FFVs. P-Series are designed to be used alone or freely mixed with gasoline in any proportion inside the FFV's gas tank. These fuels are not currently being produced in large quantities and are not widely used.

Renewable Electricity. Electricity supply reliability depends, in part, on the diversity of energy sources. PURPA defines facilities that use alternative or renewable energy sources as “qualifying facilities.” It provides financial incentives for their installation and requires utilities to sign long-term power purchase contracts with qualifying facilities. The CPUC has adopted contract incentives to assist qualifying facilities.

Qualifying facilities built in the SCAG region include wind and solar installations in Riverside and San Bernardino Counties and a number of cogeneration units around the region. Original provisions of PURPA encouraged the construction of biomass-to-energy facilities, which use materials such as agricultural and wood waste as fuel for energy production.

3.6.3 THRESHOLDS OF SIGNIFICANCE

The potential for the 2016 RTP/SCS to result in impacts related to energy was analyzed considering the potential environmental impacts outlined in Appendix F of the CEQA Guidelines and SCAG has developed the thresholds below. The Plan would result in a potentially significant impact if it would:

- Increase petroleum and non-renewable fuel consumption in the regional transportation system
- Increase residential energy consumption
- Increase building energy consumption in anticipated development
- Increase water consumption and energy use related to water in anticipated development

Methodology

This section summarizes the methodology used to evaluate the expected impacts of implementation of the 2016 RTP/SCS on energy consumption and associated environmental effects. Estimated energy consumption in the Plan horizon year of 2040 is expected to represent the most conservative (i.e., highest energy consumption of any year in the Plan) because population and employment are projected to be higher in 2040 than in any earlier year, and future conservation efforts may not be fully quantified at this time. Building energy and water consumption were estimated for future horizon year 2040 using Urban Footprint Scenario Planning Model (SPM).³⁹ The SPM is a web-based scenario development, modeling, and data organization tool developed to facilitate informed and collaborative regional planning. Built on open source software platforms, the SPM includes a suite of tools and analytical engines that help to illustrate planning and policy growth scenarios and to estimate and compare, in relatives, potential benefits and effects among scenarios in transportation, environment, fiscal, public health, and community. Moreover, the SPM provides a common data framework within which local planning efforts can be easily integrated and synced with regional plans.

The SPM is used for comparing planning scenarios and developing a preferred policy growth scenario for the Plan. It includes a number of planning assumptions. Energy efficiency and conservation measures are accounted for in the energy use with efficiency data, which the SPM assumes a certain percentage of newly constructed buildings to follow stricter energy efficiency standards. The effective average building energy efficiency assumes a decrease in energy consumption of 3 percent by 2020, 9 percent by 2035, and 13 percent by 2040. Similarly, assumed by the SPM, the effective average water efficiency would decrease in water consumption of 3 percent by 2020, 9 percent by 2035, and 14 percent by 2040. The SPM also uses the assumption that the electricity price in the baseline year is \$0.15/ kWh. With the 2016 RTP/SCS, the electricity price is predicted to increase to \$0.17/kWh in 2020, \$0.23/kWh in 2035, and \$0.25/kWh in 2040. The SPM assumes that the water price for the Plan baseline year (2012) is estimated at \$1,200/acre foot (AF), and that the water price would increase to \$1,267/AF in 2020, \$1,493/AF in 2035, and \$1,577 AF in 2040. These assumptions were used to calculate the total utilities cost per household. Fuel consumption was evaluated in SCAG's Regional Transportation Demand Model.

It is important to note that the analysis of these impacts under this section is programmatic at the

³⁹ Southern California Association of Governments. Accessed 30 October 2015. *Scenario Planning Model*. Available at: <http://sp.scag.ca.gov/Pages/About.aspx>

regional level. The 2016 RTP/SCS would result in energy impacts as a result of the following: energy demands for construction of transportation projects and development, energy demands for operation of the regional transportation system, and the growing energy demand from anticipated growth and development associated with implementation of the 2016 RTP/SCS. Project-specific impacts vary, and appropriate mitigation measures would need to be developed on the subsequent project-by-project and site-by-site basis by implementation agency, as appropriate.

3.6.4 IMPACT ANALYSIS

IMPACT EN-1: Potential to increase petroleum and non-renewable fuel consumption in the regional transportation system.

Less than Significant Impact

The 2016 RTP/SCS would have a less than significant impact on increasing petroleum and non-renewable fuel usage because fuel consumption is expected to result in a 27.4 percent net reduction in the SCAG region from the 9.3 billion gallons consumed in 2012 to the projected 6.8 billion gallons consumed in 2040 (Table 3.6.4-1, *SCAG Region Estimated Transportation Fuel Consumption*).

**TABLE 3.6.4-1
SCAG REGION ESTIMATED TRANSPORTATION FUEL CONSUMPTION**

	Fuel Consumed		Percentage under Existing
	Billion Gallons per Year	Thousand Gallons per Day	
2012	9.3	25,570	—
2040 Baseline	7.2	19,805	-22.5
2040 Plan	6.8	18,560	-27.4

SOURCE:

SCAG transportation modeling, 2015.

As the SCAG region’s economy and population grow, vehicle miles traveled (VMT) from 2012 to 2040 will increase accordingly. Proposed transportation investments and land use strategies that encourage carpooling, increase transit use and active transportation opportunities, and promote more walkable and mixed use communities would potentially help to offset passenger VMT, but not so much as to reduce total VMT by 2040. Despite a net increase in VMT, fuel consumption reductions are still realized through better fuel economy (22 miles per gallon [mpg] to 28 mpg according to corporate average fuel economy [CAFE] standards), the Advanced Clean Cars Program, reduced total daily hours of delays in the SCAG transportation system as a result of the 2016 RTP/SCS, and more alternative fuel and zero emissions vehicle types on the road.⁴⁰ In accordance with EO B-16-2012, 1.5 million ZEVs are expected to be on California’s roadways by 2025. EO B-16-2012 also sets zero emission vehicles purchasing requirements for State Government fleets to lead this transition to cleaner fuel vehicles. Therefore, it is expected that better fuel economy and use of alternative fuel and zero emissions vehicle types, in addition to potential implementation of the coordinated transportation and land use strategies included in the 2016 RTP/SCS, would result in a less than significant impact with respect to petroleum and non-renewable fuel consumption increase, and the consideration of mitigation measures is not warranted.

⁴⁰ U.S. Department of Transportation. Accessed 21 October 2015. *CAFE – Fuel Economy*. Available at: <http://www.nhtsa.gov/fuel-economy>

IMPACT EN-2: Potential to increase residential energy consumption.

Significant Impact

The 2016 RTP/SCS would result in a potential to increase residential energy consumption because of the increasing number of households. As described in **Section 2.0, Project Description**, of this PEIR, it is expected that the region would add approximately over 1.5 million households by 2040. However, residential energy consumption per household with efficiency is expected to decline from 70 million Btu in 2012 to 57 million Btu as reflected in the 2016 RTP/SCS (**Table 3.6.4-2, Residential Energy Use and Cost per Household**). Additionally, the Plan includes land use strategies that are intended to increase more sustainable and energy efficient residential development. As a result, it is projected that the 2016 RTP/SCS would result in an estimated 18 percent reduction in residential energy consumption with efficiency per household and an estimated 19 percent reduction in residential electricity consumption per household (**Table 3.6.4-2**). Despite the reduction in energy and electricity consumption per household, the anticipated growth between 2012 and 2040 will result in an estimated 1.5 million or 26 percent increase in the number of households (**Table 3.6.4-2**). Collectively, the total residential energy use with efficiency will increase by approximately 3 percent to 425 trillion Btu, resulting in a significant impact.

**TABLE 3.6.4-2
RESIDENTIAL ENERGY USE AND COST PER HOUSEHOLD**

	Base Year (2012)	Plan (2040)	% Difference from Base Year
Residential energy use per household with efficiency (Btu)	70 million	57 million	-18
Residential electricity use per household with efficiency (kWh)	7,756	6,300	-19
Number of households	5,885,000	7,406,000	26
Residential energy use with efficiency (Btu)	414 trillion	425 trillion	3
Residential energy cost	\$9.9 billion	\$17.8 billion	80

NOTE:

Btu = British thermal unit; kWh = kilowatt-hour.

SOURCE:

SCAG scenario planning modeling, 2015.

Residential energy costs are also expected to increase from \$9.9 billion in 2012 to \$17.8 billion in 2040 across the SCAG region, as reflected in the 2016 RTP/SCS (**Table 3.6.4-2**). This represents an approximately \$722⁴¹ increase in household energy costs from 2012 to 2040 (**Table 3.6.4-3**). Increased energy costs, despite lower energy use, can be explained by increasing electricity and natural gas per unit costs. **Table 3.6.4-2** shows there would be an estimated 80 percent increase in household cost compared to the 2012 Base Year. The total utility cost per household, including both energy and water cost is also expected to increase by \$737⁴² from 2012 to 2040 (**Table 3.6.4-3, Residential Energy and Water Cost per Household**). Water costs do not proportionally increase as much as energy costs and is a much smaller dollar value overall.

⁴¹ \$2,401 - \$1,679 = \$722 increase in household energy costs

⁴² \$2,925 - \$2,188 = \$737 increase in household utility costs

**TABLE 3.6.4-3
RESIDENTIAL ENERGY AND WATER COST PER HOUSEHOLD**

	Base Year (2012)	Plan (2040)	% Difference from Base Year
Residential energy cost per household	\$1,679	\$2,401	43
Residential water cost per household	\$509	\$524	3
Total utilities (energy + water) cost per household	\$2,188	\$2,925	34

SOURCE:

SCAG scenario planning modeling, 2015.

IMPACT EN-3: Potential to increase building energy consumption in anticipated development.

Significant Impact

As described in **Section 2.0, Project Description**, the SCAG region is expected to add approximately over 1.5 million people by 2040. Because of population growth and anticipated development associated with the growth, building energy consumption is projected to increase, thereby resulting in a potentially significant impact. Implementation of the proposed 2016 RTP/SCS would be expected to result in more compact land use patterns as the proposed Plan’s land use strategies focus on urban infill growth and walkable, mixed-use communities in existing urbanized and opportunity areas. More mixed-use, walkable, and urban infill development, plus the proposed transportation investments that increase active transportation opportunities and improved facilities, would be expected to accommodate a higher proportion of growth in more energy-efficient housing types like townhomes, apartments, and smaller single-family homes, as well as more compact commercial building types. Such development would be expected to result in an increase in residential and commercial energy consumption with efficiency in 2040 than in 2012 (**Table 3.6.4-4 Building Energy Consumption with Efficiency—Residential and Commercial**). Residential and commercial building energy consumption with efficiency is expected to increase by 8 percent from 2012 to 2040 with the proposed 2016 RTP/SCS as a result of the 2016 RTP/SCS (**Table 3.6.4-4**). Most of these increases are seen in the commercial sector (15 percent) compared to the residential sector (3 percent). Despite an increase in energy efficiency in buildings, population growth and more development to accommodate new growth are expected to cause a net increase in energy consumption for both residential and commercial buildings. Therefore, the proposed 2016 RTP/SCS is anticipated to result in a potentially significant impact with respect to increases in building energy consumption, requiring the consideration of mitigation measures.

**TABLE 3.6.4-4
BUILDING ENERGY CONSUMPTION WITH EFFICIENCY—RESIDENTIAL AND COMMERCIAL**

	Base Year (2012)	Plan (2040)	% Difference from Base Year
Residential electricity consumed with efficiency (GWh)	45,643	46,656	2
Residential natural gas consumed with efficiency (therms)	2.6 billion	2.7 billion	3
Residential energy consumed with efficiency (Btu)	414 trillion	425 trillion	3
Commercial electricity consumed with efficiency (GWh)	55,808	64,859	16
Commercial natural gas consumed with efficiency (therms)	1.1 billion	1.2 billion	12
Commercial energy consumed with efficiency (Btu)	301 trillion	345 trillion	15
Total energy consumed with efficiency (Btu)	714 trillion	770 trillion	8

NOTE:

GWh = gigawatt-hour; Btu = British thermal unit.

SOURCE:

SCAG Scenario planning modeling, 2015.

IMPACT EN-4: Potential to increase water consumption and energy use related to water in anticipated development.

Less than Significant Impact

Due to increasing energy efficiencies, water consumption and water-related energy use would be expected to have a less than significant impact. Residential and commercial water use with efficiency is expected to decline by 19 percent with nearly all of the reductions from the commercial sector (33 percent) versus the residential sector (1 percent) (Table 3.6.4-5, *Water Use with Efficiency—Residential and Commercial*). As described above, the effective average water efficiency will decrease in water consumption of 3 percent by 2020, 9 percent by 2035, and 14 percent by 2040. These reductions are driven by the drought and EO B-29-15 (2015), which allows the State Resources Water Control Board to impose restrictions to achieve a 25 percent statewide reduction in potable urban water by 2016. Larger reductions are seen in the outdoor water use compared with the indoor water use for both residential and commercial. This is aligned with potential higher density, multi-family and attached single-family development (which tends to consume less water for outdoor, landscaping uses, compared to lower density development with larger lot sizes) expected from implementation of the Plan’s land use strategies that encourage more compact development in existing urbanized areas and opportunity areas.

**TABLE 3.6.4-5
WATER USE WITH EFFICIENCY—RESIDENTIAL AND COMMERCIAL**

	Base Year (2012)	Plan (2040)	% Difference from Base Year
Indoor residential water use with efficiency (AF)	1,092,783	1,140,862	4
Outdoor residential water use with efficiency (AF)	1,403,850	1,318,632	-6
Residential water use with efficiency (AF)	2,496,633	2,459,494	-1
Indoor commercial water use with efficiency (AF)	1,178,150	1,274,841	8
Outdoor commercial water use with efficiency (AF)	2,007,065	873,667	-56
Commercial water use with efficiency (AF)	3,185,215	2,148,508	-33
Total water use with efficiency (AF)	5,681,848	4,608,002	-19

NOTE:

AF = acre-feet.

SOURCE:

SCAG scenario planning modeling, 2015.

Water use is closely tied to the electricity required to transport, distribute, and treat water. Water-related electricity use is expected to decline from 21,984 gigawatt-hours (GWh) in 2012 to 18,186 GWh in 2040 with the proposed 2016 RTP/SCS, which represents a 17 percent reduction in electricity (Table 3.6.4-6, *Water-Energy*). Therefore, implementation of the 2016 RTP/SCS would be expected to result in a less than significant impact with respect to water consumption and water-related energy use, and the consideration of mitigation measures is not warranted.

**TABLE 3.6.4-6
WATER-ENERGY**

	Base Year (2012)	Plan (2040)	% Difference from Baseline
Water-related electricity use with water efficiency (GWh)	21,984	18,186	-17

NOTE:

GWh = gigawatt-hour.

SOURCE:

SCAG scenario planning modeling, 2015.

3.6.5 CUMULATIVE IMPACTS

The SCAG region accounts for about half of California’s population and about half of its energy demand. As noted above, the state is aggressively pursuing GHG reductions that will also result in a decrease in energy consumption. The 2016 RTP/SCS reflects transportation projects, growth, and land use strategies, including anticipated development patterns at a regional level to accommodate growth projections and plan strategically for the region’s future. These growth and land use strategies are coordinated with and supported by transportation investments that are intended to increase mobility, active transportation and transit opportunities. SCAG’s Regional Travel Demand Model (RTDM) used for this analysis captures pass-through traffic that does not have an origin or destination in the region, but does impact the region, so that too is included in the project analysis.

IMPACT EN-1: Potential to increase petroleum and non-renewable fuel consumption in the regional transportation system.

Less than Significant Cumulative Impact

The 2016 RTP/SCS includes transportation projects and strategies that would have the potential to increase petroleum and non-renewable fuel consumption in the regional transportation system. With implementation of the Plan, the fuel consumption would be less in 2040 than in 2015 (Table 3.6.4-1). Because the Plan would benefit from lower emission factors in the future, cleaner cars, improved fuel and vehicle technology, and increased public transit use and active transportation, the Plan would result in less than significant cumulative impact to increasing petroleum and non-renewable fuel consumption.

IMPACT EN-2: Potential to increase residential energy consumption.

Significant Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with other development and infrastructure projects within the SCAG region and surrounding areas, would have the potential to increase the consumptive use of energy by residential land uses, constituting a significant cumulative impact. The cumulative residential energy consumption between 2015 and 2040 would be 6 percent less with the Plan than with no Plan. However, there would still be 11,028 trillion Btu commitment to residential energy consumption over the lifespan of the Plan (Table 3.6.5-1, *Cumulative Building Energy Consumption—Residential and Commercial*), resulting in a significant cumulative impact requiring the consideration of mitigation measures.

IMPACT EN-3: Potential to increase building energy consumption in anticipated development.

Significant Cumulative Impact

Furthermore, implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with other development and infrastructure projects within the SCAG region and surrounding areas, would have the potential to increase building energy consumption, constituting a significant cumulative impact. The total energy consumption between 2015 and 2040 with the proposed 2016 RTP/SCS is 19,559 trillion Btu (Table 3.6.5-1). This is 4 percent less than the energy consumption expected in the same time frame without the Plan. Compared to the yearly energy consumption with efficiency in the year 2040, which had a net increase from 2012 as evaluated in Impact EN-3, cumulatively there are reductions in total energy consumption with the proposed 2016 RTP/SCS. Cumulatively, the residential sector has more energy savings (6 percent) than the commercial sector (1 percent). This reduction in cumulative building energy consumption has a corresponding energy cost savings of \$27 billion (\$735 billion compared to \$762 billion) over the lifetime of the proposed Plan (2016–2040). However, there would still be 19,559 trillion Btu commitment to total energy consumption over the lifespan of the Plan, resulting in a significant cumulative impact requiring the consideration of mitigation measures.

**TABLE 3.6.5-1
CUMULATIVE BUILDING ENERGY CONSUMPTION—RESIDENTIAL AND COMMERCIAL**

	Baseline (2015-2040)	Plan (2015- 2040)	% Difference from Baseline
Cumulative residential electricity consumed (GWh)	1,290,874	1,212,916	-6
Cumulative residential natural gas consumed (therms)	72.7 billion	68.9 billion	-5
Cumulative residential energy consumed (Btu)	11,677 trillion	11,028 trillion	-6
Cumulative commercial electricity consumed (GWh)	1,613,499	1,596,322	-1
Cumulative commercial natural gas consumed (therms)	31.2 billion	30.8 billion	-1
Cumulative commercial energy consumed (Btu)	8,630 trillion	8,530 trillion	-1
Cumulative total energy consumed (Btu)	20,306 trillion	19,559 trillion	-4
Cumulative total energy costs (\$)	\$762 billion	\$735 billion	-3

NOTE:

GWh = gigawatt-hour; Btu = British thermal unit.

SOURCE:

SCAG scenario planning modeling, 2015.

IMPACT EN-4: Potential to increase water consumption and energy use related to water in anticipated development.

Less than Significant Cumulative Impact

If considered cumulatively, the total water consumption between 2015 to 2040 with the proposed 2016 RTP/SCS is 133,135,367 AF (Table 3.6.5-2, *Cumulative Water Use and Costs—Residential and Commercial*). This is 0.6 percent less than the water consumption expected in the same time frame without the RTP. This is similar to the decrease seen in the yearly water consumption with efficiency in Impact EN-4, but to a lesser degree when considered cumulatively. Cumulatively, the residential sector has less water use by 1.3 percent with implementation of the Plan. The commercial sector remains relatively unchanged with implementation of the Plan. This should correlate with a reduction in required water-related energy usage, resulting in a less than significant cumulative impact.

**TABLE 3.6.5-2
CUMULATIVE WATER USE AND COSTS—RESIDENTIAL AND COMMERCIAL**

	Baseline (2015-2040)	Plan (2015-2040)	% Difference from Baseline
Cumulative indoor residential water use (AF)	29,396,594	29,297,620	-0.3
Cumulative outdoor residential water use (AF)	36,260,835	35,506,097	-2.1
Cumulative residential water use (AF)	65,657,429	64,803,718	-1.3
Cumulative indoor commercial water use (AF)	32,244,468	32,236,722	0.0
Cumulative outdoor commercial water use (AF)	36,094,927	36,094,927	0.0
Cumulative commercial water use (AF)	68,339,395	68,331,650	0.0
Cumulative total water use (AF)	133,996,824	133,135,367	-0.6
Cumulative total water costs (\$)	\$186 billion	\$185 billion	-0.6

NOTE:

AF = acre-feet.

SOURCE:

SCAG scenario planning modeling, 2015.

3.6.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to energy are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the proposed 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT EN-2: Potential to increase residential energy consumption.

SCAG Mitigation Measures

MM-EN-2(a): SCAG shall encourage energy efficient design for buildings, potentially including strengthening local building codes for new construction and renovation to achieve a higher level of energy efficiency.

See also MM-EN-3(a)(1), MM-EN-3(a)(2), MM-GHG-3(a)(12).

Project-Level Mitigation Measures

MM-EN-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects of increased residential energy consumption that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with CALGreen, local building codes, and other applicable laws and regulations governing residential building standards, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Integrate green building measures consistent with CALGreen (California Building Code Title 24) into project design including:
 - Use energy efficient materials in building design, construction, rehabilitation, and retrofit.
 - Install energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems.
 - Reduce lighting, heating, and cooling needs by taking advantage of light colored roofs, trees for shade, and sunlight.
 - Incorporate passive environmental control systems that account for the characteristics of the natural environment.
 - Use high-efficiency lighting and cooking devices.
 - Incorporate passive solar design.
 - Use high-reflectivity building materials and multiple glazing.
 - Prohibit gas-powered landscape maintenance equipment.
 - Install electric vehicle charging stations.
 - Reduce wood burning stoves or fireplaces.
 - Provide bike lanes accessibility and parking at residential developments.

IMPACT EN-3: Potential to increase building energy consumption in anticipated development.

SCAG Mitigation Measures

MM-EN-3(a)(1): SCAG shall continue to work with local jurisdictions and energy providers, through its Energy and Environment Committee, and administration of the Clean Cities program, Sustainability Planning grants program, and other SCAG energy-related planning activities, to encourage energy efficient building development. SCAG's Sustainability Program works actively with Southern California communities and stakeholders to create a dynamic regional growth vision based on the principles of mobility, livability, prosperity and sustainability.

MM-EN-3(a)(2): SCAG shall continue to pursue partnerships with SCE, municipal utilities, and the CPUC to promote energy efficient development in the SCAG region, through coordinated planning and data and information sharing activities.

Project-Level Mitigation Measures

MM-EN-2(b).

3.6.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT EN-2: Potential to increase residential energy consumption use.

Implementation of Mitigation Measures **MM-EN-2(a)**, **MM-EN-3(a)(1)**, **MM-EN-3(a)(2)**, **MM-GHG-3(a)(12)** and **MM-EN-2(b)** would reduce residential energy consumption; however direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT EN-3: Potential to increase building energy consumption in anticipated development.

Implementation of Mitigation Measures MM-EN-3(a)(1), MM-EN-3(a)(2) and MM-EN-2(b) would reduce impacts to increasing building energy consumption in anticipated development; however, direct, indirect, and cumulative impacts would remain significant and unavoidable.

3.7

GEOLOGY AND SOILS

This section of the Program Environmental Impact Report (PEIR) describes geology and soils in the SCAG region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Project,” or “Plan”) related to hazards to people or property from geology and soils, identifies mitigation measures for the impacts, and evaluates the residual impacts. The potential for hazards to people and property from geology and soils were evaluated in accordance with Appendix G of the 2015 State California Environmental Quality Act (CEQA) Guidelines. Geology and soils within the SCAG region were evaluated at the programmatic level of detail, in relation to the general plans of the six counties and the 191 cities within the SCAG region, review of general information characterizing geology and soils from the Dibblee Maps and maps of Alquist-Priolo zones and mapping of seismic zones and movement that has occurred along mapped earthquake faults, review of published and unpublished literature germane to the SCAG region, and review of SCAG’s 2012 RTP/SCS PEIR.¹

The geology and soils of the SCAG region were defined by major forces that continue to shape the physical environment, including mountain building, faulting, erosion, deposition, and volcanic activity. These events occur both gradually and in potentially catastrophic episodes. The region that is now Southern California slowly “assembled” over a billion years from older materials recycled through the lithosphere (Earth’s crust and mantle) or accumulated from precipitation and biological activity in the oceans, or carried in as ash and dust in the atmosphere.² Tectonic forces and volcanism built up the landscape, and sediments eroded and deposited along the margin of the North American continent, later to be uplifted and recycled over again. Much of the continental crust that is now southern California was derived or recycled from crust that formed beneath the Pacific Ocean region and later subducted or accreted onto the margin of the North American continent.

Definitions

Alluvium: An unconsolidated accumulation of stream deposited sediments, including sands, silts, clays or gravels.

Extrusive Igneous Rocks: Rocks that crystallize from molten magma on earth’s surface.

Fault: A fracture or fracture zone in rock along which movement has occurred.

Formation: A laterally continuous rock unit with a distinctive set of characteristics that make it possible to recognize and map from one outcrop or well to another. The basic rock unit of stratigraphy.

Holocene: An interval of time relating to, or denoting the present epoch, which is the second epoch in the Quaternary period, from approximately 11,000 years ago to the present time.

¹ Southern California Association of Governments. April 2012. *Final Program Environmental Report: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*. Available at: <http://rtppscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

² U.S. Geological Survey. Accessed 7 September 2015. *Geologic History of Southern California*. Available at: http://geomaps.wr.usgs.gov/archive/socal/geology/geologic_history/index.html

Liquefaction: The process by which water-saturated sandy soil materials lose strength and become susceptible to failure during strong ground shaking in an earthquake. The shaking causes the pore-water pressure in the soil to increase, thus transforming the soil from a stable solid to a more liquid form.

Miocene: An interval of time relating to, or denoting the fourth epoch of the Tertiary period, between the Oligocene and Pliocene epochs, from approximately 23 to 5.5 million years ago.

Oligocene: An interval of time relating to, or denoting the third epoch of the Tertiary period, between the Eocene and Miocene epochs, from approximately 34 to 23 million years ago.

Outcrop: A rock formation that is visible on earth's surface.

Paleocene: An interval of time, relating to, or denoting the earliest epoch of the Tertiary period, between the Cretaceous period and the Eocene epoch.

Paleozoic: An interval of time relating to, or denoting the era between the Precambrian eon and the Mesozoic era.

Pleistocene: An interval of time relating to, or denoting the first epoch of the Quaternary period, between the Pliocene and Holocene epochs, from approximately 2.6 million years ago to 11,000 years ago.

Pliocene: An interval of time relating to, or denoting the last epoch of the Tertiary period, between the Miocene and Pleistocene epochs, from approximately 5.5 to 2.6 million years ago.

Plutonic Igneous Rocks: Igneous rocks that have crystallized beneath the earth's surface.

Pore water pressure: Refers to the pressure of groundwater held within a soil or rock, in gaps between particles (pores).

Quaternary: The most recent period in geological time; includes the Pleistocene and Holocene Epochs.

3.7.1 REGULATORY FRAMEWORK

Federal

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 (Public Law 95-124) established the National Earthquake Hazards Reduction Program which is coordinated through the Federal Emergency Management Agency (FEMA), the U.S. Geological Survey (USGS), the National Science Foundation, and the National Institute of Standards and Technology. The purpose of the Program is to establish measures for earthquake hazards reduction and promote the adoption of earthquake hazards reduction measures by federal, state, and local governments; national standards and model code organizations; architects and engineers; building owners; and others with a role in planning and constructing buildings, structures,

and lifelines through (1) grants, contracts, cooperative agreements, and technical assistance; (2) development of standards, guidelines, and voluntary consensus codes for earthquake hazards reduction for buildings, structures, and lifelines; and (3) development and maintenance of a repository of information, including technical data, on seismic risk and hazards reduction. The Program is intended to improve the understanding of earthquakes and their effects on communities, buildings, structures, and lifelines through interdisciplinary research that involves engineering, natural sciences, and social, economic, and decision sciences.

Disaster Mitigation Act (2000)

The federal Disaster Mitigation Act (DMA; Public Law 106-390) provides the legal basis for FEMA mitigation planning requirements for state, local, and Indian Tribal governments as a condition of mitigation grant assistance. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act by repealing the previous mitigation planning provisions and replacing them with a new set of requirements that emphasize the need for state, local, and Indian Tribal entities to closely coordinate mitigation planning and implementation efforts. The requirement for a state mitigation plan is continued as a condition of disaster assistance, adding incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans. DMA 2000 also established a new requirement for local mitigation plans and authorized up to 7 percent of Hazard Mitigation Grand Program funds available to a state for development of state, local, and Indian Tribal mitigation plans.

Uniform Building Code (UBC)

The UBC is published by the International Conference of Building Officials and forms the basis for California's building code, as well as approximately half of the state building codes in the United States. It has been adopted by the California Legislature to address the specific building conditions and structural requirements for California, as well as provide guidance on foundation design and structural engineering for different soil types. The UBC defines and ranks the regions of the United States according to their seismic hazard potential. There are four types of regions defined by Seismic Zones 1 through 4, with Zone 1 having the least seismic potential and Zone 4 having the highest.

U.S. Geological Survey Landslide Hazard Program

The USGS Landslide Hazard Program provides information on landslide hazards including information on current landslides, landslide reporting, real time monitoring of landslide areas, mapping of landslides through the National Landslide Hazards Map, local landslide information, landslide education, and research.

Farmland Protection Program (1996)

The Farmland Protection Program was enacted in 1996, directing the Secretary of Agriculture to establish and carry out a farmland protection program under which the Secretary shall purchase conservation easements or other interests in not less than 170,000, nor more than 340,000, acres of land with prime, unique, or other productive soil that is subject to a pending offer from a state or local government for the purpose of protecting topsoil by limiting nonagricultural uses of the land. The Natural Resources Conservation Service (NRCS) maps soils and farmland uses to provide comprehensive

information necessary for understanding, managing, conserving and sustaining the nation's limited soil resources. In addition to many other natural resource conservation programs, the NRCS manages the Farmland Protection Program, which provides funds to help purchase development rights to keep productive farmland in agricultural uses. Working through existing programs, the United States Department of Agriculture (USDA) joins with state, tribal, and local governments to acquire conservation easements or other interests from landowners.

State

Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act)

The Alquist-Priolo Act (California Code of Regulations, Section 3603(f)) provides policies and criteria to assist cities, counties, and state agencies in the development of structures for human occupancy across the trace of active faults. The Alquist-Priolo Act was intended to provide the citizens of the state with increased safety and to minimize the loss of life during and immediately following earthquakes by facilitating seismic retrofitting to strengthen buildings, including historical buildings, against ground shaking.

Alquist-Priolo Special Study Zones

The Alquist-Priolo Act requires that special geologic studies be conducted to locate and assess any active fault traces in and around known active fault areas prior to development of structures for human occupancy. This state law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures. The Alquist-Priolo Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. This Act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Public Resources Code, Chapter 7.8, Sections 2690–2699.6) addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides. The purpose of the Act is to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Act.

California Building Code

The California Building Code is another name for the body of regulations contained in Title 24, Part 2, of the California Code of Regulations (CCR), which is a portion of the California Building Standards Code (CBSC; 1995). Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. Published by the International Conference of Building Officials, the UBC is a widely adopted model building code in the United States. The California Building Code incorporates by reference the UBC with necessary California amendments. Approximately one-

third of the text within the California Building Code has been tailored for California earthquake conditions. Although widely accepted and implemented throughout the state, local jurisdictions can adopt the UBC either in whole or in part.

California Department of Transportation (Caltrans) Regulations

Caltrans' jurisdiction includes rights-of-way (ROWs) of state and interstate routes within California. Any work within the ROW of a federal or state transportation corridor is subject to Caltrans' regulations governing allowable actions and modifications to the ROW. Caltrans issues permits to encroach on land within their jurisdiction to ensure encroachment is compatible with the primary uses of the State Highway System, to ensure safety, and to protect the state's investment in the highway facility. The encroachment permit requirement applies to persons, corporations, cities, counties, utilities, and other government agencies. A permit is required for specific activities including opening or excavating a state highway for any purpose, constructing, or maintaining road approaches or connections, grading within rights-of-way on any state highway, or planting or tampering with vegetation growing along any state highway. The encroachment permit application requirements relating to geology, seismicity and soils include information on road cuts, excavation size, engineering and grading cross-sections, hydraulic calculations, and mineral resources approved under Surface Mining Area Reclamation Act (SMARA).

Caltrans Seismic Design Criteria

Caltrans Seismic Design Criteria was initiated through the recognition that past earthquakes in California have shown the vulnerability of some older structures, designed with non-ductile design standards to earthquake-induced force and deformations. As a result, Caltrans initiated an extensive seismic retrofit program to strengthen the state's inventory of bridges to ensure satisfactory performance during anticipated future earthquakes. Caltrans has funded an extensive research program as well as developed design procedures that have furthered the state of practice of earthquake bridge engineering. The Seismic Design Criteria (SDC) are an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. Bridges with non-standard features or operational requirements above and beyond the ordinary standard bridge may require a greater degree of attention than specified by the SDC.

Southern California Catastrophic Earthquake Preparedness Plan

The Southern California Catastrophic Earthquake Preparedness Plan, adopted in 2008, examines the initial impacts, inventories resources, cares for those wounded and homeless and develops a long-term recovery process. The process of Long-Term Regional Recovery (LTRR) provides a mechanism for coordinating federal support to state, tribal, regional, and local governments, nongovernmental organizations (NGOs), and the private sector to enable recovery from long-term consequences of extraordinary disasters. The LTRR process accomplishes this by identifying and facilitating the availability and use of recovery funding sources, and providing technical assistance (such as impact analysis) for recovery and recovery planning support. "Long term" refers to the need to reestablish a healthy, functioning region that would sustain itself over time. Long-term recovery is not debris removal and restoration of utilities, which are considered immediate or short-term recovery actions. The LTRR's

three main focus areas are housing, infrastructure (including transportation), and economic development.

Local

County and City General Plans

A safety element is required in county and city general plans for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards identified in Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body. The safety element shall include mapping of known seismic and other geologic hazards (Government Code Section 65302 (g)). As part of the safety element, county and city governments typically identify goals, objectives, and implementing actions to minimize the loss of life, property damage, and disruption of goods and services from man-made and natural disasters including floods, fires, non-seismic geologic hazards, and earthquakes. County and City governments may provide policies and develop ordinances to ensure acceptable protection of people and structures from risks associated with these hazards. Ordinances may include those addressing unreinforced masonry construction, erosion, or grading.

3.7.2 EXISTING CONDITIONS

Geologic hazards are natural geologic events that can endanger human lives and threaten property. Potential geologic hazards include rupture of a known earthquake fault, seismic ground shaking, seismic ground failure including liquefaction, and landslides. Other hazards in relation to geology and soils include soil erosion or loss of topsoil, and development of structures and buildings in locations with geologic units or soils that are unstable or expansive soils. Similarly, not all areas within the SCAG region are served by sewer systems or have soils that are capable of adequately supporting septic tanks or alternative waste water disposal systems.

Topographic and Geologic Structures

The SCAG region extends primarily over four³ California geomorphic provinces: the Mojave Desert, the Transverse Ranges, the Peninsular Ranges, and the Colorado Desert.⁴ These provinces are naturally defined geologic regions that display a distinct landscape or landform (**Figure 3.7.2-1, *Geomorphic Provinces***).

Mojave Desert

The Mojave Desert geomorphic province occupies approximately 25,000 square miles. It is a broad interior region of isolated mountain ranges separated by expanses of desert. There are two important fault trends that control topography a prominent northwest-southeast trend and a secondary east-west

³ A small sliver of the northwest corner of San Bernardino County is located in the Basin and Range province, and a small area in northern Ventura County is located in the Southern Coastal Ranges province.

⁴ California Geological Survey. 2002. *California Geomorphic Provinces*. Sacramento, CA.

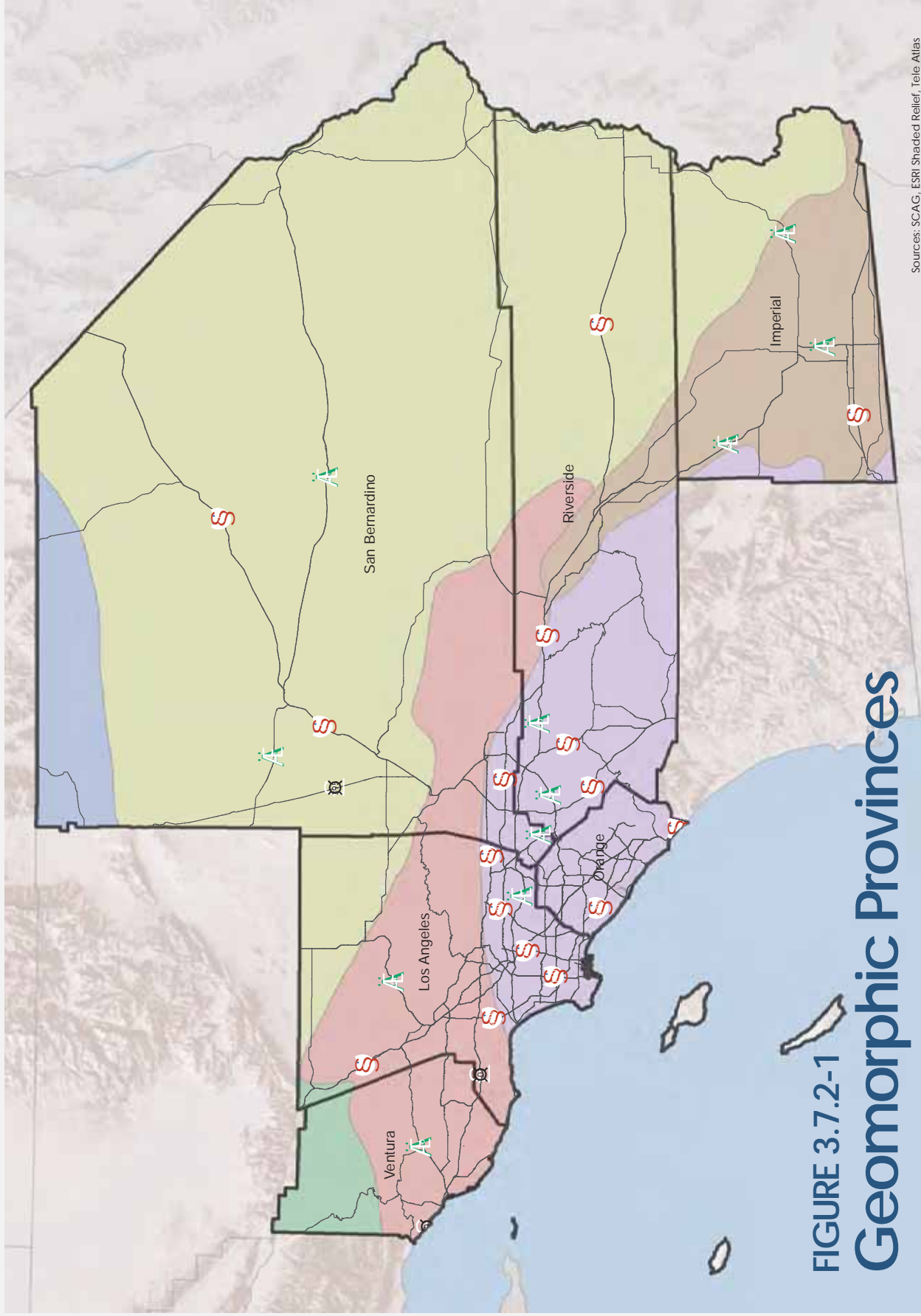


FIGURE 3.7.2-1
Geomorphic Provinces

- Basin and Range
- Colorado Desert
- Mojave Desert
- Peninsular Ranges
- Southern Coastal Ranges
- Transverse Ranges

Sources: SCAG, ESRI Shaded Relief, Tele Atlas



trend. The Mojave province is wedged in a sharp angle between the Garlock Fault to the north (southern boundary Sierra Nevada) and the San Andreas Fault to the west (where it bends east from its northwest trend). The Nevada state line defines its eastern boundary, and the San Bernardino/Riverside county line defines its southern boundary. Portions of Los Angeles and San Bernardino Counties lie within this province.

Erosional features such as broad alluvial basins that receive non-marine sediments from the adjacent uplands dominate the Mojave Desert region. Numerous playas, or ephemeral lakebeds within internal drainage basins, also characterize the region. Throughout this province, small hills—some the remnants of ancient mountainous topography—rise above the valleys that are surrounded by younger alluvial sediments. The highest elevation approaches 4,000 feet above mean sea level (MSL), and most valleys lie between 2,000 to 4,000 feet above MSL.

Transverse Ranges

The Transverse Ranges are an east-west trending series of steep mountain ranges and broad alluvial valleys that extends approximately 320 miles from Point Arguello in the west to the Little San Bernardino Mountains in the east. The east-west structure of the Transverse Ranges is oblique to the normal northwest trend of coastal California, hence the name “Transverse.” This geomorphic province includes Ventura County and portions of Los Angeles, San Bernardino, and Riverside Counties. It also extends offshore to include San Miguel, Santa Rosa, and Santa Cruz islands.

There is intense north-south compression squeezing the Transverse Ranges and resulting in the prominent basins and ranges found in this province, including the Ventura Basin and the San Gabriel and San Bernardino Mountains. This is one of the most rapidly rising regions on earth. Several active faults, such as the San Andreas Fault Zone, are located in the Transverse Ranges. Other faults in the province include the Santa Clara River Valley Fault, the San Gabriel Fault Zone, the Santa Cruz Island Faults, the Santa Rosa Island Faults, and the Soledad Faults. This province is one of the most geologically diverse in California, containing a wide variety of bedrock types and structures. California’s highest peaks south of the central Sierra Nevada and the only Paleozoic rocks in the coastal mountains in the United States are found here. Because of the great lithological diversity, the province is further subdivided into eight subprovinces, each displaying its own geologic signature. Broad alleviated valleys, narrow stream canyons, and prominent faults separate these subprovinces.

Peninsular Ranges

The Peninsular Ranges province consists of a series of ranges separated by northwest trending valleys, subparallel to faults branching from the San Andreas Fault. This province is bounded on the northwest by the Transverse Ranges, on the east by the Colorado Desert, and extends south, encompassing the Los Angeles Basin and terminating 775 miles south of the United States–Mexico border.

The Peninsular Ranges includes the southern portion of Los Angeles County, the southwest corner of San Bernardino County, all of Orange County, and the San Jacinto Mountains and the Coachella Valley in the central portion of Riverside County. The ranges are composed of a series of northwest-southeast trending mountains that are separated by several active faults, including the San Jacinto and Elsinore Fault zones. The Peninsular Ranges is one of the largest geologic units in western North America. Its highest elevations are found in the San Jacinto-Santa Rosa Mountains, with San Jacinto Peak reaching

10,805 feet above MSL. The orientation and shape of the Peninsular Ranges is similar to the Sierra Nevada, in that the west slope is gradual and the eastern face is steep and abrupt. Drainage from the province is typically by the San Diego, San Dieguito, San Luis Rey, and Santa Margarita Rivers.

Colorado Desert (Salton Trough)

The Colorado Desert geomorphic province (also referred to as the Salton Trough) is a depressed block between active branches of alluvium-covered San Andreas Fault with the southern extension of the Mojave Desert province in the east. Its roughly triangular shape is bounded to the east by the Chocolate Mountains, to the west by the Peninsular Ranges, and extends south into Mexico. The area is a low-lying, barren desert basin dominated by the Salton Sea. This province includes a large portion of Imperial County and a small portion of central Riverside County. The Colorado Desert is divided into two main valleys: the deep Imperial Valley to the south and the narrower and shallower Coachella Valley to the north. A good portion of both valleys lie below sea level with the lowest elevation found in the Salton Basin at 235 feet below MSL. The area is characterized by the ancient beach lines and silt deposits of extinct Lake Cahuilla. Geologic features include playas separated by sand dunes and the occurrence of seismic and a seismic subsidence due to the San Andreas Fault system.

Earthquake Faults

The SCAG region is located in an area that has historically experienced high seismicity. In the past 100 years, several earthquakes of magnitude 5.0 or larger have been reported on the active San Andreas, San Jacinto, Elsinore, and Newport-Inglewood fault systems. These four fault systems are concentrated in the western portion of the SCAG region, running in a northwest to southeast direction. The San Andreas Fault lies furthest to the east, extending just above the northern border of Ventura County and the San Gabriel Mountains, eventually terminating at the Salton Sea. As a result, significant earthquake hazards exist in the region.⁵ Injury to people and damage to structures during earthquakes can be caused by actual surface rupture along an active fault, by ground shaking from a nearby or distant fault, liquefaction, or dam failure. In Southern California, the last earthquake exceeding Richter magnitude 8.0 occurred in 1857. Much more frequent are smaller temblors, like the relatively moderate (but still exceedingly damaging) 1971 San Fernando and 1994 Northridge earthquakes, both classified as magnitude 6.7 earthquakes.⁶

⁵ It should be noted that new faults continue to reveal themselves, such as in the case of the Northridge earthquake of 1994, and the potential seismic threats posed by these faults also continue to be reevaluated on the basis of new geologic information and analysis, as in the recent case of the Puente Hills Fault.

⁶ The human and economic damage caused by earthquakes tends to increase with time, as more and more people and property come to occupy more and more of the land, thus cumulatively increasing the exposure of human habitation to seismic hazard. The 1994 Northridge earthquake, though hardly the most severe experienced by Southern California, was deemed the most expensive, in terms of its economic cost and its damage to human property. The California Office of Emergency Services claimed a \$15 billion total damage estimate.

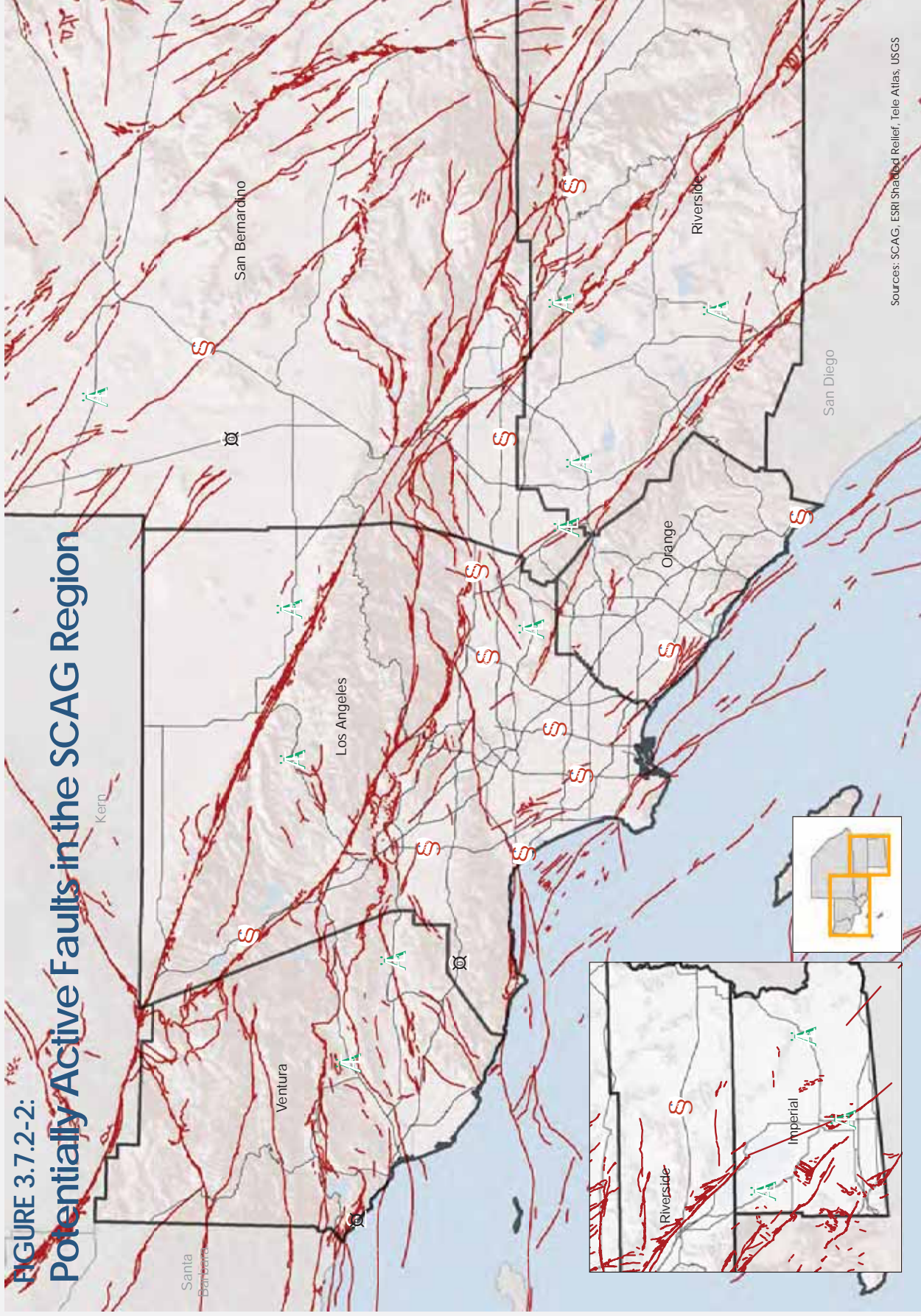
A fault is a fracture in the crust of the earth along which there has been displacement of the sides relative to one another parallel to the fracture. Most faults are the result of repeated displacements over a long period of time. Numerous active and potentially active faults have been mapped in the region (Table 3.7.2-1, *Characteristics of Major Faults in the SCAG Region*, and Figure 3.7.2-2, *Potentially Active Faults in the SCAG Region*). The SCAG region contains lateral strike slip faults similar to the San Andreas and various identified and hidden blind thrust faults. A fault trace is the surface expression of a particular fault. Buried or blind thrust faults are thought to underlie much of the SCAG region. These “buried” faults do not exhibit readily identifiable traces on the earth’s surface and are typically at considerable depth within the underlying geologic formation. Although these faults typically do not offset surface deposits, they can generate substantial ground shaking. The California Geological Survey (CGS) defines active faults as those that have exhibited evidence of displacement during Holocene (10,000 years ago to present) period. Potentially active faults are defined as faults that have exhibited evidence of displacement during the Pleistocene period (10,000 years to 1.8 million years ago). Class A faults have slip rates greater than 5 millimeters per year (mm/yr) and generally have substantial historic seismic data available, while Class B faults have slip rates smaller than 5 mm/yr and, as a rule, historic seismic data on which to develop reliable recurrence intervals of large events is lacking.

**TABLE 3.7.2-1
CHARACTERISTICS OF MAJOR FAULTS IN THE SCAG REGION**

Fault	Counties	Recency	Slip-Rate (mm/yr)	Max. Moment
Class A Faults				
San Andreas	Los Angeles San Bernardino Riverside Imperial	Historic	25.0–34.0	7.2–7.5
San Jacinto – Imperial Fault Zone	San Bernardino Riverside Imperial	Holocene Later Quaternary	4.0–20.0	6.6–7.1
Elsinore Fault Zone	Riverside Imperial	Holocene	2.5–5.0	6.8–7.1
Class B Faults				
Elsinore and San Jacinto Fault Zones (Non A Faults)				
Brawley Seismic Zone	Imperial		25.0	6.4
Chino	San Bernardino Riverside		1.0	6.7
Earthquake Valley	—		2.0	6.5
Elmore Ranch	Imperial		1.0	6.6
Garlock Fault Zones				
Garlock – west	San Bernardino		6.0	7.3
Garlock – east	San Bernardino		7.0	7.5
Owl Lake	San Bernardino		2.0	6.5
Transverse – Ranges and Los Angeles Basin				
Clamshell-Sawpit	Los Angeles		0.5	6.5
Cucamonga	San Bernardino		5.0	6.9
Hollywood	Los Angeles		1.0	6.4
Holser	Ventura		0.4	6.5
Malibu Coast	Los Angeles Ventura		0.3	6.7

FIGURE 3.7.2-2:

Potentially Active Faults in the SCAG Region



— Potentially Active Faults

0 3 6 12 Miles

Sources: SCAG, ESRI Shaded Relief, Tele Atlas, USGS

**TABLE 3.7.2-1
CHARACTERISTICS OF MAJOR FAULTS IN THE SCAG REGION**

Fault	Counties	Recency	Slip-Rate (mm/yr)	Max. Moment
Mission Ridge – Arroyo Parida – Santa Ana	Los Angeles		0.4	7.2
Newport-Inglewood	Los Angeles Orange	Late Quaternary (?)	1.0	7.1
Oak Ridge	Ventura	Holocene Late Quaternary	4.0	7.0
Palos Verdes	Los Angeles		3.0	7.3
Pleito	—		2.0	7.0
Raymond	Los Angeles		1.5	6.5
Red Mountain	San Bernardino		2.0	7.0
San Cayetano	Ventura		6.0	7.0
San Gabriel	Ventura Los Angeles	Holocene	1.0	7.2
San Jose	San Bernardino Los Angeles		0.5	6.4
Santa Monica	Los Angeles		1.0	6.6
Santa Ynez (West)	Ventura		2.0	7.1
Santa Ynez (East)	Ventura		2.0	7.1
Santa Susana	Ventura Los Angeles	Historic Late Quaternary	5.0	6.7
Sierra Madre (San Fernando)	Los Angeles		2.0	6.7
Sierra Madre	Los Angeles	Holocene Late Quaternary	2.0	7.2
Simi-Santa Rosa	Ventura		1.0	7.0
Ventura-Pitas Point	Ventura		1.0	7.0
Verdugo	Los Angeles Ventura		0.5	6.9
White Wolf	—		2.0	7.3
Los Angeles Blind Thrusts				
Upper Elysian Park	—		1.3	6.4
Northridge	Ventura Los Angeles		1.5	7.0
Puente Hills blind thrust	Los Angeles		0.7	7.1
San Joaquin Hills	Orange		0.5	6.6
Transverse – Ranges and Mojave				
Blackwater	—		0.6	7.1
Burnt Mountain	—		0.6	6.5
Calico-Hidalgo	San Bernardino		0.6	6.5
Cleghorn	San Bernardino		3.0	6.5
Eureka Peak	—		0.6	6.4
Gravel Hills – Harper Lake	San Bernardino		0.6	7.1
Helendale – S. Lockhart	San Bernardino		0.6	7.3
Johnson Valley (Northern)	San Bernardino		0.6	6.7
Landers	—		0.6	7.3
Lenwood – Lockhart – Old Woman Springs	San Bernardino		0.6	7.5
North Frontal Fault zone (Western)	San Bernardino		1.0	7.2
North Frontal Fault zone (Eastern)	San Bernardino		0.5	6.7
Pinto Mountain	San Bernardino		2.5	7.2

**TABLE 3.7.2-1
CHARACTERISTICS OF MAJOR FAULTS IN THE SCAG REGION**

Fault	Counties	Recency	Slip-Rate (mm/yr)	Max. Moment
Pisgah – Bullion Mountain – Mesquite Lake	San Bernardino		0.6	7.3
S. Emerson – Copper Mountain	San Bernardino		0.6	7.0

NOTE:

Recency of fault movement: Refers to the time period when the fault is believed to have last moved. The age is expressed in terms of the Geologic Time Scale. Generally, the older the activity on a fault, the less likely it is that the fault will produce an earthquake in the near future. For assessing earthquake hazard, usually only faults active in the Late Quaternary or more recently are considered. These include the following three non-overlapping time periods: Historic: Refers to the period for which written records are available (approximately the past 200 years, in California and Nevada).

Holocene: Refers to a period of time between the present and 10,000 years before present. Faults of this age are commonly considered active. For the purpose of classifying faults, C.W. Jennings defined Holocene to exclude the Historic; that is, from 200 to 10,000 years before the present).

Late Quaternary: Refers to the time period between the present and approximately 700,000 years before the present. Here too, for the purpose of classifying faults, Jennings defined Late Quaternary to exclude the Holocene and the Historic website, <http://quake.wr.usgs.gov/info/faultmaps/slipage.html>, accessed May 11, 2015.

Where no recency data are given, no determination has been made.

The Maximum Moment Magnitude is an estimate of the size of a characteristic earthquake capable of occurring on a particular fault. Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event [CGS, 2002b]. Richter magnitude estimations can be generally higher than moment magnitude estimations.

SOURCE:

Southern California Probabilistic Seismic Hazard Assessment Maps (PSHA). Accessed 25 August 2015. Website. Available at: <http://www.conservation.ca.gov/cgs/rghm/psha/ofr9608/Pages/Index.aspx>

U.S. Geological Survey. Accessed 25 August 2015. Website. Available at: <http://quake.wr.usgs.gov/recenteqs/FaultMaps/118-34.htm>

Petersen, M.D., W.A. Bryant, and C.H. Cramer. 1996. *Probabilistic Seismic Hazard Assessment for the State of California, California Department of Conservation, Division of Mines, 1996*. Geology Open-File Report issued jointly with U.S. Geological Survey, CDMG 96-08.

U.S. Geological Survey. Accessed 11 May 2015. 96-706. Available at: <http://www.conservation.ca.gov/cgs/rghm/psha/ofr9608/Pages/Index.aspx>

Seismic Hazards

Movements on the previously identified faults would likely cause future earthquakes in the SCAG region. Earthquakes can originate in areas where potential seismic energy has built up along a fault over time, but has not yet been released in the form of an earthquake. Studies supported by the National Earthquake Hazards Reduction Program enable scientists to evaluate the hazard level in different areas. In Southern California, scientists estimate that the probability of a magnitude 7.0 or greater earthquake by the year 2024 approaches 80 to 90 percent.

The four major hazards generally associated with earthquakes are ground shaking, surface fault rupture (ground displacement), liquefaction ground failures, and settlement. A detailed discussion of these types of hazards is found below.

Ground Shaking

Ground shaking may affect areas hundreds of miles distant from the earthquake's epicenter. Historic earthquakes have caused strong ground shaking and damage in many areas of the SCAG region. The composition of underlying soils in areas located relatively distant from faults can intensify ground shaking. Areas that are underlain by bedrock tend to experience less ground shaking than those underlain by unconsolidated sediments such as artificial fill.

Ground shaking is commonly described in terms of peak ground acceleration as a fraction of the acceleration of gravity (g), or by using the Modified Mercalli (MM) Intensity Scale, a common metric for characterizing intensity. The MM Intensity Scale is a more descriptive method involving 12 levels of intensity denoted by Roman numerals (**Table 3.7.2-2, *Modified Mercalli Intensity Scale***). MM intensities range from level I (shaking that is not felt) to level XII (total damage). MM intensities ranging from IV to X could cause moderate to significant structural damage. The degree of structural damage, however, would not be uniform. Not all buildings perform identically in an earthquake. The age, material, type, method of construction, size, and shape of a building all affect its performance.

**TABLE 3.7.2-2
MODIFIED MERCALLI INTENSITY SCALE**

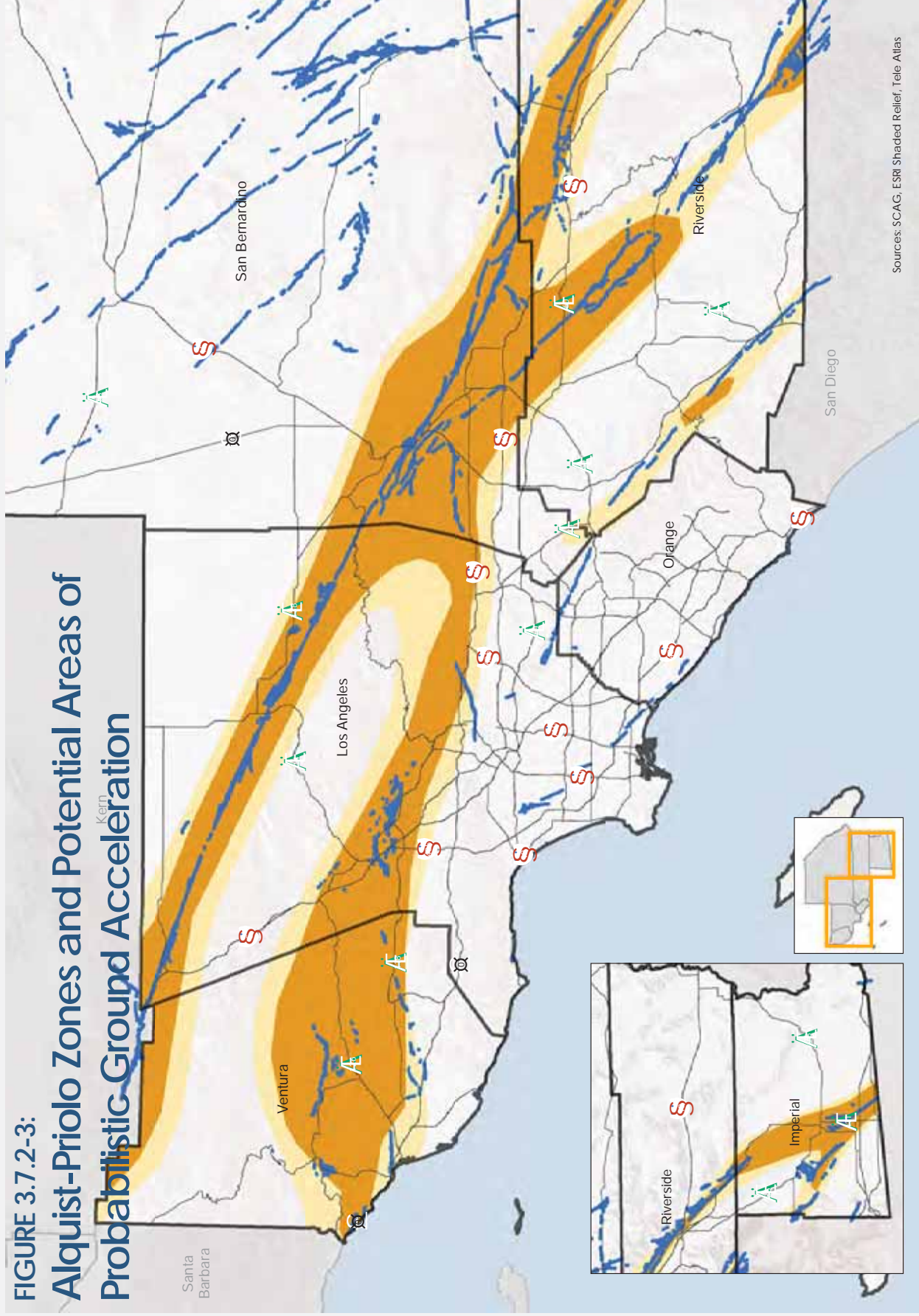
I.	Not felt except by a very few under especially favorable conditions.
II.	Felt only by a few persons at rest, especially on upper floors of buildings.
III.	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV.	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V.	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI.	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII.	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII.	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX.	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X.	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.
XI.	Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.
XII.	Damage total. Lines of sight and level are distorted. Objects thrown into the air.

SOURCE: U.S. Geological Survey, Earthquake Hazards Program. Accessed 11 May 2015. Website. Available at: http://earthquake.usgs.gov/learn/topics/mag_vs_int.php

Earthquakes on the various and potentially active fault systems are expected to produce a wide range of ground shaking intensities in the SCAG region (**Figure 3.7.2-3, *Alquist-Priolo Zones and Potential Areas of Probabilistic Ground Acceleration***). The estimated maximum moment magnitudes represent

FIGURE 3.7.2-3:

Alquist-Priolo Zones and Potential Areas of Probabilistic Ground Acceleration



- Alquist-Priolo Earthquake Zone
- Major Acceleration
- Severe Acceleration

0 3 6 12 Miles

Sources: SCAG, ESRI Shaded Relief, Tele Atlas

characteristic earthquakes on particular faults.⁷ While the magnitude is a measure of the energy released in an earthquake, intensity is a measure of the ground shaking effects at a particular location. Shaking intensity can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and characteristics of geologic media. Generally, intensities are highest at the fault and decrease with distance from the fault.

Surface Fault Rupture

The surface expression of earthquake fault rupture typically occurs in the immediate vicinity of the originating fault. The magnitude and nature of the rupture may vary across different faults, or even along different segments of the same fault.⁸ Rupture of the surface during earthquake events is generally limited to the narrow strip of land immediately adjacent to the fault on which the event is occurring. Surface ruptures associated with the 1992 Landers earthquake in San Bernardino County extended for a length of 50 miles, with displacements varying from 1 inch to 20 feet.

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the risk to human habitation of seismically induced ground-surface ruptures. This state law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures. Surface rupture is the most easily avoided seismic hazard, provided regulatory stipulations embedded in this law are met.

The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults, and to issue appropriate maps. Numerous active and potentially active earthquake faults are mapped throughout the SCAG region (Figure 3.7.2-1).⁹ Detailed maps are distributed to all affected cities, counties, and state agencies for their use in planning new or renewed construction. Local agencies must regulate most development projects within the zones, including all land divisions and most structures intended for human habitation. Fault surface rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake, or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by ground shaking. Fault creep is the slow rupture of the earth's crust. Not all earthquakes result in surface rupture (e.g., the 1994 Northridge earthquake). Potentially active faults have demonstrated movement within Pleistocene period (approximately 1.6 million years ago). According to the CDMG, active and potentially active faults must be considered as potential sources of fault rupture.

Liquefaction and Ground Failure

Liquefaction has been responsible for ground failures during almost all of California's large earthquakes. The depth to groundwater can control the potential for liquefaction; the shallower the groundwater, the higher the potential for liquefaction. Earthquake-induced liquefaction most often occurs in low-lying

⁷ Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event. See Table 4.6-1 for the moment magnitudes associated with particular faults.

⁸ California Geological Survey. 2002. *Guidelines for Evaluating the Hazard of Surface Fault Rupture*. CGS Note 49. Sacramento, CA.

⁹ "Earthquake Fault Zones" were called "Special Studies Zones" prior to January 1, 1994.

areas with soils or sediments composed of unconsolidated, saturated, clay-free sands and silts, but can also occur in dry, granular soils, or saturated soils with some clay content.

Four kinds of ground failure commonly result from liquefaction: lateral spread, flow failure, ground oscillation, and loss of bearing strength. A lateral spread is a horizontal displacement of surficial blocks of sediments resulting from liquefaction in a subsurface layer. Lateral spread occurs on slopes ranging between 0.3 and 3 percent and commonly displaces the surface by several meters to tens of meters. Flow failures occur on slopes greater than 3 degrees and are primarily liquefied soil or blocks of intact material riding on a liquefied subsurface zone. Ground oscillation occurs on gentle slopes when liquefaction occurs at depth and no lateral displacement takes place. Soil units that are not liquefied may pull apart from each other and oscillate on the liquefied zone. Ground fissures can accompany ground oscillation and sand boils and damage underground structures and utilities. The loss of bearing pressure can occur beneath a structure when the underlying soil loses strength and liquefies. When this occurs, the structure can settle, tip, or even become buoyant and “float” upwards.

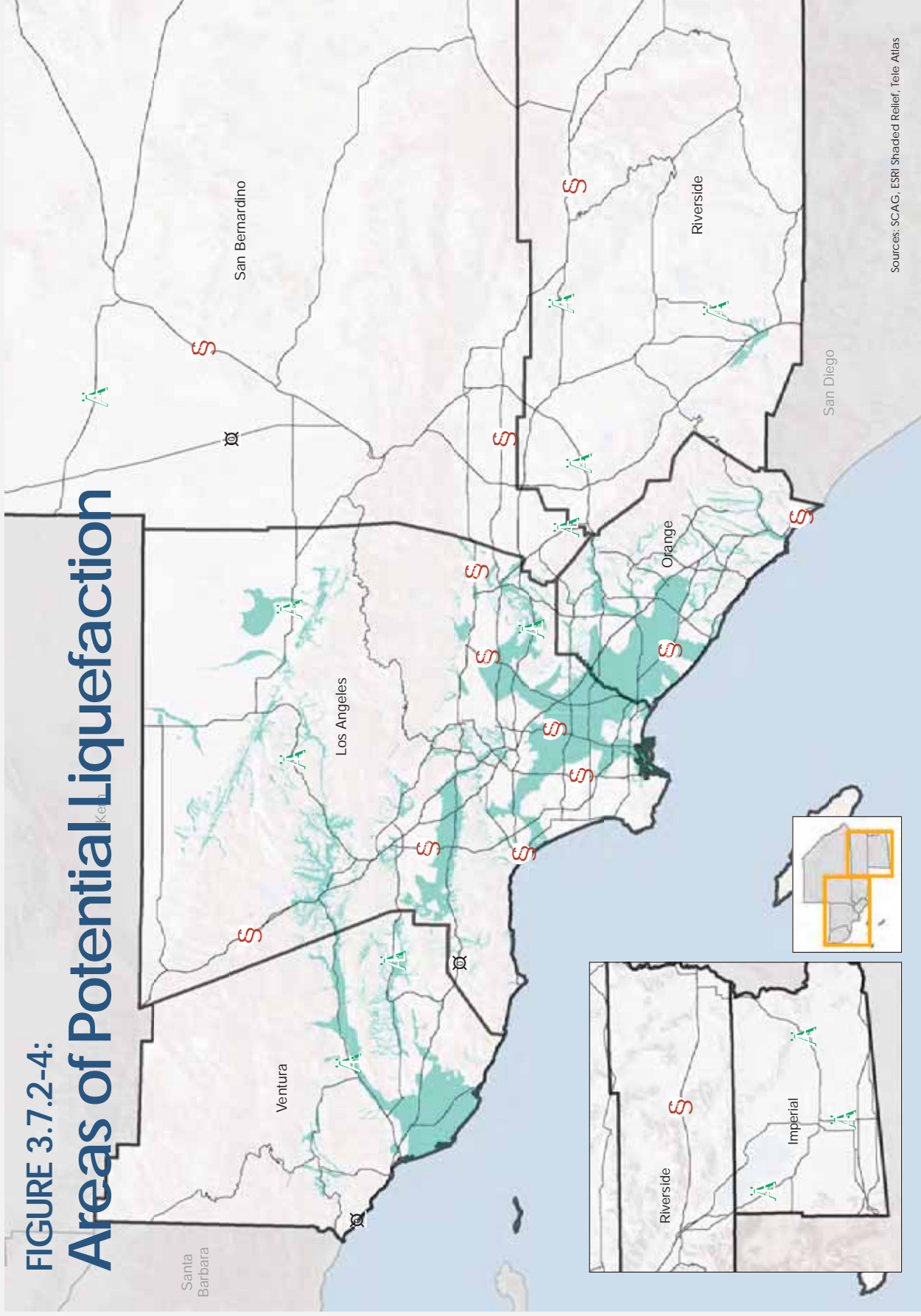
Within the SCAG region, liquefaction potential is a function of the potential level of ground shaking at a given location and depends on the geologic material at that location (**Figure 3.7.2-4, *Areas of Potential Liquefaction***). Structural failure often occurs as sediments liquefy and cannot support structures that are built on them. Alluvial valleys and coastal regions are particularly susceptible to liquefaction. These areas can include but are not limited to flood plains and former wetlands such as Marina Del Rey, Playa Del Rey and areas near the Los Angeles River, the Santa Monica Bay, and Los Alamitos Bay in Los Angeles County, Areas in the vicinity the Santa Clara River, and Callugas Creek outlets to the ocean in Ventura County. Additionally, there are areas in northern Los Angeles County that are susceptible to liquefaction as a result of existing geological conditions (**Figure 3.7.2-4**). Unconsolidated alluvial deposits in desert region deposits are rarely saturated because of the depth to the water table, and are thus, less susceptible to liquefaction than unconsolidated alluvium adjacent to stream channels.

Earthquake-Induced Subsidence

Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid compaction and settling of subsurface materials (particularly loose, non-compacted, and variable sandy sediments) due to the rearrangement of soil particles during prolonged ground shaking. Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). Within the SCAG region, artificial fills, unconsolidated alluvial sediments, slope washes, and areas with improperly engineered construction-fills typically underlie areas susceptible to this type of settlement. In the past five years, there have been several earthquakes in the SCAG region, none exceeding a magnitude of 6. The March 2014 M5.1 earthquake was felt throughout the Los Angeles Metropolitan area, specifically near the cities of La Habra, Brea, and Rowland Heights. No major subsidence or landslide incidents were reported as a result of this earthquake. Additional earthquakes occurred in Imperial County, with three occurring in 2010 and two occurring in 2012; similarly, no major damages were reported.¹⁰ Explanations of earthquake-induced subsidence are discussed further below.

¹⁰ U.S. Geological Survey. Accessed 25 August 2015. Website. Available at: <http://earthquake.usgs.gov/earthquakes/map/>

**FIGURE 3.7.2-4:
Areas of Potential Liquefaction**



Seismically Induced Landslides

Strong ground shaking during earthquake events can generate landslides and slumps in uplands or coastal regions near the causative fault. Seismically induced land sliding has typically been found to occur within 75 miles of the epicenter of a magnitude 6.5 earthquake. Seismically induced landslides would be most likely to occur in areas that have previously experienced landslides or slumps, in areas of steep slopes, or in saturated hillside areas. Areas of the SCAG region are susceptible to seismically induced land sliding because of the abundance of active faults in the region and the existing landslide hazards (Figure 3.7.2-5, *Areas of Potential Landslides*). Specifically, areas with high susceptibility to earthquake-induced landslides are concentrated along mountain ranges in the SCAG region: Santa Ana Mountains, San Gabriel Mountains, Santa Susanna Mountains, Santa Monica Mountains, Sulphur Mountain, San Jacinto Mountains, and the San Bernardino Mountains.

Earthquake-Induced Inundation and Tsunamis

Because the West Coast of the United States is seismically active, California is subject to flood hazard from tectonic activity capable of generating submarine earthquakes, volcanic eruptions, and landslides. Considering its proximity to the Pacific Ocean, the inundation by tsunamis (seismic sea waves) or seiches (oscillating waves in enclosed water bodies) can occur along the California coast in the event of significant earthquake. The SCAG region consists of approximately 150 miles of coastline. The coastline of SCAG region has been mapped as being in a location potentially subject to tsunamis and the existing tsunami warning system (Figure 3.7.2-6, *Areas Susceptible to Tsunamis*).¹¹ Additionally, several large water impoundments in the SCAG region also have the potential to induce seiche inundation. For purposes of a relative comparison, an earthquake with its epicenter in Alaska and with a magnitude of 8.5 (Richter scale) generated a seismically induced sea wave with a maximum wave height of 11 feet in the Monterey Harbor, on the central coast of California north of the SCAG region. The most recent historical tsunami to affect the coast of the SCAG region was in 2012, when a magnitude 7.5 earthquake struck the Queen Charlotte Islands of the west coast of Canada. The resulting tsunami was 0.08 meter or 0.26 foot.¹²

Soils and Geologic Materials

Soils within the SCAG region are classified by distinguishing characteristics and are arranged within soil associations.¹³ Soils throughout the region differ in origin, composition, and slope development. Individual soil characteristics are important in determining the suitability of the soil for agricultural use or urbanized development. The formation of surficial soil depends on the topography, climate, biology, local vegetation, and the material on which the soil profile is developed. Although many soils in the SCAG region are suitable for agricultural uses, each soil type may have properties that could limit its uses and represent an agricultural or development hazard.¹⁴ These limitations are listed and discussed

¹¹ California State Department of Conservation. Accessed 19 July 2015. Website. Available at: http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Pages/Statewide_Maps.aspx

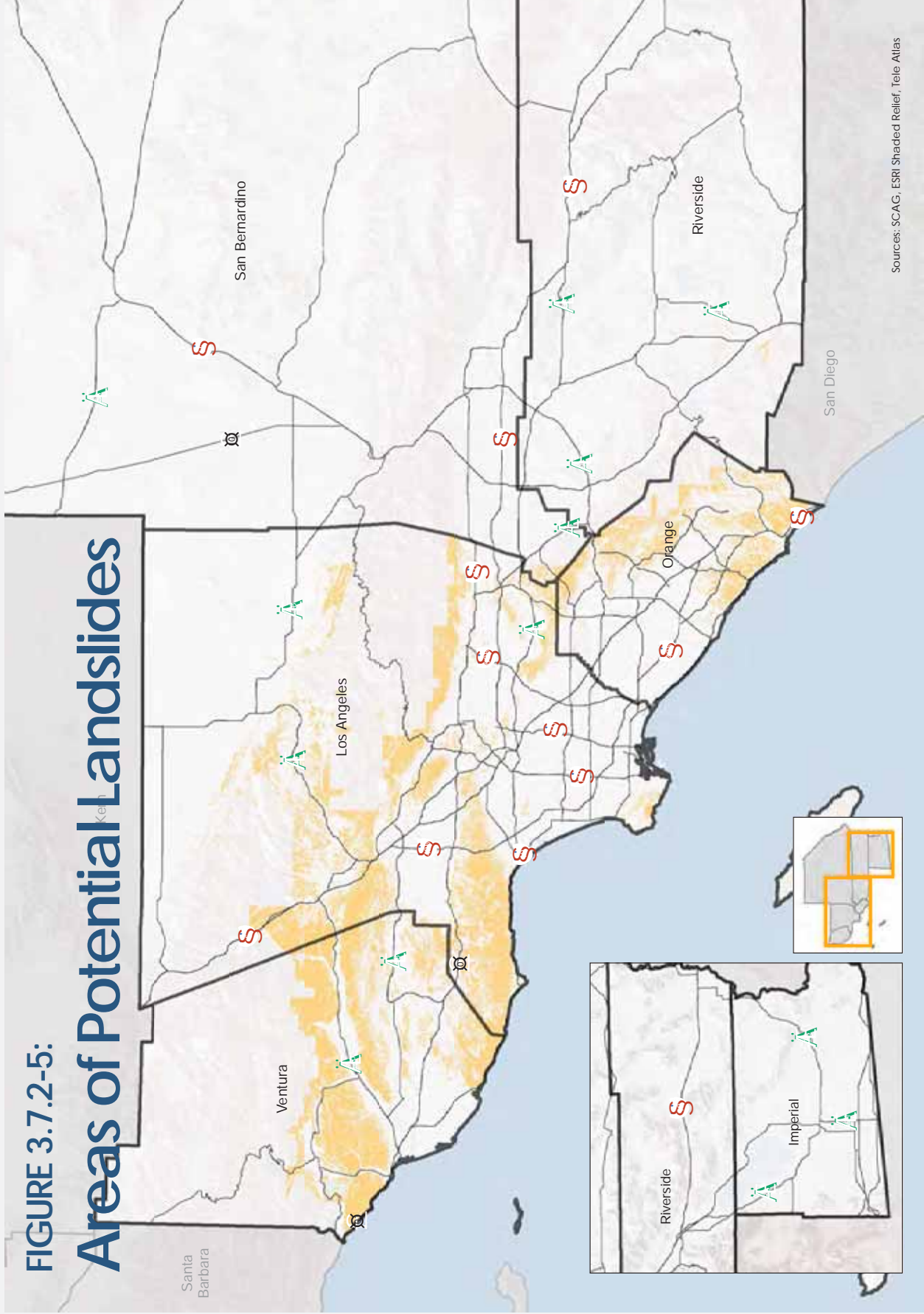
¹² California Geological Survey. Accessed 19 July 2015. Website. Available at: http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Pages/About_Tsunamis.aspx#historic

¹³ Soil Association: A mapping unit consisting of a group of defined and taxonomic soil units occurring together in an individual and characteristic pattern over a geographic region.

¹⁴ U.S. Department of Agriculture, Soil Conservation Service. 1970. *Soil Survey of Ventura Area, California*. Washington, DC.

FIGURE 3.7.2-5:

Areas of Potential Landslides

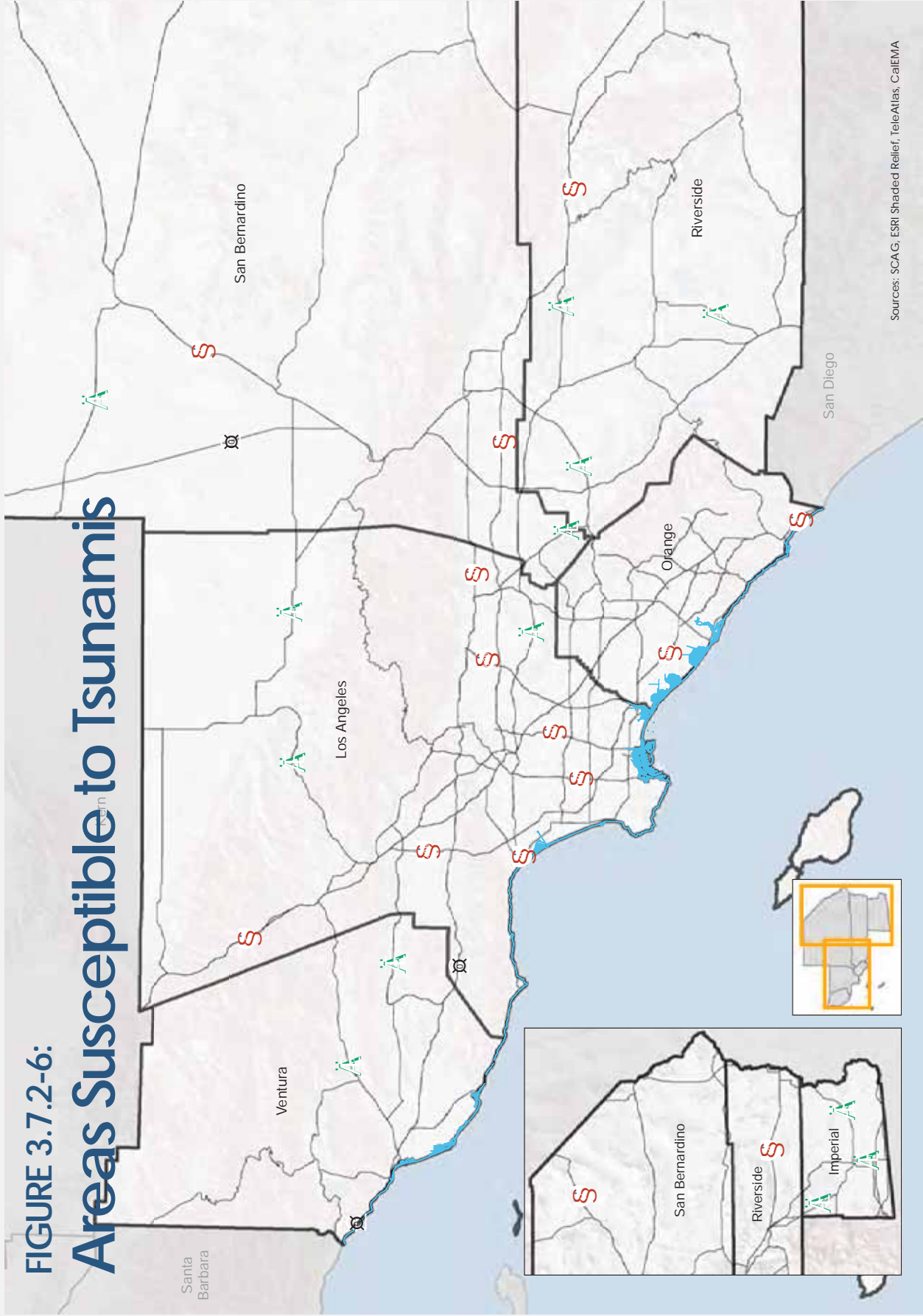


Sources: SCAG, ESRI Shaded Relief, Tele Atlas



Earthquake-Induced Landslide Zone

FIGURE 3.7.2-6:
Areas Susceptible to Tsunamis



Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CalEMA

below. Figure 3.7.2-7, *General Soil Types*, shows the general location of soil types contained within the SCAG region. Applicable USDA NRCS soil surveys for specific counties provide the classification and description of each soil type encountered in the SCAG region.

Erosion

Soil erosion is also a natural ongoing process that transports, erodes, and displaces soil particles through a transport mechanism such as flowing water or wind. Erosion is the physical detachment and movement of soil materials through natural processes or human activities. The determination of soil erosion potential is a complex process generally applied to site specific areas using the soil erodibility K-factor index and the Universal Soil Loss Equation (USLE). Determining areas of potential erosion is made more complex due to the substantial geomorphic diversity in the SCAG region. Generally, there is a high potential for erosion in mountainous areas and areas along the margins of mountainous areas, where there is a high intensity of rainfall and where the soils are considered erosive. Clay soils typically have low erodibility because the soil particles are resistant to detachment. Soils having a high silt content are the most erosive as the particles are easily detached, tend to crust, and produce high rates of runoff.¹⁵

Soil

Three soil factors are strongly associated with soil erosion potential: texture, compactness, and structure. Of these, texture plays the most dominant role. Intermediate textured soil types, such as silt, tend to be most erodible, whereas clay and particles coarser than sand are more resistant to erosion. Slopes influence the rate and amount of runoff, and in turn these influence erosion. Loose texture and steep slopes primarily result in high wind erosion potential in soils. Data on Soil Erodibility (K Factor) from the State Water Resources Control Board indicates there are areas within the SCAG region with both moderate (K factor 0.25–0.45) and high susceptibility (K factor > 0.45) of erosion. The K factor combines the detachability of soil, runoff potential of the soil, and transportability of the sediment eroded from the soil into one measure for soil erodibility. The K factor is just one element of the RUSLE (Revised Universal Soil Loss Equation), which is used by government agencies to make erosion predictions for regulatory and conservation planning uses. In Ventura County, most of the Santa Monica Mountains and Topatopa Mountains are characterized by soils that are moderately susceptible to erosion. In Los Angeles County, most soils within the urbanized areas south of the San Gabriel Mountains are moderately susceptible to erosion. These soils continue southeast into Orange County where almost all of the land area is covered by soils moderately susceptible to erosion. In San Bernardino County, the majority of soils are not moderately or highly susceptible, however several pockets of moderately erodible soils exist throughout the county, particularly surrounding the Ivanpah and Piute Mountains and Lanfair and Ivanpah Valleys; one small area of highly erodible soil exists in the northeast corner of the county within the Mesquite Valley. Riverside County also features both moderately and highly susceptible erodible soils that are mainly concentrated in the western portion of the county immediately adjacent to the east and west of the Lakeview Mountains. Finally, Imperial County is covered by moderately erodible soils on its west side, surrounding the Salton Sea and extending south.¹⁶

¹⁵ Michigan State University, RUSLE Online Soil Erosion Assessment Tool. Accessed 8 September 2015. Available at: <http://www.iwr.msu.edu/rusle/kfactor.htm>

¹⁶ California Water Resources Control Board. Accessed 25 August 2015. Website. Available at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/guidance/k_factor_map.pdf

Erosion caused by wind is most severe in arid regions where sandy or loamy sediments are not covered by vegetation and exposed to severe wind conditions, such as the eastern portions of San Bernardino, Riverside, and Imperial Counties. Human intervention can accelerate the natural erosion process. For instance, typical consequences of development increase erosion potential due to the removal of vegetative cover and reduction of overall permeable area. These activities can lead to increased water runoff rates and concentrated flows that have greater potential to erode exposed soils. The effects of excessive erosion range from nuisance problems that require additional maintenance, such as increased siltation in storm drains, to instances of more severe damage where water courses are down-cut and gullies develop. These processes can eventually undermine adjacent structures or topography. Human activities that disturb soils in arid regions also increase wind erosion potential. Many of the desert areas in the SCAG region are susceptible to blowing sand, a severe form of wind erosion that damages property and accumulates soil on roadways. The majority of the soils in the SCAG region exhibit moderate to high erosion potential, which can be compounded by development. **Figure 3.7.2-8, *Soils with Moderate to High Erosion Potential***, shows the general location of soils within the SCAG region that exhibit moderate to high erosion potential.

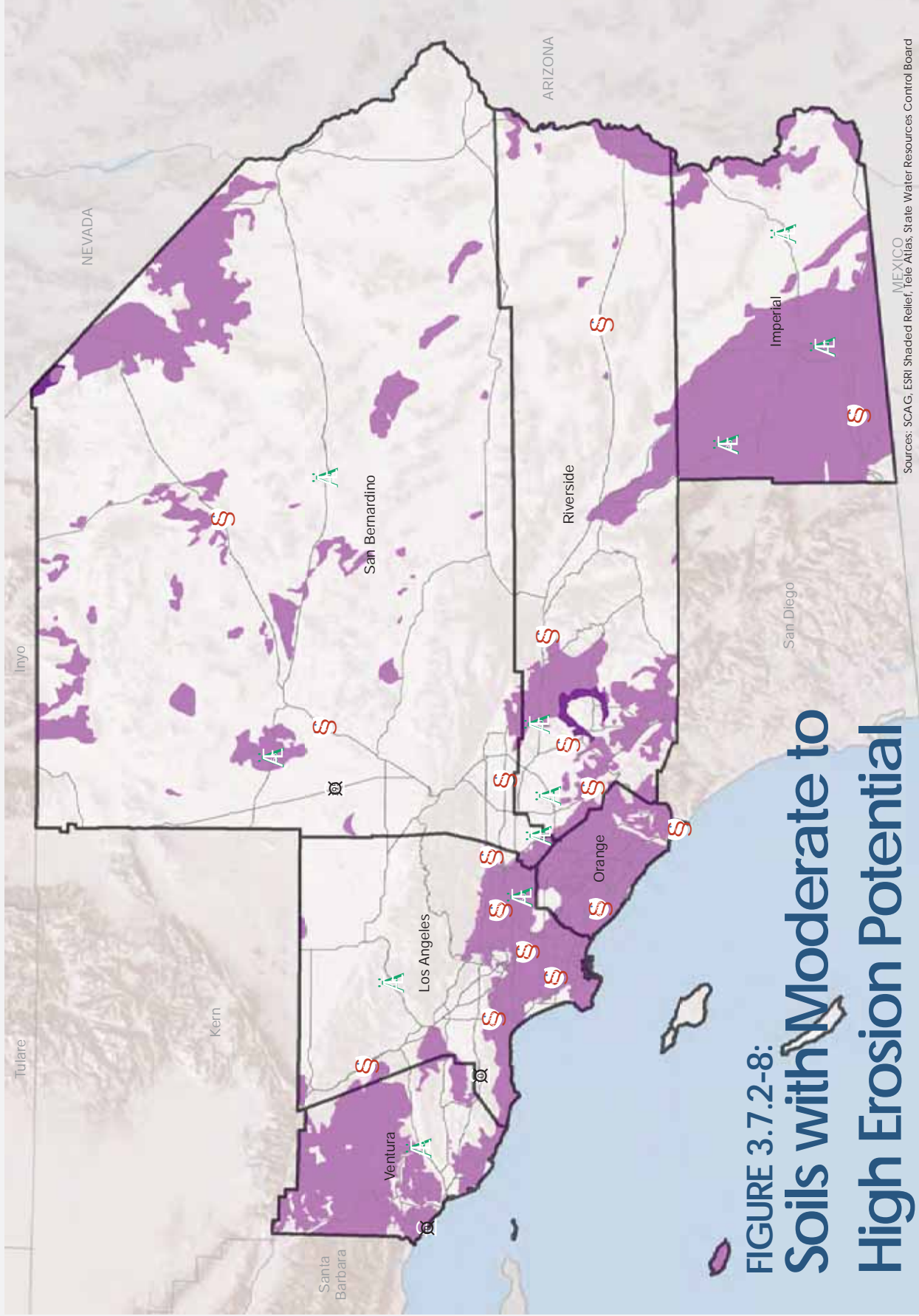
Coastal

Coastal erosion is a natural process that is typically the most visible during storm events. Beach sand is replenished by sediment loads in rivers and gentler waves after storm events or during summer months. Erosion rates of 1 inch per year are considered moderate. However, depending on the severity and duration of storm events and the degree of human intervention with natural coastline or riverine processes, coastal erosion can proceed at considerable rates, resulting in rapid visible coastline recession. In areas of extreme coastal erosion, such as the cities of Rancho Palos Verdes and Malibu, slopes have been undercut by waves during storm events, causing slope failure and resulting in property damage and risks to human health and safety. The coastal regions of Los Angeles, Orange, and Ventura Counties are susceptible to wave erosion hazards.

The Pacific Ocean borders the Peninsular Ranges province and the Transverse Ranges Province on the west. Nearly all the sea cliffs along the coast display some sign of coastal erosion. Coastal retreat is attributable to various processes, including undercutting from wave action, weathering and erosion of rocks and cliffs, emergence of groundwater at the cliff face, rain-wash, and land sliding. Additionally, these naturally occurring forces can be assisted by human activity such as coastal road construction, channelization of surface water flows, or development on marine terraces.

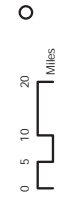
Expansive Soils

Expansive soils possess a “shrink-swell” behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may result over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. Typically, soils that exhibit expansive characteristics comprise the upper 5 feet of the surface. The effects of expansive soils could damage foundations of aboveground structures, paved roads and streets, and concrete slabs. Expansion and contraction of soils, depending on the season and the amount of surface water infiltration, could exert enough pressure on structures to result in cracking, settlement, and uplift.



**FIGURE 3.7.2-8:
Soils with Moderate to
High Erosion Potential**

- Moderate Potential for Erosion (0.25-0.45)
- High Potential for Erosion (> 0.45)



Sources: SCAG, ESRI Shaded Relief, Tele Atlas, State Water Resources Control Board
MEXICO

Locations of expansive soils are site-specific and can generally be remedied through standard engineering practices.

Unstable Soil Conditions

Settlement

Loose, soft soil material comprised of sand, silt and clay, if not properly engineered, has the potential to settle after a building is placed on the surface. Settlement of the loose soils generally occurs slowly but over time can amount to more than most structures can tolerate. Building settlement could lead to structural damage such as cracked foundations and misaligned or cracked walls and windows. Settlement problems are site-specific and can generally be remedied through standard engineering applications.

Land Subsidence

Land subsidence is caused by a variety of agricultural, municipal or mining practices that contribute to the loss of support materials within a geologic formation. Agricultural practices can cause oxidation and subsequent compaction and settlement of organic clay soils or hydro-compaction allowing land elevations to lower or sink. Agricultural and municipal practices can result in the overdraft of a groundwater aquifer thereby causing aquifer settlement. Groundwater overdraft occurs when groundwater pumping from a subsurface water-bearing zone (aquifer) exceeds the rate of aquifer replenishment. The extraction of mineral or oil resources can also result in subsidence from removal of supporting layers in the geologic formation. Substantial subsidence occurs in the SCAG region due to groundwater extraction and subsequent lowering of the groundwater surface, typically beneath a confining clay stratum. The impact of subsidence could include lowering of the land surfaces, increased potential for flooding, potential disturbance or damage to buried pipelines and associated structures, and damage to structures designed with minimal tolerance for settlement. Historic occurrences of land subsidence due to groundwater extraction are reported in the SCAG region within Antelope Valley, Coachella Valley, and the Mojave River Basin Area. With groundwater level declines as high as 300 feet in some areas, subsidence has caused permanent damage to many of these landscapes.¹⁷

Landslides

Landslides are the rapid downslope movement of a mass of material that moves as a unit and carries with it all the loose material above bedrock. Landslides occur more frequently on steep slopes or after periods of heavy rain due to the additional weight of water and its lubricating qualities. The material in the slope and external processes such as climate, topography, slope geometry, and human activity can render a slope unstable and eventually initiate slope movements and failures. Changes in slope material such as improperly engineered fill slopes can alter water movement and lead to chemical and physical changes within the slope. Unfavorable fracture or joint orientation and density may develop as a rock material responds to reduced weight or strain relief, resulting in a decreased ability of the rock material to resist movement. Removing the lower portion (the toe) decreases or eliminates the support that opposes lateral motion in a slope. This can occur by man-made activity such as excavations for road-

¹⁷ California Water Foundation. Accessed 25 August 2015. Website. Available at:
http://www.californiawaterfoundation.org/uploads/1397858208-SUBSIDENCEFULLREPORT_FINAL.pdf

cuts located along a hillside. Oversteepening a slope by removing material can also reduce its lateral support. Placement of buildings on slopes can increase the amount of stress that is applied to a potential failure surface. Shaking during an earthquake may lead materials in a slope to lose some cohesion, cause liquefaction, or change pore water pressures. Landslide-susceptible areas within the SCAG region are those with low-strength soil material on hilly topography, for example, the Portuguese Bend and Point Fermin areas of the Palos Verdes Peninsula, and the Blackhawk slide area on the north slope of the San Bernardino Mountains. Factors that decrease resistance to movement in a slope include pore-water pressure, material changes, and structure.

Soils Capable of Supporting Septic Tanks or Alternative Waste Water Disposal Systems

The California State Water Resources Control Board has specific guidelines and requirements with regard to soil suitability for septic tanks and alternative waste water disposal systems in their publication 3.2C-Construction Practices – Onsite Wastewater Treatment Systems (OWTS).¹⁸ Soils with poorly or excessively drained soils are generally not suitable for septic tanks or alternatives waste water disposal systems.¹⁹ According to the U.S. Environmental Protection Agency, is it recommended that onsite wastewater disposal systems incorporate native soil knowledge into system design to prevent groundwater contamination and ensure long-term performance. Most often, a percolation test is performed to assess the infiltration rate and soil texture, both of which determine the site suitability for a waste water disposal system. As it is difficult to assess site suitability without on-site testing, suitability in the SCAG region would be determined on a per project basis according to all local, regional, and state requirements.²⁰

3.7.3 THRESHOLDS OF SIGNIFICANCE

The 2016 RTP/SCS would have a significant impact related to geology or soils if it would expose people or property to unacceptable risks in relation to the seven criteria identified in the State CEQA Guidelines:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - (i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
 - (ii) Strong seismic ground shaking.
 - (iii) Seismic-related ground failure, including liquefaction.
 - (iv) Landslides.

- Result in substantial soil erosion or the loss of topsoil.

¹⁸ California State Water Resources Control Board. Accessed 19 July 2015. Website. Available at: http://www.waterboards.ca.gov/water_issues/programs/nps/encyclopedia/3_2c_const_owts.shtml

¹⁹ California State Water Resources Control Board. Accessed 19 July 2015. Website. Available at: http://www.waterboards.ca.gov/water_issues/programs/nps/encyclopedia/3_2c_const_owts.shtml

²⁰ U.S. Environmental Protection Agency. Accessed 25 August 2015. Website. Available at: http://water.epa.gov/aboutow/owm/upload/2004_07_07_septics_septic_2002_osdm_all.pdf

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Methodology

The methodology for determining the significance of potential risk to people and property in relation hazards posed by geology and soils compares the existing conditions to the future 2040 conditions under the Plan, as required by CEQA Guidelines Section 15126.2(a).

To assess potential impacts to residences and businesses adjacent to transportation corridors, geographic information systems (GIS) was used to assess seismic and geologic impacts by overlaying data in GIS format on the location of areas known to pose seismic or geologic hazards in the SCAG region. Specifically, the Major Transportation Projects²¹ and urban development patterns from land use strategies included in the Plan were plotted on maps that identify potential hazards, such as known faults, high ground acceleration areas, areas exhibiting landslide potential, and areas with highly erodible soils in the SCAG region. A 500-foot-wide buffer was created along transportation project segments to identify potential seismic and geologic hazards and to determine whether such hazards could impact transportation projects included in the 2016 RTP/SCS. Table 3.7.3-1, *SCAG 2016 RTP/SCS Potential Impacts from Geologic Hazards*, and Figure 3.7.3-1, *SCAG 2016 RTP/SCS Projects in Relation to Geologic Hazards*, show the results of this analysis.

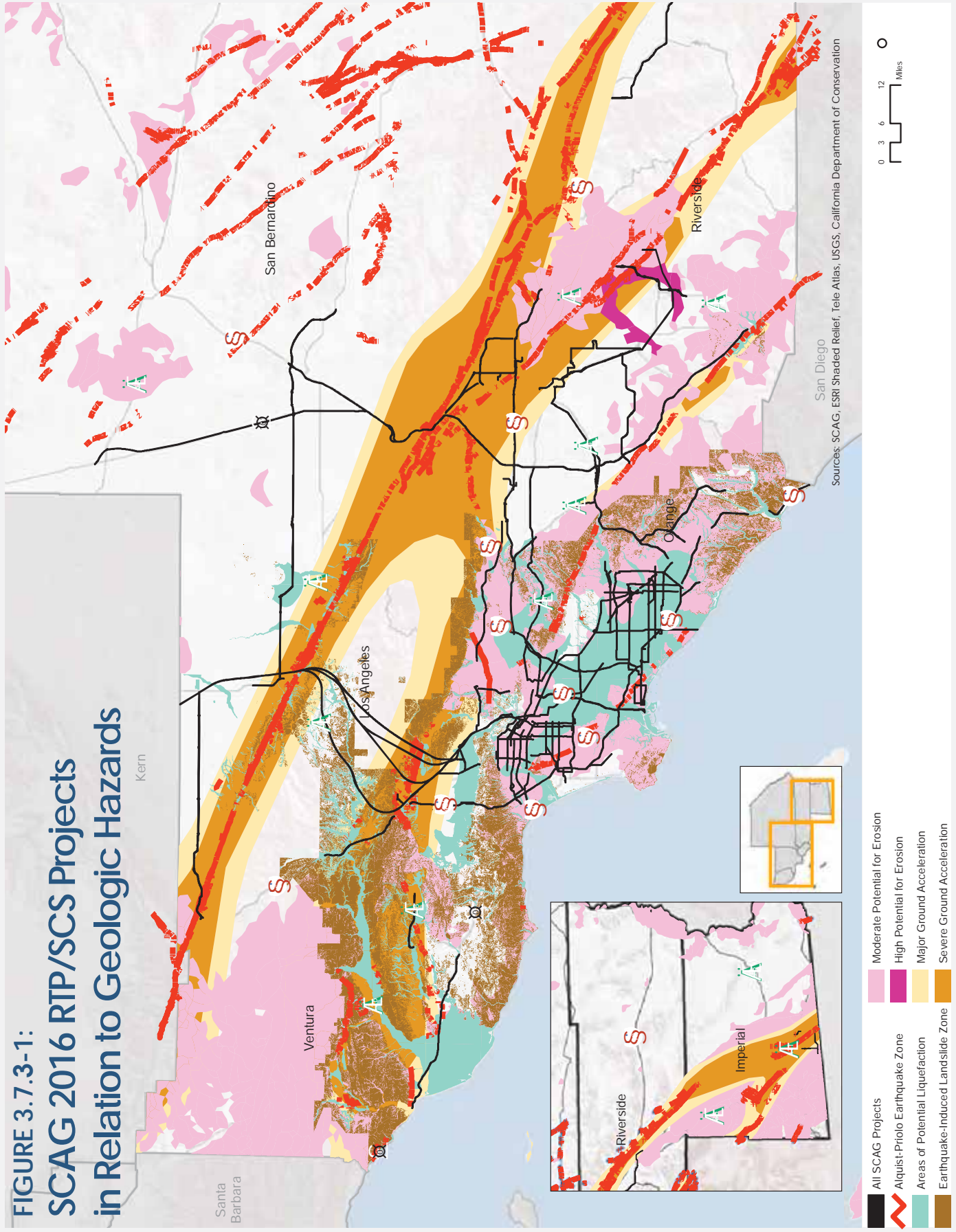
**TABLE 3.7.3-1
SCAG 2016 RTP/SCS POTENTIAL IMPACTS FROM GEOLOGIC HAZARDS**

County	Soil Erosion Potential (acres)		Potential Liquefaction (acres)	Potential Earthquake Induced Landslides (acres)	Peak Ground Acceleration (acres)		Alquist Priolo Earthquake Zone (linear miles)
	Moderate	High			Major	Severe	
Imperial	2,451	0	0	0	548	1,409	0.24
Los Angeles	43,862	0	26,902	2,759	9,645	11,312	12.39
Orange	26,755	0	15,458	1,027	25	0	0.27
Riverside	5,494	2,133	52	3	4,757	2,384	1.03
San Bernardino	1,000	1,000	2	0	2,245	10,708	1.39
Ventura	517	0	2,064	103	1,842	1,247	0.82
Total SCAG area	80,079	3,133	44,477	3,892	19,061	27,061	16

SOURCE: SCAG GIS analysis and data, 2015.

²¹ Major Transportation Projects include but are not limited to projects that involve ground disturbing activities and projects outside of existing rights-of-way such as projects that require new rights-of-way, adding traffic lanes, and grade separation.

**FIGURE 3.7.3-1:
SCAG 2016 RTP/SCS Projects
in Relation to Geologic Hazards**



- All SCAG Projects
- Alquist-Priolo Earthquake Zone
- Areas of Potential Liquefaction
- Earthquake-Induced Landslide Zone
- Moderate Potential for Erosion
- High Potential for Erosion
- Major Ground Acceleration
- Severe Ground Acceleration

3.7.4 IMPACT ANALYSIS

IMPACT GEO-1: Potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving (i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; (ii) strong seismic ground shaking; (iii) seismic related ground-failure, including liquefaction; (iv) landslides.

Significant Impact

Transportation projects included in the 2016 RTP/SCS that involve large-scale ground disturbance during construction, such as grade separation projects, mixed flow lane projects, and rail projects, may expose people or structures to substantial risk or hazards from seismic activity, constituting a significant impact. Development encouraged by land use strategies that directs more growth into existing suburban town centers, walkable mixed-use communities, transit-oriented development, and other areas well-served by transit such as high-quality transit areas (HQTAs) may also result in exposure of people and structures to hazards and risks from seismic activity, including earthquakes and seismically induced landslides, constituting a significant impact. As shown on **Table 3.7.3-1**, the entire SCAG region is susceptible to impacts from seismic activity. Seismic events can damage transportation infrastructure and urban development through surface rupture, ground shaking, liquefaction, and landslides. As shown in **Table 3.7.2-1**, numerous active faults are known to exist in the SCAG region that could potentially generate seismic events capable of significantly affecting existing structures and transportation facilities analyzed in the Plan. Therefore, transportation projects and development encouraged by land use strategies included in the 2016 RTP/SCS would be exposed to both direct and indirect effects of potential earthquakes.

Transportation projects included in the 2016 RTP/SCS are affected by Alquist Priolo Fault Zones and areas of major and severe ground acceleration (**Table 3.7.3-1**). Transportation projects and potential development patterns encouraged by land use strategies reflected in the 2016 RTP/SCS have the potential to expose people and structures to risk due to the potential for seismic ground-shaking that is inherent to the SCAG region (**Figure 3.7.3-1**). Potential direct impacts from surface rupture and severe ground shaking could cause catastrophic damage to transportation infrastructure, particularly overpasses and underground structures. Indirect impacts from seismic events could damage ancillary transportation facilities such as port facilities, traffic control equipment, and train stations.

The 2016 RTP/SCS identifies new rail transit routes, extensions and development encouraged by land use strategies in Los Angeles and San Bernardino Counties. Other transit-related projects that would involve the construction of transit stations and other appurtenant infrastructure. The High Speed Rail project and proposed alternatives are an example of rail transit routes that would require the acquisition of new rights-of-way. All existing highways and rail lines in the SCAG region are subject to seismic or geologic influences to some degree. Similarly, new highways, arterials, bus rapid transit (BRT) routes, express high occupancy toll (HOT), high occupancy vehicle (HOV), goods movement (freight),

heavy and light rail routes, and other capacity enhancements identified in the 2016 RTP/SCS would be susceptible to impacts from seismic activity for at least some portion of its length.

Some transportation projects and development influenced by the land use strategies as included in the 2016 RTP/SCS would be located within or across Alquist-Priolo Fault Zones. These zones are identified as areas directly over faults that are susceptible to surface rupture (**Figure 3.7.2-3**). For example, the proposed High Speed Rail transit system would cross several Alquist-Priolo Zones including the San Andreas Fault Zone (**Figure 3.7.3-1**). Other transportation projects and development patterns encouraged by land strategies may potentially be located in areas known to experience severe ground acceleration during earthquakes making these areas susceptible to severe ground shaking and earth movement. Many transportation projects would be located in areas prone to landslide, liquefaction or erosion (such as the High Desert Corridor project) areas. Indirect impacts could also promote additional delays and breaks in service while repairs are made. The potential for transportation projects and strategies to be significantly affected by liquefaction would be higher in areas exhibiting shallow groundwater levels and unconsolidated soils such as fill material, some alluvial soils, and coastal sands.

Specifically, with respect to urban development patterns encouraged by land use strategies, earthquakes can occur within previously undetected fault zones. For example, the Northridge Earthquake occurred within previously undetected fault zones and caused \$13 billion in damages. Additionally, a catastrophic earthquake within the entire SCAG region would have the potential to damage approximately 1,800 facilities, displace 9 million people, and cause \$200 billion in damage cost.²² Future seismic activity from previously unknown faults could present catastrophic impacts to the transportation network. Similarly, liquefaction potential can change over time in heavily landscaped areas such as parks and agricultural areas, as soil saturation is altered.

Seismic activity can cause damage to existing structures designed due to substandard construction. However, new or seismically retrofitted structures designed with current state of the art engineering knowledge and compliance with local or state building codes (California Building Code, Uniform Building Code²³) could reduce potential damage to these structures and minimize the seismic impacts to the public.

Individual transportation projects and development patterns encouraged by land use strategies would require additional CEQA review and impact analysis on a project-by-project basis. Nevertheless, new transportation infrastructure and facilities associated with implementation of transportation projects included in the 2016 RTP/SCS could expose additional people and infrastructure to the effects of earthquakes and seismically-induced landslides. Similarly, the 2016 RTP/SCS includes a set of regional land use strategies that are intended to guide future land development patterns to focus new growth in HQTAs, existing suburban town centers, and walkable mixed-use communities. While the specific impact of this pattern of development relative to seismic risk is unknown, it could result in more people being exposed to the effects of earthquakes and seismically induced landslides.

Therefore, transportation projects and development patterns encouraged by land use strategies included in the 2016 RTP/SCS could expose people or structures to impacts involving known faults,

²² United States Geological Survey. 2008. *The Shake Out Scenario*. Available online at: <http://pubs.usgs.gov/of/2008/1150/of2008-1150.pdf>

²³ California Building Standards Commission. 2013. 2013 California Building Standards Code. Available at: <http://www.bsc.ca.gov/Home/Current2013Codes.aspx>

strong seismic ground shaking, and seismic related ground-failure including liquefaction and landslides. Impacts would be potentially significant, requiring the consideration of mitigation measures.

IMPACT GEO-2: Potential to result in substantial soil erosion or the loss of topsoil.

Significant Impact

Development of transportation projects included in the 2016 RTP/SCS, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, in addition to urban development patterns encouraged by land use strategies that direct more growth into existing suburban town centers, walkable mixed-use communities, and areas well-served by transit such as HQTAs, may result in significant impacts from soil erosion or the loss of topsoil, constituting a significant impact.

Several transportation projects and strategies included in the 2016 RTP/SCS would involve major construction of new facilities that may involve rail lines, highway segments, or other urban development patterns that would be within previously undisturbed areas. The high speed rail projects and alternative routes identified in the 2016 RTP/SCS are examples of these types of projects. **Figure 3.7.3-1** shows the location of projects identified in the 2016 RTP/SCS in relation to geologic hazards including areas with soils subject to moderate and high potential for soil erosion. Therefore, the projects included in the 2016 RTP/SCS have the potential to result in soil erosion and loss of topsoil in previously undisturbed areas. Some of these transportation projects and development patterns encouraged by land use strategies would require significant earthwork including cuts into hillsides, which could become unstable over time, increasing long-term erosion potential. Improvements and modifications to existing rights-of-way, such as HOV lanes, HOT lanes, new bus-ways and capacity enhancement facilities, mixed flow lanes, and ROW maintenance, would have less potential to impact topsoil because these project locations have previously been disturbed. However, road cuts could expose soils to erosion over the life of the project, creating potential landslide and falling rock hazards. Engineered roadways could be undercut over time by storm water drainage and wind erosion. Some areas would be more susceptible to erosion than others due to the naturally occurring soils with high erosion potential.

Notwithstanding natural soil types, engineered soils can also erode due to poor construction methods and design features or lack of maintenance. As shown in **Table 3.7.3-1**, transportation projects included in the 2016 RTP/SCS are in areas susceptible to geologic hazards including high soil erodibility. Construction of additional lanes on freeways, other transportation facilities or development patterns encouraged by land use strategies could potentially result in the loss of topsoil, if it involves grading, trenching, excavation, and/or soil removal of any kind, in an area not previously used as a paved transportation facility. In addition, ROW maintenance has the potential to impact topsoil depending on activities involved.

The 2016 RTP/SCS includes coordinated and integrated regional strategies for transportation investments and land use growth that aims to focus more development in urbanized areas such as HQTAs, livable corridors, neighborhood mobility areas, suburban town centers and walkable, mixed-used communities. This focus on compact development would not be expected to result in an increase in slope instability as much of the anticipated development would be in already developed areas served by transit and other existing infrastructure. However, some of the anticipated development could

require earthwork or otherwise result in soil erosion or slope failure, thus creating a significant impact. Since the 2016 RTP/SCS also guides nearly one-third of growth near the new transit infrastructure, it is recommended that the additional earthwork be considered for the new development in both existing and future HQTAs.

As such, development of transportation projects included in the 2016 RTP/SCS, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, in addition to regional land use strategies included in the 2016 RTP/SCS that encourage compact development within the SCAG region, could result in significant impacts from soil erosion or the loss of topsoil, requiring the consideration of mitigation measures.

IMPACT GEO-3: Potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

Significant Impact

Development of transportation projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, in addition to regional land use strategies included in the 2016 RTP/SCS that encourage compact development, may expose people and structure to geologic hazards and risks due subsidence, slope failure, and the presence of expansive soils where transportation projects and development patterns encouraged by land use strategies are located in these types of soils, constituting a significant impact. Potentially significant impacts to property and public safety could occur due to subsidence, slope failure, and the presence of expansive soils. Subsidence has historically occurred within the SCAG region due to groundwater overdraft and petroleum extraction. **Table 3.7.3-1** shows the number of acres within each County where 2016 RTP/SCS transportation projects and strategies are affected by liquefaction and earthquake-induced landslides. **Figure 3.7.3-1** shows the location of the 2016 RTP/SCS transportation projects and potential development patterns encouraged by land use strategies in relation to these areas. Unconsolidated soils containing petroleum or groundwater often compress when the liquids are removed causing the surface elevation to decrease. Improperly abandoned oil wells or underground hard rock mining can also cause localized subsidence. Areas of historic subsidence within the SCAG region exist in the Santa Clara River Valley and in the historic oil and gas fields of Los Angeles County including the Baldwin Hills, Long Beach, Pomona Chino, Puente Hills, and Antelope Valley areas. Subsidence has also occurred in the Coachella Valley and Murrietta/Temecula areas in Riverside County, Troy Lake, Lucerne Lake, Lucerne Valley, Harper Dry Lake, and Fort Irwin in San Bernardino County, the Santa Ana basin in Orange County, and the Oxnard Plan and Santa Clarita Calleguas Basin in Ventura County. The Port of Long Beach has also experienced subsidence due to the placement of fill along the original coast-line.²⁴ Subsidence can also occur in areas with unconsolidated soils that have not historically shown elevation changes. Transportation infrastructure designs must include appropriate

²⁴ State of California Department of Water Resources. 2014. *Summary of Recent Historical Potential Subsidence in California*. Available at: http://www.water.ca.gov/groundwater/docs/Summary_of_Recent_Historical_Potential_Subsidence_in_CA_Final_with_Appendix.pdf

reinforcement to minimize potential impacts from subsidence in areas where such activity has not been witnessed.

Soils with high percentages of clay can expand when wet, causing structural damage to surface improvements. These clay soils could occur in localized areas throughout the SCAG region, making it necessary to survey transportation project and/or strategy areas extensively prior to construction. Each new project location would have the potential to contain expansive soils, although they are more likely to be encountered in lower drainage basin areas. Expansive soils are generally removed during foundation work to avoid structural damage. However, individual new projects (transportation or development under land use strategies) would also require additional CEQA review and impacts would be determined by the assigned lead agency on a project by project basis. Additionally, the 2016 RTP/SCS assumes 47 percent of new residential growth and 56 percent of new employment growth would occur within existing HQTAs where expansive soils may have already been removed.

Slope failure results in landslides and mudslides from unstable soils or geologic units. As discussed above, construction of transportation projects and development pattern encouraged by land use strategies, as included in the Plan, may require substantial earthwork and road cuts, increasing the potential for slope failure.

Development of projects that involve large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, in addition to regional land use strategies included in the 2016 RTP/SCS that encourage compact development, may result in significant impacts from subsidence, slope failure, and the presence of expansive soils where transportation projects and development patterns encouraged by land use strategies are located in these types of soils, requiring the consideration of mitigation measures.

IMPACT GEO-4: Potential to be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Significant Impact

Development of transportation projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, and regional land use strategies included in the 2016 RTP/SCS that encourage compact development, may expose people and structures to risks where transportation projects and development patterns encouraged by strategies are located within expansive soils, constituting a significant impact. Soils with high percentages of clay can expand when wet, causing structural damage to surface improvements. These clay soils can occur in localized areas throughout the SCAG region, making it necessary to survey project areas extensively prior to construction. A total of 1,675 acres of the 2016 RTP/SCS transportation projects and other potential development patterns encouraged by strategies, within Los Angeles County are located on channery clay loam soil (**Figure 3.7.2-7**). Each new project would need to be evaluated on a project-specific basis to determine if the project location would have the potential to contain expansive soils. Expansive soils are generally removed during foundation work to avoid structural damage. The 2016 RTP/SCS assumes 47 percent of the new residential growth and 56 percent of new employment growth would occur within the existing HQTAs, where expansive soils may have already been removed. However, expansive soils are present in many parts of the SCAG region.

As such, the development of transportation projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, and regional land use strategies included in the 2016 RTP/SCS that encourage compact development, may result in significant impacts where transportation and potential development projects are located within expansive soils, requiring the consideration of mitigation measures.

IMPACT GEO-5: Potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Less than Significant Impact

The 2016 RTP/SCS includes transportation investments and regional land use strategies that aim to produce more compact development in well-served transit areas. These land use strategies encourage compact development in HQTAs, existing suburban town centers, and more walkable, mixed-use communities to accommodate the anticipated growth of 3.8 million people by 2040. The 2016 RTP/SCS does not encourage or anticipate residential development in areas where sewers are not available for the disposal of waste water or where densities would not support the provision of sanitary sewers. Therefore, impacts from having soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water would be less than significant, and no mitigation measures are required.

3.7.5 CUMULATIVE IMPACTS

The 2016 RTP/SCS includes coordinated transportation investments and land use growth strategies to increase mobility, promote sustainability, and improve the economy. The RTDM used for this analysis captures pass-through traffic that does not have an origin or destination in the region, but does impact the region. As a result, this pass-through traffic is included in the project analysis. Although development is anticipated to occur within the region even without the 2016 RTP/SCS, this Plan includes regional land use growth policies that could influence growth, including distribution patterns, throughout the region. To address this, the analysis covers overall impacts of transportation projects included in the 2016 RTP/SCS and land development strategies described in the 2016 RTP/SCS. Potentially hazardous geological and seismic conditions are found throughout the SCAG region and Southern California in general, and are generally site specific. The 2016 RTP/SCS encompasses all development (both transportation and land use changes) that would occur in the region through 2040. As a result, the Plan would be expected to contribute to a cumulatively considerable increase in risk associated with geologic hazards.

IMPACT GEO-1: Potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving (i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; (ii) strong seismic ground shaking; (iii) seismic related ground-failure, including liquefaction; (iv) landslides.

Significant Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with related development and infrastructure projects within the SCAG region and surrounding areas, and anticipated growth and land use development patterns, would contribute to cumulative significant impacts with regard to the potential to expose additional people and infrastructure to the effects of earthquakes, seismic related ground-failure, liquefaction, and seismically induced landslides. The 2016 RTP/SCS includes a set of regional land use strategies that are intended to guide future land development patterns to focus new growth in HQTAs, existing suburban town centers, and walkable mixed-use communities. While the specific impact of this pattern of development relative to seismic risk is unknown, it could result in cumulative significant impacts with regard to more people being exposed to the effects of effects of earthquakes, seismic related ground-failure, liquefaction, and seismically induced landslides. **Appendix B, 2016 RTP/SCS Project List**, shows the related transportation projects for each county and major cities in the SCAG region that would be expected to contribute to the cumulative impacts from the 2016 RTP/SCS. **Table 3.7.3-1** shows that 27,061 acres are subject to severe peak ground acceleration, 16 linear miles are within an Alquist-Priolo Earthquake zone, 44,477 acres are subject to potential liquefaction, and 3,892 acres are subject to potential earthquake induced landslides within 500 feet of major SCAG projects. Therefore, the Plan would result in cumulative significant impacts with regard to the potential to expose additional people and infrastructure to the effects of earthquakes, seismic related ground-failure, liquefaction, and seismically induced landslides, requiring the consideration of mitigation measures.

IMPACT GEO-2: Potential to result in substantial soil erosion or the loss of topsoil.

Significant Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with related development and infrastructure projects within the SCAG region and surrounding areas, and anticipated growth and land use development patterns, would contribute to cumulative significant impacts with regard to the potential to the potential to result in substantial soil erosion or the loss of topsoil. The 2016 RTP/SCS includes a set of regional land use strategies that are intended to guide future land development patterns to focus new growth in HQTAs, existing suburban town centers, and walkable mixed-use communities. While the specific impact of this pattern of development relative to seismic risk is unknown, it could result in cumulative significant impacts with regard to the potential to result in substantial soil erosion or the loss of topsoil. **Appendix B** shows the related transportation projects for each county and major cities in the SCAG region that would be

expected to contribute to the cumulative impacts from the 2016 RTP/SCS. Table 3.7.3-1 shows that 83,212 acres are subject to moderate or high soil erosion potential within 500 feet of major SCAG projects. Therefore, the Plan would result in cumulative significant impacts with regard to the potential to result in substantial soil erosion or the loss of topsoil, requiring the consideration of mitigation measures.

IMPACT GEO-3: Potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

Significant Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with related development and infrastructure projects within the SCAG region and surrounding areas, and anticipated growth and land use development patterns, would contribute to cumulative significant impacts with regard to the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. The 2016 RTP/SCS includes a set of regional land use strategies that are intended to guide future land development patterns to focus new growth in HQTAs, existing suburban town centers, and walkable mixed-use communities. While the specific impact of this pattern of development relative to seismic risk is unknown, it could result in cumulative significant impacts with regard to the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Appendix B shows the related transportation projects for each county and major cities in the SCAG region that would be expected to contribute to the cumulative impacts from the 2016 RTP/SCS. Table 3.7.4-1 shows that 27,061 acres are subject to severe peak ground acceleration, 16 linear miles are within an Alquist-Priolo Earthquake zone, 44,477 acres are subject to potential liquefaction, and 3,892 acres are subject to potential earthquake induced landslides within 500 feet of major SCAG projects. Therefore, the Plan would result in cumulative significant impacts with regard to the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse, requiring the consideration of mitigation measures.

IMPACT GEO-4: Potential to be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Significant Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with related development and infrastructure projects within the SCAG region and surrounding areas, and anticipated growth and land use development patterns, would contribute to cumulative significant impacts with regard to the potential to be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property. The 2016

RTP/SCS includes a set of regional land use strategies that are intended to guide future land development patterns to focus new growth in HQTAs, existing suburban town centers, and walkable mixed-use communities. While the specific impact of this pattern of development relative to seismic risk is unknown, it could result in cumulative significant impacts with regard to on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property. **Appendix B** shows the related transportation projects for each county and major cities in the SCAG region that would be expected to contribute to the cumulative impacts from the 2016 RTP/SCS. A total of 1,675 acres of the 2016 RTP/SCS transportation projects within Los Angeles County are located on channery clay loam soil (**Figure 3.7.2-7**). Expansive soils are generally removed during foundation work to avoid structural damage. The 2016 RTP/SCS assumes 47 percent of the new residential growth and 56 percent of new employment growth would occur within the existing HQTAs, where expansive soils may have already been removed. However, expansive soils are present throughout the SCAG region. As a result, the development of transportation improvement projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, and regional land use strategies included in the 2016 RTP/SCS that encourage compact development the direction of more growth into HQTAs within the SCAG region, may result in significant impacts where transportation and potential development projects are located within expansive soils, requiring the consideration of mitigation measures.

IMPACT GEO-5: Potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Less than Significant Cumulative Impact

The 2016 RTP/SCS does not encourage or anticipate residential development in areas where sewers are not available for the disposal of waste water or where densities would not support the provision of sanitary sewers. Therefore, cumulative impacts from having soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water would be less than significant.

3.7.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to geology and soils are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT GEO-1: Potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving (i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; (ii) strong seismic ground shaking; (iii) seismic related ground-failure, including liquefaction; (iv) landslides.

SCAG Mitigation Measures

MM-GEO-1(a): SCAG shall facilitate minimizing future impacts to geological resources from exposure of people or structures to potential substantial adverse effects involving including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, landslides; substantial soil erosion or loss of topsoil; off-site landslide, lateral spreading, subsidence, liquefaction, or collapse; and being located on an expansive soil through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts. Such efforts shall include web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online training materials. Resource agencies, such as the U.S. Geology Survey, shall be consulted during this update process.

Project-Level Mitigation Measures

MM-GEO-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on the potential for projects to result in the exposure of people and infrastructure to the effects of earthquakes, seismic related ground-failure, liquefaction, and seismically induced landslides, that are in the jurisdiction and responsibility of public agencies, regulatory agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with County and City Public Works and Building and Safety Department Standards, the Uniform Building Code (UBC) and the California Building Code (CBC), and other applicable laws and regulations governing building standards, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Consistent with Section 4.7.2 of the Alquist-Priolo Earthquake Fault Zoning Act, conduct a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults. An evaluation and written report of a specific site be prepared by a licensed geologist. If an active fault is found and unfit for human occupancy over the fault, place a setback of 50 feet from the fault.
- Use site-specific fault identification investigations conducted by licensed geotechnical professionals in accordance with the requirements of the Alquist-Priolo Act, as well as any applicable Caltrans regulations that exceed or reasonably replace the requirements of the Act to either determine that the anticipated risk to people and property is at or

below acceptable levels or site-specific measures have been incorporated into the project design, consistent with the CBC and UBC.

- Ensure that projects located within or across Alquist-Priolo Zones comply with design requirements provided in Special Publication 117, published by the California Geological Survey, as well as relevant local, regional, state, and federal design criteria for construction in seismic areas.
- Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that projects are designed in accordance with county and city code requirements for seismic ground shaking. With respect to design, consider seismicity of the site, soil response at the site, and dynamic characteristics of the structure, in compliance with the appropriate California Building Code and State of California design standards for construction in or near fault zones, as well as all standard design, grading, and construction practices in order to avoid or reduce geologic hazards.
- Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that site-specific geotechnical investigations conducted by a qualified geotechnical expert be required prior to preparation of project designs. These investigations shall identify areas of potential expansive soils and recommend remedial geotechnical measures to eliminate any problems. Recommended corrective measures, such as structural reinforcement and replacing soil with engineered fill, shall be implemented in project designs. Geotechnical investigations identify areas of potential failure and recommend remedial geotechnical measures to eliminate any problems.
- Adhere to design standards described in the CBC and all standard geotechnical investigation, design, grading, and construction practices to avoid or reduce impacts from earthquakes, ground shaking, ground failure, and landslides.
- Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, projects avoid geologic units or soils that are unstable, expansive soils and soils prone to lateral spreading, subsidence, liquefaction, or collapse wherever feasible.

IMPACT GEO-2: Potential to result in substantial soil erosion or the loss of topsoil.

SCAG Mitigation Measures

MM-GEO-1(a).

Project-Level Mitigation Measures

MM-GEO-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on the potential for projects to result in substantial soil erosion or the loss of topsoil, that are in the jurisdiction and responsibility of public agencies, regulatory agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with County and City Public Works and Building and Safety Department Standards, the Uniform Building Code (UBC) and the California Building Code (CBC),

and other applicable laws and regulations governing building standards, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that site-specific geotechnical investigations conducted by a qualified geotechnical expert are conducted to ascertain soil types prior to preparation of project designs. These investigations can and should identify areas of potential failure and recommend remedial geotechnical measures to eliminate any problems.
- Consistent with the requirements of the State Water Resources Control Board (SWRCB) for projects over one acre in size, obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit) issued by the SWRCB and conduct the following:
 - File a Notice of Intent (NOI) with the SWRCB.
 - Prepare a stormwater pollution prevention plan (SWPPP) and submit the plan for review and approval by the Regional Water Quality Control Board (RWQCB). At a minimum, the SWPPP should include a description of construction materials, practices, and equipment storage and maintenance; a list of pollutants likely to contact stormwater; site-specific erosion and sedimentation control practices; a list of provisions to eliminate or reduce discharge of materials to stormwater; best management practices (BMPs); and an inspection and monitoring program.
 - Submit to the RWQCB a copy of the SWPPP and evidence of submittal of the NOI to the SWRCB. Implementation of the SWPPP should start with the commencement of construction and continue through the completion of the project.
 - After construction is completed, the project sponsor can and should submit a notice of termination to the SWRCB.
- Consistent with the requirements of the SWRCB and local regulatory agencies with oversight of development associated with the Plan, ensure that project designs provide adequate slope drainage and appropriate landscaping to minimize the occurrence of slope instability and erosion. Design features should include measures to reduce erosion caused by storm water. Road cuts should be designed to maximize the potential for revegetation.
- Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that, prior to preparing project designs, new and abandoned wells are identified within construction areas to ensure the stability of nearby soils.

IMPACT GEO-3: Potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

SCAG Mitigation Measures

MM-GEO-1 (a).

Project-Level Mitigation Measures

MM-GEO-1(b)

IMPACT GEO-4: Potential to be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

SCAG Mitigation Measures

MM-GEO-1 (a).

Project-Level Mitigation Measures

MM-GEO-1(b)

3.7.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT GEO-1: Potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving (i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; (ii) strong seismic ground shaking; (iii) seismic related ground-failure, including liquefaction; (iv) landslides.

Implementation of Mitigation Measures MM-GEO-1(a) and MM-GEO-1(b) would reduce potential impacts to the seismically active areas and Alquist-Priolo fault zones. However, because of the regional scale of the Plan, the direct, indirect, and cumulative impacts would remain significant and unavoidable..

IMPACT GEO-2: Potential to result in substantial soil erosion or the loss of topsoil.

Implementation of Mitigation Measures MM-GEO-1(a) and MM-GEO-2(b) would reduce potential impacts from soil erosion and loss of topsoil. However, because of the regional scale of the Plan, the direct, indirect, and cumulative impacts would remain significant and unavoidable..

IMPACT GEO-3: Potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

Implementation of Mitigation Measures MM-GEO-1(a) and MM-GEO-1(b) would reduce potential impacts from off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. However, because of the regional scale of the Plan, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

GEO-4: Potential to be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Implementation of Mitigation Measures MM-GEO-1(a) and MM-GEO-1(b) would reduce potential impacts from expansive soils. However, because of the regional scale of the Plan, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

This section of the Program Environmental Impact Report (PEIR) describes the greenhouse gas (GHG) emissions and climate change in the SCAG region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategies (“2016 RTP/SCS,” “Plan” or “Project”) on GHG emissions and climate change, identifies mitigation measures for the impacts, and evaluates the residual impacts (see also **Appendix C, Air Quality and Greenhouse Gas Emissions and Climate Change Technical Appendix**). GHG emissions and climate change were evaluated in accordance with Appendix G the 2015 State California Environmental Quality Act (CEQA) Guidelines. GHG emissions and climate change within the SCAG region were evaluated at a programmatic level of detail, in relation to the General Plans of the six counties and the 191 cities within the SCAG region; a review of related literature germane to the SCAG region, as well as a review of SCAG’s 2012 RTP/SCS PEIR.¹

Greenhouse gases (GHGs) trap heat in the atmosphere. GHGs are emitted by natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the earth’s temperature. The six major GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbon (PFCs). The GHGs absorb longwave radiant energy emitted by the earth, which warms the atmosphere. The GHGs also emit longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation emitted by the atmosphere is known as the “greenhouse effect.” Emissions from human activities such as fossil fuel combustion for electricity production and vehicles have elevated the concentration of these gases in the atmosphere.²

Definitions

Carbon Dioxide (CO₂): Enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

Carbon Dioxide-Equivalent (CO_{2e}): The standard unit to measure the amount of GHGs in terms of the amount of CO₂ that would cause the same amount of warming. CO_{2e} is based on the GWP ratios between the various GHGs relative to CO₂.

Chlorofluorocarbons (CFCs): One of a class of fluorinated gases with a high greenhouse warming potential, CFCs are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given

¹ Southern California Association of Governments. April 2012. Final Program Environmental Report: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy. Available at: <http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

² South Coast Air Quality Management District. February 2013. *Final Environmental Impact Report for the 2012 Air Quality Management Plan*. Available at: [http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2012-air-quality-management-plan/final-2012-aqmp-\(february-2013\)/final-ceqa-eir/2012-program-environmental-impact-report-ch-3-2.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2012-air-quality-management-plan/final-2012-aqmp-(february-2013)/final-ceqa-eir/2012-program-environmental-impact-report-ch-3-2.pdf?sfvrsn=2)

suitable conditions, they break down ozone. These gases are therefore being replaced by other GHG compounds covered under the Kyoto Protocol.

Climate Change: Climate change is the variation of earth's climate over time, whether due to natural variability or as a result of human activities. Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use.

Fluorinated Gases: Synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but they are potent GHGs, sometimes referred to as high greenhouse warming potential gases.

Global Warming Potential (GWP): Metric used to describe how much heat a molecule of a GHG absorbs relative to a molecule of carbon dioxide (CO₂) over a given period of time (20, 100, and 500 years). CO₂ has a GWP of 1.

Greenhouse Gases (GHGs): GHGs are those compounds in the earth's atmosphere that play a critical role in determining the earth's surface temperature. Specifically, these gases allow high-frequency solar radiation to enter the earth's atmosphere but retain the low-frequency energy, which is radiated back from the earth to space, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Increased concentrations of GHGs in the earth's atmosphere are thought to be linked to global climate change, such as rising surface temperatures, melting icebergs and snowpack, rising sea levels, and the increasing frequency and magnitude of severe weather.

GHGs include CO₂, CH₄, O₃, water vapor, N₂O, HFCs, PFCs, and SF₆. Carbon dioxide is the most abundant GHG. Other GHGs are less abundant, but have higher global warming potential than CO₂. (Table 3.8-1, *Greenhouse Gases and Their Relative Warming Potential Compared to CO₂*).

**TABLE 3.8-1
GREENHOUSE GASES AND THEIR RELATIVE GLOBAL WARMING POTENTIAL
COMPARED TO CO₂**

GHG	Atmospheric Lifetime (years)	Global Warming Potential Relative to CO ₂ ^a
Carbon Dioxide (CO ₂)	50 to 100	1
Methane (CH ₄) ^b	12 (±3)	25
Nitrous Oxide	120	298
Hydrofluorocarbons:		
HFC-23	264	14,800
HFC-32	5.6	675
HFC-125	32.6	3,500
HFC-134a	14.6	1,100
HFC-143a	48.3	1,430
HFC-152a	1.5	124
HFC-227ea	36.5	3,220
HFC-236fa	209	9,810
HFC-43-10mee	17.1	1,640
Perfluoromethane: CF ₄	50,000	7,390
Perfluoroethane: C ₂ F ₆	10,000	12,200
Perfluorobutane: C ₄ F ₁₀	2,600	8,860
Perfluoro-2-methylpentane: C ₆ F ₁₄	3,200	9,300
Sulfur Hexafluoride (SF ₆)	3,200	22,800

NOTE:

- a. Based on 100-Year Time Horizon of the Global Warming Potential (GWP) of the air pollutant relative to CO₂.
- b. The methane GWP includes the direct effects and those indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO₂ is not included.

SOURCE:

Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report (AR4). 4 April 2014. *Emission factors for greenhouse gas inventories*. Available at: <http://www.epa.gov/climateleadership/documents/emission-factors.pdf>

Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO₂, denoted as CO_{2e}. GHGs are the result of natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions.

Understanding of the fundamental processes responsible for global climate change has been improved over the past decade, and the predictive capabilities are advancing. However, there remain significant scientific uncertainties, for example, in predictions of local effects of climate change, occurrence of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the earth's climate system, the uncertainty in its description and in the prediction of changes may never be completely eliminated. Because of these uncertainties, there continues to be significant debate over the extent to which increased concentrations of GHGs have caused or will cause climate change and over the appropriate actions to limit and/or respond to climate change.

Hydrofluorocarbons (HFCs): One of a class of fluorinated gases with a high greenhouse warming potential, HFCs contain only hydrogen, fluorine, and carbon atoms. They were introduced as

alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs.

Hydrochlorofluorocarbons (HCFCs): One of a class of fluorinated gases with a high greenhouse warming potential, HCFCs contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are GHGs.

Methane (CH₄): Emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.

MTCO_{2e}: Metric ton of CO_{2e}.

MMTCO_{2e}: Million metric tons of CO_{2e}.

Nitrous oxide (N₂O): Emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

Sulfur Hexafluoride (SF₆): One of a class of fluorinated gases with a high greenhouse warming potential, SF₆ is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF₆ is a strong GHGs used primarily in electrical transmission and distribution systems as an insulator.

Perfluorocarbons (PFCs): One of a class of fluorinated gases with a high greenhouse warming potential, PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF₄] and perfluoroethane [C₂F₆]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are also used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high global warming potential.

3.8.1 REGULATORY FRAMEWORK

This regulatory framework focuses on the international, federal, state, and local statutes and regulations where the primary objective is reduction of GHG emissions. However, there are other regulations that are focused on increased energy efficiency and transportation improvements, that if accomplished would be expected to contribute to per capita reductions in GHG emissions. Those regulations have been addressed respectively in Section 3.6, *Energy*, and Section 3.17, *Transportation, Traffic, and Safety*.

International

U.S.-China Climate Agreement

In November 2014, the United States and China made a joint announcement to cooperate on combatting climate change and promoting clean energy. In the U.S., President Obama announced a climate target to reduce greenhouse gas emissions by 26 to 28 percent below 2005 levels by 2025. In

China, President Xi Jinping announced a climate target to reduce peak CO₂ emissions by 2030 and to increase the renewable energy share across all sectors to 20 percent by 2030. China will need to build an additional 800 to 1,000 gigawatts of nuclear, wind, solar, and other zero emission generation capacity by 2030 to reach this target. Together, the United States and China have agreed to: expand joint clean energy research and development at the U.S.-China Clean Energy Research Center (CERC), advance major carbon capture, use and storage demonstrations, enhance cooperation on HFCs, launch a climate-smart/low-carbon cities initiative, promote trade in green goods, and demonstrate clean energy on the ground.³

United Nations Framework Convention on Climate Change (UNFCCC)

A new international climate change agreement will be adopted at the Paris UNFCCC climate conference in December 2015 and implemented from 2020. The last two climate conferences in Warsaw (2013) and Lima (2014) decided that countries shall submit their proposed emissions reduction targets for the 2015 conference as “intended nationally determined contributions” prior to the Paris conference. The European Union has committed to an economy-wide, domestic greenhouse gas reduction target of 40 percent below 1990 levels by 2030.⁴ The United States has set its intended nationally determined contribution to reduce its greenhouse gas emissions by 26 to 28 percent below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28 percent. These targets are set with the goal of limiting global temperature rise to below 2 degrees Celsius and getting to the 80 percent emission reduction by 2050.⁵

Federal

Federal Clean Air Act, Section 111

Under Section 111 of the Federal Clean Air Act (CAA, 42 U.S. Code [USC] §7401 et seq.), the U.S. Environmental Protection Agency (EPA) issues standards, regulations, and guidelines to reduce carbon pollution on new, modified and existing power plants. Section 111(b) creates a federal program to establish standards for new, modified, and reconstructed stationary sources. Section 111(d) is a state-based program for existing stationary sources where the EPA sets the guidelines and the states implement programs to meet those guidelines.⁶

³ The White House. *Fact Sheet: U.S.-China Joint Announcement on Climate Change and Clean Energy Cooperation*. 11 November 2014. Available at: <https://www.whitehouse.gov/the-press-office/2014/11/11/fact-sheet-us-china-joint-announcement-climate-change-and-clean-energy-c>

⁴ European Commission. Accessed 13 October 2015. *The 2015 international agreement*. Available at: http://ec.europa.eu/clima/policies/international/negotiations/future/index_en.htm

⁵ United Nations Framework Convention on Climate Change (UNFCCC). Accessed 14 October 2015. *United States Intended Nationally Determined Contribution*. Available at: <http://www4.unfccc.int/submissions/INDC/Published%20Documents/United%20States%20of%20America/1/U.S.%20Cover%20Note%20INDC%20and%20Accompanying%20Information.pdf>

⁶ Environmental Protection Agency. 3 August 2015. *Regulatory actions*. Available at: <http://www2.epa.gov/cleanpowerplan/regulatory-actions#CAP>

Clean Power Plan

On August 3, 2015, President Obama and the EPA announced the Clean Power Plan. The Clean Power Plan sets achievable standards to reduce carbon dioxide emissions by 32 percent from 2005 levels by 2030.⁷ This Plan establishes final emissions guidelines for states to follow in developing plans to reduce GHG emissions from existing fossil fuel-fired electric generating units (EGUs). Specifically, the EPA is establishing: (1) carbon dioxide emission performance rates representing the best system of emission reduction (BSER) for two subcategories of existing fossil fuel-fired EGUs, fossil fuel-fired electric utility steam generating units and stationary combustion turbines; (2) state-specific CO₂ goals reflecting the CO₂ emission performance rates; and (3) guidelines for the development, submittal and implementation of state plans that establish emission standards or other measures to implement the CO₂ emission performance rates, which may be accomplished by meeting the state goals. This final rule will continue progress already under way in the U.S. to reduce CO₂ emissions from the utility power sector.⁸

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (42 USC 17001) includes several key provisions that will increase energy efficiency and the availability of renewable energy, which will reduce greenhouse gas emissions as a result. First, the Act sets a Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel by 2022. Second, it increased Corporate Average Fuel Economy (CAFE) Standards to require a minimum average fuel economy of 35 miles per gallon for the combined fleet of cars and light trucks by 2020. Third, the Act includes a variety of new standards for lighting and for residential and commercial appliance equipment. The equipment includes residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, and commercial walk-in coolers and freezers.⁹

Greenhouse Gas Reporting Program (GHGRP)

The EPA adopted the GHGRP (40 CFR Part 98), a mandatory GHG reporting rule in September 2009. The rule requires suppliers of fossil fuels or entities that emit industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to the EPA beginning in 2011 (covering the 2010 calendar year emission). Vehicle and engine manufacturers were required to begin reporting GHG emissions for model year 2011. In January 2012, EPA made the first year of GHGRP reporting data available to the public through its interactive Data Publication Tool, called Facility Level Information on Greenhouse gases Tool (FLIGHT), EPA will continue to update the tool and release additional data each reporting year.¹⁰

⁷ The White House. Accessed 2 September 2015. *Climate Change and President Obama's Action Plan*. Available at: <https://www.whitehouse.gov/climate-change>

⁸ Environmental Protection Agency. 3 August 2015. *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*. Available at: <http://www2.epa.gov/sites/production/files/2015-08/documents/cpp-final-rule.pdf>

⁹ Environmental Protection Agency. Accessed 14 October 2015. *Summary of the Energy Independence and Security Act*. Available at: <http://www2.epa.gov/laws-regulations/summary-energy-independence-and-security-act>

¹⁰ Environmental Protection Agency. Accessed 14 October 2015. *Greenhouse Gas Reporting Program*. Available at: <http://www2.epa.gov/ghgreporting>

National Program to Improve Fuel Economy and Reduce GHGs

On September 15, 2009, the National Highway Traffic Safety Administration (NHTSA) and EPA announced a proposed joint rule that would explicitly tie fuel economy to GHG emissions reductions requirements. The proposed new CAFE Standards would cover automobiles for model years 2012 through 2016, and would require passenger cars and light trucks to meet a combined, per mile, carbon dioxide emissions level. It is estimated that by 2016, this GHG emissions limit could equate to an overall light-duty vehicle fleet average fuel economy of as much as 35.5 miles per gallon. The proposed standards would require model year 2016 vehicles to meet an estimated combined average emission level of 250 grams of carbon dioxide per mile under EPA's GHG program. On November 16, 2011, EPA and NHTSA issued a joint proposal to extend the national program of harmonized GHG and fuel economy standards to model year 2017 through 2025 passenger vehicles. In August 2012, President Obama finalized standards that will increase fuel economy to the equivalent of 54.5 mpg for cars and light-duty trucks by Model Year 2025.

Heavy-Duty National Program

The Heavy-Duty National Program was adopted on August 9, 2011, to establish the first fuel efficiency requirements for medium- and heavy-duty vehicles beginning with the model year 2014.

Proposed Rulemaking: Phase 2 Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles

As of June 2015, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) are jointly proposing a national program that would establish the next phase of GHG emissions and fuel efficiency standards for medium- and heavy-duty vehicles. The Phase 2 program significantly reduces carbon emissions and improves the fuel efficiency of heavy-duty vehicles, helping to address the challenges of global climate change and energy security. Phase 2 would save the heavy duty vehicle industry billions of dollars' worth of fuel, reduce the cost of transporting goods, cut fuel consumption, and reduce GHG emissions by 1 billion metric tons. Fuel consumption of tractor trailers alone could decrease by 24 percent. The proposed Phase 2 standards, which begin in the model year 2021 (model year 2018 for trailers and 2021 for NHTSA's trailer standards) and culminate in standards for model year 2027, are the product of a comprehensive assessment of existing and advanced technologies and extensive stakeholder outreach.¹¹

President Obama's Climate Action Plan

On June 25, 2013, President Obama issued a Climate Action Plan. The three main goals are to cut carbon pollution, prepare the U.S. for the impacts of climate change, and lead international efforts to combat global climate change and prepare for its impacts. President Obama plans to cut carbon pollution by directing the EPA to complete carbon pollution standards in the power sector. This will reduce emissions from power plants and encourage renewable energy development. Other strategies to combat climate change are increasing energy efficiency, stricter vehicle and fuel standards,

¹¹ Environmental Protection Agency. June 2015. *Cutting Carbon Pollution, Improving Fuel Efficiency, Saving Money, and Supporting Innovation for Trucks*. Available at: <http://www3.epa.gov/otaq/climate/documents/420f15900.pdf>

preserving forests as climate sinks, reducing energy waste, combating short-lived climate pollutants, mobilizing climate finance, and leading international negotiations on climate change.¹²

Federal Highway Administration's Climate Change and Extreme Weather Vulnerability Assessment Framework

Published in December 2012, the Climate Change and Extreme Weather Vulnerability Assessment Framework is a guidance document for transportation agencies to assess their vulnerability to climate change and extreme weather events. Objectives for a vulnerability assessment may include siting new assets in areas less vulnerable to climate change, educating staff regarding overall climate risks to the agency's transportation system, or informing the development of adaptation strategies. Based on these objectives, an agency can then select and characterize relevant assets and identify climate variables for study. The vulnerability assessment is an iterative process; information gathered on assets may inform climate information needs and vice versa.¹³

Executive Order 13693, Planning for Federal Sustainability in the Next Decade

Published June 10, 2015, Executive Order (EO) 13693, *Planning for Federal Sustainability in the Next Decade*, revokes multiple prior EOs and memorandum including EO 13423 and EO 13514. The new EO outlines forward-looking goals for federal agencies in the area of energy, climate change, water use, vehicle fleets, construction, and acquisition. The goal is to maintain federal leadership in sustainability and GHG emission reductions. Federal agencies shall, where life-cycle cost-effective, beginning in FY 2016:¹⁴

- Reduce agency building energy intensity as measured in Btu/ft² by 2.5 percent annually through FY 2025
- Improve data center energy efficiency at agency buildings
- Ensure a minimum percentage of total building electric and thermal energy shall be from clean energy sources
- Improve agency water use efficiency and management (including stormwater management)
- Improve agency fleet and vehicle efficiency and management by achieving minimum percentage GHG emission reductions

¹² The White House. June 2013. *The President's Climate Action Plan*. Available at: <https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>

¹³ Federal Highway Administration. December 2012. *Climate change and extreme weather vulnerability assessment framework*. Available at: http://www.fhwa.dot.gov/environment/climate_change/adaptation/publications_and_tools/vulnerability_assessment_framework/fhwahep13005.pdf

¹⁴ Fed Center. 10 July 2015. *EO 13693*. Available at: <https://www.fedcenter.gov/programs/eo13693/>

State

Global Warming Solutions Act of 2006 (Núñez)

In September 2006, Governor Arnold Schwarzenegger signed the California Global Warming Solutions Act of 2006, also known as AB 32 (Núñez, Chapter 488, Statutes of 2006), into law. AB 32 focuses on reducing GHG emissions in California and requires the CARB to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. To achieve this goal, AB 32 mandates that the CARB establish a quantified emissions cap; institute a schedule to meet the cap; implement regulations to reduce statewide GHG emissions from stationary sources; and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. Because the intent of AB 32 is to limit 2020 emissions to the equivalent of 1990, it is expected that the regulations would affect many existing sources of GHG emissions and not just new general development projects. SB 1368, a companion bill to AB 32, requires the California Public Utilities Commission and the California Energy Commission to establish GHG emission performance standards for the generation of electricity. These standards will also apply to power that is generated outside of California and imported into the state.

AB 32 charges CARB with the responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. On June 1, 2007, CARB adopted three discrete early action measures to reduce GHG emissions. These measures involved complying with a low carbon fuel standard, reducing refrigerant loss from motor vehicle air conditioning maintenance, and increasing methane capture from landfills.¹⁵ On October 25, 2007, CARB tripled the set of previously approved early action measures. The approved measures include improving truck efficiency (i.e., reducing aerodynamic drag), electrifying port equipment, reducing PFCs from the semiconductor industry, reducing propellants in consumer products, promoting proper tire inflation in vehicles, and reducing sulfur hexafluoride emission from the non-electricity sector. CARB has determined that the total statewide aggregated GHG 1990 emissions level and 2020 emissions limit is 427 MMTCO_{2e}. The 2020 target reductions are currently estimated to be 174 MMTCO_{2e}.

The CARB AB 32 Scoping Plan contains the main strategies to achieve the 2020 emissions cap. The Scoping Plan was developed by the CARB with input from the Climate Action Team (CAT) and proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, and reduce oil dependency. The GHG reduction strategies contained in the Scoping Plan include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. Key approaches for reducing GHG emissions to 1990 levels by 2020 include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable electricity standard of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;

¹⁵ California Air Resources Board. 20 April 2007. *Proposed Early Action Measures to Mitigate Climate Change in California*.

- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets; and Adopting and implementing measures to reduce transportation sector emissions, including California's.

CARB has also developed the GHG mandatory reporting regulation, which required reporting beginning on January 1, 2008, pursuant to requirements of AB 32. The regulations require reporting for certain types of facilities that make up the bulk of the stationary source emissions in California. The regulation language identifies major facilities as those that generate more than 25,000 MTCO₂ per year. Cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 MTCO₂ per year make up 94 percent of the point source CO₂ emissions in California.

Executive Order S-3-05 GHG Reduction Targets (2005)

Pursuant to AB 32, on June 1, 2005, EO S-3-05 set the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. The EO establishes state GHG emission targets of 1990 levels by 2020 (the same as AB 32) and 80 percent below 1990 levels by 2050.¹⁶ It calls for the Secretary of Cal/EPA to be responsible for coordination of state agencies and progress reporting. A recent California Energy Commission report concludes, however, that the primary strategies to achieve this target should be major "decarbonization" of electricity supplies and fuels, and major improvements in energy efficiency.¹⁷

In response to the EO, the Secretary of the Cal/EPA created the CAT. California's CAT originated as a coordinating council organized by the Secretary for Environmental Protection. It included the Secretaries of the Natural Resources Agency and the Department of Food and Agriculture and the Chairs of the CARB, California Energy Commission, and Public Utilities Commission. The original council was an informal collaboration between the agencies to develop potential mechanisms for reductions in GHG emissions in the state. The council was given formal recognition in EO S-3-05 and became the CAT.

The original mandate for the CAT was to develop proposed measures to meet the emission reduction targets set forth in the executive order. The CAT has since expanded and currently has members from 18 state agencies and departments. The CAT also has 10 working groups that coordinate policies among their members. The working groups and their major areas of focus are:

- Agriculture: Focusing on opportunities for agriculture to reduce GHG emissions through efficiency improvements and alternative energy projects, while adapting agricultural systems to climate change
- Biodiversity: Designing policies to protect species and natural habitats from the effects of climate change

¹⁶ CEQA review related to the EO is currently being considered before the California Supreme Court in *Cleveland National Forest Association et al v. San Diego Association of Governments*, 231 Cal.App. 4th 1056. Considering this pending litigation, and to fulfill the related CEQA requirements for the PEIR to serve as a full-disclosure document, EO S-03-05 and B-30-15 have been included in this regulatory framework, and the PEIR addresses consistency of the RTP/SCS in relation to the GHG reduction targets set forth under such executive orders.

¹⁷ California Energy Commission. May 2011. *California's Energy Future – The View to 2050*.

- Energy: Reducing GHG emissions through extensive energy efficiency policies and renewable energy generation
- Forestry: Coupling GHG mitigation efforts with climate change adaptation related to forest preservation and resilience, waste to energy programs and forest offset protocols
- Land Use and Infrastructure: Linking land use and infrastructure planning to efforts to reduce GHG from vehicles and adaptation to changing climatic conditions
- Oceans and Coastal: Evaluating the effects sea level rise and changes in coastal storm patterns on human and natural systems in California
- Public Health: Evaluating the effects of GHG mitigation policies on public health and adapting public health systems to cope with changing climatic conditions
- Research: Coordinating research concerning impacts of and responses to climate change in California
- State Government: Evaluating and implementing strategies to reduce GHG emissions resulting from state government operations
- Water: Reducing GHG impacts associated with the state's water systems and exploring strategies to protect water distribution and flood protection infrastructure

The CAT is responsible for preparing reports that summarize the state's progress in reducing GHG emissions. The most recent CAT Report was published in December 2010. The CAT Report discusses mitigation and adaptation strategies, state research programs, policy development, and future efforts.

First Update to the Climate Change Scoping Plan (May 2014)

This First Update to California's Climate Change Scoping Plan (Update) was developed by the CARB in collaboration with the Climate Action Team and reflects the input and expertise of a range of state and local government agencies. The Update reflects public input and recommendations from business, environmental, environmental justice, and community-based organizations provided in response to the release of prior drafts of the Update, a Discussion Draft in October 2013 and a draft Proposed Update in February 2014.

This report highlights California's success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050. The First Update includes recommendations for establishing a mid-term emissions limit that aligns with the State's long-term goal of an emissions limit 80 percent below 1990 levels by 2050 and sector-specific discussions covering issues, technologies, needs, and ongoing State activities to significantly reduce emissions throughout California's economy through 2050. The focus areas include energy, transportation, agriculture, water, waste management, and natural and working lands.¹⁸ With respect to the transportation sector, California has outlined several steps in the State's ZEV Action Plan to further support the market and accelerate its growth. Committed implementation of the actions described in the plan will help meet Governor Brown's 2012 Executive Order (EO) B-16-2012, which—in addition to establishing a more specific 2050 GHG target for the transportation sector of 80 percent from 1990 levels—called for 1.5 million ZEVs on California's roadways by 2025.

¹⁸ California Air Resources Board. May 2014. *First Update to the Climate Change Scoping Plan*. Available at: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf

Achieving such an aggressive 2050 target will require innovation and unprecedented advancements in energy demand and supply.¹⁹ Emissions from 2020 to 2050 will have to decline at more than twice the rate of that which is needed to reach the 2020 statewide emissions limit. In addition to our climate objectives, California also must meet federal clean air standards. Emissions of criteria air pollutants, including ozone precursors (primarily oxides of nitrogen, or NOx) and particulate matter, must be reduced by, a currently estimated, 90 percent by 2032 to comply with federal air quality standards. The scope and scale of emission reductions necessary to improve air quality is similar to that needed to meet long-term climate targets. Achieving both objectives will align programs and investments to leverage limited resources for maximum benefit.

Sustainable Communities and Climate Protection Act of 2008 (SB 375, Chapter 728, Statutes of 2008)

The Sustainable Communities and Climate Protection Act of 2008 SB 375 (Steinberg, Chapter 728, Statutes of 2008), adopted in September 30, 2008, provides an additional means for achieving AB 32 GHG emissions reduction goals. As part of the State's overall strategy to reduce GHG emissions as set forth by Executive Orders S-03-05 and B-30-15 and AB 52, SB 375 seeks to coordinate land use strategies with transportation planning. By coordinating these planning efforts, it is envisioned that vehicle congestion and travel can be reduced resulting in a corresponding reduction in passenger vehicle emissions. SB 375 directed CARB to set regional targets to reduce emissions; regional plans are required to identify how they will meet these targets.

SB 375 has three major components:

- Using the regional transportation planning process to achieve reductions in GHG emissions consistent with AB 32's goals.
- Offering streamlined environmental review opportunities for eligible projects, should project proponents decide to pursue.
- Coordinating the Regional Housing Needs Allocation Assessment (RHNA) process with the regional transportation process while maintaining local authority over land use decisions.

An SCS is a required component of the RTP. The SCS outlines certain land use growth strategies that provide for more integrated land use and transportation planning, maximizes transportation investments, strives to reduce emissions and, if feasible, and helps meet CARB's targets for the region. An alternative planning strategy (APS) must be prepared if the SCS is unable to reduce emissions and achieve the emissions reduction targets established by CARB. EO B-16-2012, described further below, can help achieve these emissions reduction targets by encouraging zero emission vehicles (ZEVs) and related infrastructure.

SB 375 provides that the SCS developed as part of the RTP does not regulate the use of land or dictate local land use policies, and further expressly provides that a city's or county's land use policies and regulations, including its general plan, are not required to be consistent with the SCS. Rather, SB 375 is intended to provide a regional policy foundation that local government may build upon, if they so

¹⁹ California Air Resources Board. May 2014. *First Update to the Climate Change Scoping Plan*. Available at: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf

choose. CARB set the following reduction targets for SCAG: reduce per capita 8 percent of GHG emissions below 2005 levels by 2020 and 13 percent below 2005 levels by 2035.

Contractual Assessments: Energy Efficient Improvements

Contractual Assessments: Energy Efficient Improvements (AB 811, Chapter 159, Statutes of 2008) authorizes California cities and counties to designate districts within which willing property owners may enter into contractual assessments to finance the installation of renewable energy generation and energy efficiency improvements that are permanently fixed to the property.

Clean Car Standards (Assembly Bill 1493)

On September 24, 2009, the ARB adopted Assembly Bill 1493, which makes amendments to the Clean Car Standards (Chapter 200, Statutes of 2002), also known as the “Pavley” regulations that require reductions in GHG emissions in new passenger vehicles from 2009 through 2016. These amendments are part of California’s commitment toward a nation-wide program to reduce new passenger vehicle GHGs from 2012 through 2016. The Clean Car Standards required CARB to develop and adopt standards for vehicle manufacturers to reduce GHG emissions coming from passenger vehicles and light-duty trucks at a “maximum feasible and cost effective reduction” by January 1, 2005. Pavley I took effect for model years starting in 2009 to 2016; and Pavley II, which is now referred to as “LEV (Low Emission Vehicle) III GHG,” will cover 2017 to 2025. Fleet average emission standards would reach 22 percent reduction by 2012 and 30 percent by 2016.²⁰

As of January 2012, CARB adopted the Advanced Clean Cars program to extend AB 1493 through model years 2017 to 2025. This program will promote all types of clean fuel technologies such as plug-in hybrids, battery electric vehicles, CNG vehicles, and hydrogen powered vehicles while reducing smog and saving consumers’ money in fuel costs. Fuel savings may be as up to 25 percent by 2025.²¹

Renewable Energy: California Renewables Portfolio Standard Program

Established in 2002 under SB 1078, accelerated in 2006 under SB 107, and expanded in 2011 under SB 2, California’s Renewables Portfolios Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities (IOUs), electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020. On September 12, 2002, then-Governor Gray Davis signed SB 1078. SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

In November 2008, then-Governor Arnold Schwarzenegger signed EO S-14-08, which expands the state’s RPS to 33 percent renewable power by 2020. In September 2009, then-Governor Schwarzenegger

²⁰ California Air Resources Board. 6 May 2013. *Clean Car Standards – Pavley, Assembly Bill 1493*. Available at: <http://www.arb.ca.gov/cc/ccms/ccms.htm>

²¹ California Air Resources Board. Accessed 19 July 2015. *California’s Advanced Clean Car Program*. Available at: http://www.arb.ca.gov/msprog/consumer_info/advanced_clean_cars/consumer_acc.htm

continued California's commitment to the RPS by signing EO S-21-09, which directs the CARB under its AB 32 authority to enact regulations to help the state meet its RPS goal of 33 percent renewable energy by 2020.

The 33 percent by 2020 goal was codified in April 2011 with SB X1-2, which was signed by Governor Edmund G. Brown, Jr. This new RPS preempts the CARB 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state, including publicly owned utilities (POUs), IOUs, electricity service providers, and community choice aggregators. All of these entities must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013 and 25 percent by the end of 2016, with the 33 percent requirement being met by the end of 2020.

Greenhouse Gases: Emissions Reduction (SB 862)

In June 2014, SB 862 (Chapter 36, Statutes of 2014) established long-term funding programs from the Cap and Trade program for transit, sustainable communities and affordable housing, and high speed rail. SB 862 allocates 60 percent of ongoing Cap and Trade revenues, beginning in 2015–2016, to these programs. The remaining 40 percent is to be determined by future legislatures.²² A minimum of 25 percent of Cap and Trade dollars must go to projects that provide benefits to disadvantaged communities, and a minimum of 10 percent must go to projects located within those disadvantaged communities. In addition, this bill established the CalRecycle Greenhouse Gas Reduction Revolving Loan Program and Fund²³

Clean Energy and Pollution Reduction Act of 2015

Clean Energy and Pollution Reduction Act of 2015, Senate Bill (SB) 350 (Chapter 547, Statutes of 2015) was approved by Governor Brown on October 7, 2015. SB 350 will (1) increase the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030; (2) require the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; (3) provide for the evolution of the Independent System Operator (ISO) into a regional organization; and (4) require the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. Among other objectives, the Legislature intends to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.²⁴

²² California Transit Association. 17 June 2014. *Overview of 2014 Cap and Trade Legislation and Opportunities for Public Transit: Implementing 2014-15 Appropriations and a Long-Term Cap And Trade Funding Program*. Available at: <http://www.calcog.org/DocumentCenter/View/313>

²³ California Legislative Information. Accessed 25 August 2015. *SB-862 Greenhouse Gases: Emission Reduction*. Available at: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB862

²⁴ California Legislative Information. Accessed 14 October 2015. *SB-350 Clean Energy and Pollution Reduction Act of 2015*. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350

Tire Pressure Regulation of 2010 (17 CCR Section 95550)

CARB promulgated this regulation to reduce GHG emissions from vehicles operating with under inflated tires by inflating them to the recommended tire pressure rating. Automotive service providers must meet the following requirements by September 1, 2010: check and inflate each vehicle's tires to the recommended tire pressure rating, indicate on the vehicle service invoice that a tire inflation service was completed and the tire pressure measurements after the services were performed, and perform the tire pressure service using a tire pressure gauge with a total permissible error no greater than ± 2 pounds per square inch (psi). Vehicle service invoices must be kept for a minimum of three years.²⁵

California Cap and Trade Program

Authorized by the California Global Warming Solutions Act of 2006 (AB 32), the cap-and-trade program is one of several strategies that California uses to reduce greenhouse gas emissions. CARB adopted the California Cap and Trade Program final regulations on October 20, 2011, and adopted amended regulations on September 12, 2012, with the first auction for GHG allowances on November 14, 2012.²⁶ Funds received from the program are deposited into the Greenhouse Gas Reduction Fund and appropriated by the Legislature. Greenhouse Gas Reduction Funds are administered by state and local agencies for a variety of greenhouse-gas cutting programs, including energy efficiency, public transit, low-carbon transportation and affordable housing.²⁷ On June 20, 2014, Governor Brown signed the FY 2014–2015 California State Budget, which included a cap and trade expenditure plan for cap-and-trade revenues in the Greenhouse Gas Reduction Fund. The Cap and Trade Program is a market-based mechanism to reduce GHG emissions in a cost-effective and economically efficient manner. California is the first multisector cap and trade program in North America following the northeast Regional Greenhouse Gas Initiative (RGGI) and the European Union Emission Trading Scheme (EU-ETS). It sets a GHG emissions limit that will decrease by 2 percent each year until 2015, and then 3 percent from 2015 to 2020 to achieve the goals in AB 32. The program initially applies to large electric power plants and large industrial plants, but will include fuel distributors by 2015. By 2015, these rules will encompass 85 percent of all of California's GHG emissions.

Safeguarding California Plan

Published in July 2014, the Safeguarding California Plan is a comprehensive strategy to protect the state's environment, economy, and people from climate threats. It addresses nine broad categories where California is particularly at risk: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, and transportation. The Plan identifies sector specific actions for California's climate adaptation initiatives to be implemented by state agencies.²⁸

²⁵ California Air Resources Board. Accessed 19 July 2015. *Regulation to Reduce Greenhouse Gas Emissions from Vehicles Operating With Under Inflated Tires*. Available at: <http://www.arb.ca.gov/regact/2009/tirepres09/tirefinalreg.pdf>

²⁶ California Air Resources Board. *Cap and Trade Program*. Accessed October 15, 2015. Available at: <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>

²⁷ CalEPA. Accessed 9 February 2015. *Greenhouse Gas-Reduction Investments to Benefit Disadvantaged Communities*. Available at: <http://www.calepa.ca.gov/EnvJustice/GHGInvest/>

²⁸ California Air Resources Board. 2015. *FAQ about EO B-30-15: 2030 Carbon Target and Adaptation*. Available at: http://www.arb.ca.gov/newsrel/2030_carbon_target_adaptation_faq.pdf

Smartway/Phase I Heavy-Duty Vehicle Greenhouse Gas Regulation

Pursuant to the California Clean Air Act, this regulation applies to GHG emissions from heavy-duty trucks and engines sold in California effective March 21, 2011. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the recently adopted U.S. EPA rule for new trucks and engines nationally. Existing heavy-duty vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation.²⁹

Executive Order S-20-06

On October 17, 2006, Governor Arnold Schwarzenegger signed EO S-20-06, which calls for continued efforts and coordination among state agencies to implement GHG emission reduction policies, AB 32, and the Health and Safety Code (Division 25.5) through a market-based compliance program. In addition, EO S-20-06 requires the development of GHG reporting and reduction protocols and a multistate registry through joint efforts among CARB, California Environmental Protection Agency (Cal/EPA), and the California Climate Action Registry (CCAR). EO S-20-06 directs the Secretary for Environmental Protection to coordinate with the CAT to plan incentives for market-based mechanisms that have the potential of reducing GHG emissions.

Executive Order S-01-07 Low Carbon Fuel Standard

On January 18, 2007, EO S-1-07 was issued, requiring a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. Regulatory proceedings and implementation of the Low Carbon Fuel Standard have been directed to the CARB. The Low Carbon Fuel Standard has been identified by CARB as a discrete early action item in the Adopted Climate Change Scoping Plan. CARB expects the Low Carbon Fuel Standard to achieve the minimum 10 percent reduction goal; however, many of the early action items outlined in the Climate Change Scoping Plan work in tandem with one another. To avoid the potential for double-counting emission reductions associated with AB 1493, the Climate Change Scoping Plan has modified the aggregate reduction expected from the Low Carbon Fuel Standard to 9.1 percent.

Executive Order S-13-08

EO S-13-08, signed on November 14, 2008, directs California to develop methods for adapting to climate change impacts through preparation of a statewide plan. In response to this order, the California Natural Resources Agency coordinated with 10 state agencies, multiple scientists, a consulting team, and stakeholders to develop the first statewide, multisector adaptation strategy in the country. The resulting report, 2009 California Climate Adaptation Strategy, summarizes the best-known science to assess the vulnerability of the state to climate change impacts, and outlines possible solutions that can be implemented within and across state agencies to promote resiliency. This strategy is the first step in an evolving process to reduce California's vulnerability to climate change impacts.

²⁹ California Air Resources Board. 9 December 2014. *Phase 1 GHG*. Available at: <http://www.arb.ca.gov/msprog/onroad/phase1ghg/phase1ghg.htm>

Adaptation refers to efforts that prepare the state to respond to the impacts of climate change: adjustments in natural or human systems to actual or expected climate changes to minimize harm or take advantage of beneficial opportunities. California's ability to manage its climate risks through adaptation depends on a number of critical factors. These include its baseline and projected economic resources, technology, infrastructure, institutional support and effective governance, public awareness, access to the best available scientific information, sustainably managed natural resources, and equity in access to these resources.

Executive Order B-16-2012

In March 23, 2012, Governor Brown issued EO B-16-2012 to encourage ZEVs and related infrastructure. It orders the CARB, the California Energy Commission, the Public Utilities Commission and other relevant agencies work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks in regard to ZEVs. By 2020, the state's ZEV infrastructure should support up to one million vehicles. By 2025, EO B-16-2012 aims to put over 1.5 million ZEVs on California roads and displace at least 1.5 billion gallons of petroleum. The EO also directs state government to begin purchasing ZEVs. In 2015, 10 percent of state departments' light-duty fleet purchases must be ZEVs, climbing to 25 percent of light duty purchases by 2020. EO B-16-2012 sets a target for 2050 to reduce GHG emissions in the transportation sector by 80 percent below 1990 levels.³⁰

Zero Emission Vehicle Action Plan

Pursuant to EO B-16-2012, in February 2013, the Governor's Interagency Working Group on Zero Emission Vehicles published an Action Plan.³¹ In compliance with B-16-2012, the ZEV Action Plan lays out specific strategies and actions to meet the milestones of the executive order. The four main goals of the state government to advance ZEVs are (1) complete needed infrastructure and planning, (2) expand consumer awareness and demand, (3) transform fleets, and (4) grow jobs and investment in the private sector.

Executive Order B-30-15

On April 29, 2015, Governor Brown issued EO B-30-15, stating a new statewide policy goal to reduce GHG emissions 40 percent below their 1990 levels by 2030. The EO establishes GHG emissions reduction targets to reduce emissions to 80 percent below 1990 levels by 2050 and sets an interim target of emissions reductions for 2030 as being necessary to guide regulatory policy and investments in California and put California on the most cost-effective path for long-term emissions reductions. The EO orders "all State agencies with jurisdiction over sources of [GHG] emissions [to] ... implement measures, pursuant to statutory authority, to achieve reductions of [GHG] emissions to meet the 2030 and 2050 [GHG] emissions reductions targets." It directs CARB to "update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent." It directs the Natural Resources Agency to update "Safeguarding California" (the state's climate adaptation strategy)

³⁰ Office of Governor Edmund G. Brown Jr. 23 March 2012. *Executive Order B-16-2012*. Available at: <http://gov.ca.gov/news.php?id=17472>

³¹ Governor's Interagency Working Group on Zero-Emission Vehicles. February 2013. *ZEV Action Plan*. Available at: [http://opr.ca.gov/docs/Governor's_Office_ZEV_Action_Plan_\(02-13\).pdf](http://opr.ca.gov/docs/Governor's_Office_ZEV_Action_Plan_(02-13).pdf)

every three years, as specified; directs state agencies to “take climate change into account in their planning and investment decisions, and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives”; and orders the “state’s Five-Year Infrastructure Plan [to] take current and future climate change impacts into account in all infrastructure projects.” Among its other directives, the EO provides that “State agencies’ planning and investment shall be guided by the ... principle that priority should be given to actions that both build climate preparedness and reduce GHG emissions.”

Proposed Amendments to California Global Warming Solutions Act of 2006: Emission Limit (Senate Bill 32)

Pursuant to SB 32, if approved, this bill would codify the 2030 target in the recent Executive Order B-30-15 (40% below 1990 levels by 2030). The bill would authorize the state board to adopt an interim greenhouse gas emissions level target to be achieved by 2030. The bill also would state the intent of the Legislature for the Legislature and appropriate agencies to adopt complementary policies that ensure the long-term emissions reductions advance specified criteria.

As of September 11, 2015, SB 32 did not pass the 2015-2016 regular state legislative session. SB 32 passed in the State Senate and initially failed in the Assembly on September 4, 2015, and September 8, 2015, respectively. However, it received sufficient votes for reconsideration on September 9, 2015, and was amended and referred to the Committee on Natural Resources one day later on September 10, 2015. As a two-year bill, SB 32 could be considered again in the 2016 regular session.³²

California Climate Action Registry (2001)

Established in 2001, the CCAR is a private nonprofit organization originally formed by the State of California.³³ CCAR serves as a voluntary GHG registry and led efforts to develop credible, accurate, and consistent GHG reporting standards and tools for businesses, government agencies, and nonprofit organizations to measure, monitor, and reduce GHG emissions. For instance, the CCAR General Reporting Protocol, Version 3.1, dated January 2009, provides the principles, approach, methodology, and procedures required for voluntary GHG emissions reporting by businesses, government agencies, and nonprofit organizations.

California Climate Adaptation Planning Guide

On July 2012, the California Emergency Management Agency and California Natural Resources Agency published the California Adaptation Planning Guide (APG). The APG is a set of four complementary documents.

³² California Legislative Information. Accessed 14 September 2015. *SB-32 California Global Warming Solutions Act of 2006: emissions limit (2015–2016)*. Available at: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32

³³ The Climate Registry. Accessed 15 October 2015. *About Us*. Available at: <http://www.theclimateregistry.org/who-we-are/about-us/>

- APG: Planning for Adaptive Communities—Presents the basis for climate change adaptation planning and introduces a step-by-step process for local and regional climate vulnerability assessment and adaptation strategy development. All communities should start with this document.
- APG: Defining Local and Regional Impacts—This supplemental document provides a more in-depth understanding of how climate change can affect a community. Seven “impact sectors” are included to support communities conducting a climate vulnerability assessment.
- APG: Understanding Regional Characteristics—The impact of climate change varies across the state. This supplemental document identifies climate impact regions, including their environmental and socioeconomic characteristics.
- APG: Identifying Adaptation Strategies—This supplemental document explores potential adaptation strategies that communities can use to meet adaptation needs. Adaptation strategies are categorized into the same impact sectors used in the APG: Defining Local and Regional Impacts document.

The APG provides guidance to support communities in addressing the unavoidable consequences of climate change. The APG introduces the basis for climate change adaptation planning and details a step-by-step process for local and regional climate vulnerability assessment and adaptation strategy development. The guide was developed to allow flexibility in the commitment of time, money, and scope.³⁴

California’s Flood Future Report

In November 2013, the California Department of Water Resources and the U.S. Army Corps of Engineers developed *California’s Flood Future: Recommendations for Managing the State’s Flood Risk*. This document identifies the statewide exposure to flood risk and presents seven key recommendations to improve flood management. Consistent with the Integrated Water Management (IWM) approach, the recommendations include:³⁵

- Tools
 - Risk Assessments: Conduct regional flood risk assessments to understand statewide flood risk.
 - Flood Risk Awareness: Increase public and policymaker awareness about flood risks to facilitate informed decisions.
 - Flood Readiness: Increase support for flood emergency preparedness, response, and recovery programs to reduce flood impacts.

³⁴ California Emergency Management Agency and California Natural Resources Agency. Accessed 9 September 2015. *California adaptation planning guide*. Available at: http://resources.ca.gov/docs/climate/01APG_Planning_for_Adaptive_Communities.pdf

³⁵ California Department of Water Resources. 31 December 2014. *California’s Flood Future Report*. Available at: <http://www.water.ca.gov/sfmp/flood-future-report.cfm>

- Plans
 - Land Use Planning: Encourage land use planning practices that reduce the consequences of flooding.
 - Regional, Systemwide, and Statewide Planning: Implement flood management from regional, systemwide, and statewide perspectives to provide multiple resources.
- Actions
 - Increase Agency Collaboration: Increase collaboration among public agencies to improve flood management planning, policies, and investments. Actions also include the infrastructure improvements and other innovations conducted flood and water management agencies.
 - Establish Financial Investment Priorities: Public agencies at every level should prioritize short- and long-term flood management efforts, in accordance with a sound investment strategy based on sustainable funding sources.

California Coastal Commission Sea Level Rise Policy Guidance

On August 12, 2015, the California Coastal Commission adopted the Recommended Final Draft of the Sea Level Rise Policy Guidance as interpretive guidance to guide people on how to comply with PRC 30620 that specifies development guidelines within the coastal zone. It provides a planning process framework for addressing sea level rise and adaptation planning in Local Coastal Programs and Coastal Development Permits. Decisions are rooted in the best available science with the goal of minimizing coastal hazards and protecting public access, recreation and sensitive coastal resources. This Guidance is part of a larger statewide climate strategy alongside the 2014 Safeguarding California Plan, EO B-30-15, EO S-13-08, State Hazard Mitigation Plan, and other climate work done by research organizations and state agencies.

Regional

SCAG Sustainability Planning Grant Program

Formerly known as the Compass Blueprint Grant Program, SCAG's Sustainability Program works actively with Southern California communities and stakeholders to create a dynamic regional growth vision based on the principles of mobility, livability, prosperity, and sustainability. The program's work focuses on implementing the region's Sustainable Communities Strategy, the state-mandated plan for reducing GHG emissions from cars and light trucks through integrated transportation, land use, housing and environmental planning.³⁶

South Coast Air Quality Management District (SCAQMD) Policies and Guidance

Policy on Global Warming and Stratospheric Ozone Depletion

SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to

³⁶ Southern California Association of Governments. Accessed 1 September 2015. *Sustainability*. Available at: <http://www.scag.ca.gov/programs/Pages/Programs/Sustainability.aspx>

the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy.³⁷

Draft Guidance Regarding Interim CEQA GHG Significance Thresholds

SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds. In its October 2008 document, the SCAQMD proposed the use of a percent emission reduction target (e.g., 30 percent) to determine significance for commercial/residential projects that emit greater than 3,000 metric tons per year. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for stationary source/industrial projects where the SCAQMD is lead agency. However, SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects) and has formed a GHG Significance Threshold Working Group to further evaluate potential GHG significance thresholds.³⁸

SCAQMD has convened a GHG CEQA Significance Threshold Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that will provide input to the SCAQMD staff on developing CEQA GHG significance thresholds. The working group is currently discussing multiple methodologies for determining project significance. These methodologies include categorical exemptions, consistency with regional GHG budgets in approved plans, a numerical threshold, performance standards, and emissions offsets.

Counties

Los Angeles County

The Los Angeles County Office of Sustainability was created within the Internal Services Department by the Board of Supervisors in October 2009 to respond to legislation, regulation, and policy related to Climate Change and serve as a central hub to coordinate Energy Efficiency, Conservation and Sustainability Programs within the County, its facilities, and the region. The County Office of Sustainability develops and implements programs that impact and benefit the constituents of Los Angeles County, such as the Energy Upgrade California in Los Angeles County energy efficiency home improvement and rebate program, countywide Environmental Service Centers, the SolarMap LACounty.gov and Green.LACounty.gov websites, and the Los Angeles Regional Collaborative for Climate Action and Sustainability. In addition, the County Office of Sustainability is the lead in coordinating and implementing Energy and Environmental policy programs and activities by all County departments.

As of March 2015, Los Angeles County Board of Supervisors approved the first CCAP. The CCAP will be a roadmap to reduce GHGs in Los Angeles County by 11 percent by 2020. This target can be achieved through cool roofs, solar, tree canopies, and more active transportation and public transit use. The

³⁷ South Coast Air Quality Management District. November 2010. Draft Environmental Assessment. Available at: <http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2010/final-environmental-assessment-for-proposed-amended-rule-1415-and-proposed-rule-1415-1.pdf?sfvrsn=4>

³⁸ South Coast Air Quality Management District. Accessed August 2011. *Greenhouse gases (GHG) CEQA significance thresholds*. Available at: <http://www.aqmd.gov/ceqa/handbook/GHG/GHG.html>

County of Los Angeles Department of Regional Planning will implement the CCAP and work to develop climate adaptation strategies beyond 2020.³⁹

Orange County

In early 2010, a joint committee with equal representation from the Orange County Council of Governments (COG) and the Orange County Transportation Authority (OCTA) was formed to develop the Orange County Sustainable Communities Strategy (SCS). The Orange County COG/OCTA SCS Joint Working Committee led overall efforts to develop a subregional Orange County SCS to meet the requirements of SB 375 and the mutual agreements with SCAG with a plan that all local jurisdictions in Orange County could support. As a result of this collaborative effort, the Orange County SCS was adopted unanimously by the OCTA and Orange County COG Boards of Directors in June of 2011. Orange County SCS utilizes the transportation system along with land use and Best Management Practices strategies to help the County to achieve the state-mandated emissions reduction targets.

Riverside County

Riverside County has created a Green Action Plan to establish a clear path to sustainability and GHG reduction. The Green Action Plan focuses on seven key areas: energy, GHG emissions, waste, urban design, urban nature, transportation, and water. The Energy section of the guidebook includes a goal to increase the use of non-GHG-emitting energy to 70 percent with at least 50 percent coming from renewable sources by 2020. The Plan has established a target to reduce GHG emissions by 7 percent below 1990 baseline and 15 percent below the baseline by 2020. The County aims to reduce waste by 75 percent by 2020 based on the 2007 per capita baseline. The Plan also provides incentives to increase green development and encourage the planting of at least 3,000 shade trees on private property and 1,000 trees in parks annually. For transportation, the Plan envisions a 15 percent decrease in vehicle miles traveled by 2015 based on the 2009 baseline. The waters section specifies a 20 percent water usage reduction by 2020 while increasing the use of recycled water by 30 percent by 2020 based on the 2008 baseline.⁴⁰

In September 2014, Western Riverside Council of Governments (WRCOG) published the Subregional Climate Action Plan. The major goals of the Climate Action Plan are to create local jobs, promote healthier communities, achieve energy self-sufficiency, enhance social equity, reduce emissions, improve air quality, protect natural systems, and save money. WRCOG aims to reduce GHG emissions to 15 percent below 2010 levels by 2020, and 49 percent below 2010 levels by 2035.⁴¹

San Bernardino County

Santa Bernardino County launched *Green County San Bernardino* in August 2007 to promote the use of environmentally friendly technologies and practices among business owners, developers, and residents in the County. All San Bernardino County cities are encouraged to join the Green Valley Initiatives to

³⁹ Climate Resolve. 26 March 2015. *Approved: LA County's Community Climate Action Plan*. Available at: <http://climateresolve.org/countyclimateactionplan/>

⁴⁰ Green Riverside. Accessed August 2011. *Green Action Plan*. Available at: <http://www.greenriverside.com/About-Green-Riverside-4/Green-Action-Plan-190>

⁴¹ Western Riverside Council of Governments. Accessed 25 August 2015. *Subregional Climate Action Plan*. Available at: http://www.wrcog.cog.ca.us/uploads/media_items/wrcog-climate-action-plan-final-draft-april-2014.original.pdf

pledge to address five or more policy areas that aim to reduce GHG emissions. The policy areas to select from are Green Building Program, Buy Green/Buy Local, Green Business Programs, Conservation and Recycling, Solar and Alternative Energy, Encourage Green Economic Development, Green Valley Land Use, and Green Valley Coordinators.⁴²

In March 2014, San Bernardino County released the final version of the San Bernardino County Greenhouse Gas Reduction Plan and Final EIR to be certified by the SANBAG Board of Directors. The plan is in accordance with AB 32 and other regional and general plans.⁴³

Ventura County

In April 2010, the County of Ventura General Services Agency (GSA) released an Energy Action Plan to minimize energy intensities in GSA-maintained buildings, improve operational energy and water efficiencies, reduce energy and water use, pursue LEED and Energy Star certifications, and educate GSA employees. As of April 2012, the County of Ventura released a Climate Protection Plan to reduce GHG emissions by 15 percent by 2020. The six action areas include climate protection leadership, countywide responsibility, facilities, vehicle (fleet) operations, employee commute, and expanded sustainability goals.⁴⁴

Cities

Many cities in the SCAG region have incorporated climate change and GHG policies into their planning and permitting programs. Many cities in the SCAG region have developed or are developing city-level Climate Action Plans, climate milestones, GHG reduction plans, and/or GHG inventories. Please refer to the Governor's Office of Planning and Research for a full list of California cities/counties that have taken climate change actions.⁴⁵

3.8.2 EXISTING CONDITIONS

GHGs are the result of both natural and human-influenced activities. Forest fires; decomposition; industrial processes; landfills; and consumption of fossil fuels for power generation, transportation, heating, and cooling are the primary sources of GHG emissions. Without human intervention, the earth maintains an approximate balance between the emission of GHGs into the atmosphere and the storage of GHGs in oceans and terrestrial ecosystems. Increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.), have contributed to the rapid increase in atmospheric levels of GHGs over the last 150 years.

The primary effect of rising global concentrations of atmospheric GHG levels has been a rise in the average global tropospheric temperature of approximately 0.2 degree Celsius per decade, determined

⁴² San Bernardino County. Accessed August 2011. *Green Valley Initiative Cities*. Available at: http://www.sbcounty.gov/greencountysb/green_valley_initiative_cities.aspx

⁴³ San Bernardino Associated Governments. Accessed 19 July 2015. *Regional greenhouse gas reduction plan*. Available at: http://www.sanbag.ca.gov/planning2/plan_greenhouse.html

⁴⁴ Ventura County. Accessed 19 July 2015. *Working & living sustainably*. Available at: <http://www.ventura.org/sustain/for-community/climate-protection/>

⁴⁵ California Governor's Office of Planning and Research. Updated 17 June 2014. *California Jurisdictions addressing climate change*. Available at: http://www.opr.ca.gov/docs/California_Jurisdictions_Addressing_Climate_Change_PDF.pdf

from meteorological measurements worldwide between 1990 and 2005. Climate change modeling using 2000 emission rates shows that further warming is likely to occur given the expected rise in global atmospheric GHG concentrations from innumerable sources of GHG emissions worldwide,⁴⁶ which would induce further changes in the global climate system during the current century. Adverse impacts from global climate change worldwide and in California may include, but may not be limited to:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures.⁴⁷
- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets.⁴⁸ Sea level in California has risen approximately 7 inches from 1900 to 2005, according to the National Climate Assessment.⁴⁹
- Changing weather patterns, including changes to precipitation, ocean acidification and warming, and wind patterns.⁵⁰
- Declining Sierra snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years.⁵¹
- Increasing the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas located in the Southern California area and the San Joaquin Valley by the end of the 21st century.⁵²
- Migrating of species to suitable habitats.
- Reducing of crop yields in the agricultural sector.
- Increasing the potential for erosion of California's coastlines and seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level.⁵³
- Decreasing cold temperature extremes, increasing warm temperature extremes, increasing extreme high sea levels, and increasing number of heavy precipitation events in a number of regions.⁵⁴

⁴⁶ See, e.g., Environmental Protection Agency, Draft Endangerment Finding, 74 *Fed. Reg.* 18886, 18904 (April 24, 2009) ("cumulative emissions are responsible for the cumulative change in the stock of concentrations in the atmosphere"); see also 74 *Fed. Reg.* 66496, 66538 (same in Final Endangerment Finding).

⁴⁷ Environmental Protection Agency, Draft Endangerment Finding, 74 *Fed. Reg.* 18886, 18904 (April 24, 2009) ("cumulative emissions are responsible for the cumulative change in the stock of concentrations in the atmosphere"); see also 74 *Fed. Reg.* 66496, 66538 (same in Final Endangerment Finding).

⁴⁸ Intergovernmental Panel on Climate Change. 2007. *Climate change 2007*.

⁴⁹ California Air Resources Board. 2015. *FAQ about EO B-30-15: 2030 Carbon Target and Adaptation*. Available at: http://www.arb.ca.gov/newsrel/2030_carbon_target_adaptation_faq.pdf

⁵⁰ Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007*.

⁵¹ California Environmental Protection Agency, Climate Action Team. 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*.

⁵² California Environmental Protection Agency, Climate Action Team. 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*.

⁵³ California Environmental Protection Agency, Climate Action Team. 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*.

⁵⁴ Intergovernmental Panel on Climate Change. 2014. *Climate Change 2014 Synthesis Report Summary for Policymakers*. Available at: http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf

- Increasing frequency and severity of climate-related extremes including heat waves, droughts, floods, cyclones, and wildfires.⁵⁵

Scientific understanding of the fundamental processes responsible for global climate change has improved over the past decade, and predictive capabilities are advancing. However, there remain significant scientific uncertainties, for example, in predictions of local effects of climate change; occurrence of extreme weather events; and effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the earth's climate system, the uncertainty surrounding climate change may never be completely eliminated. Because of these uncertainties, there continues to be some debate as to the extent to which increased concentrations of GHGs have caused or will cause climate change and with respect to the appropriate actions to limit and/or respond to climate change. In addition, it may not be possible to link specific development projects to future specific climate change impacts, though estimating project-specific impacts is possible.

Sources of GHG Emissions

Global

Global GHG emissions in 2012 were 43,286.2 MTCO_{2e}.⁵⁶ The top ten GHG emitters in the world contribute 72 percent of global GHG emissions, not including land use change and forestry. The top ten GHG emitters, in order from most polluting, are China, U.S., European Union, India, Russian Federation, Indonesia, Brazil, Japan, Canada, and Mexico. China contributed the most, accounting for approximately 25.4 percent (or 10,975.5 MTCO_{2e}) of the world's total, while the U.S. was the second largest contributor accounting for approximately 14.4 percent (6,235.1 MTCO_{2e}). Six of the top ten GHG emissions contributors are developing countries, which reflects a shift in the geopolitical landscape as developed countries used to dominate the top ten GHG emitters list. The energy sector accounts for more than 75 percent of total global GHG emissions, making it a primary focus in achieving reductions.⁵⁷

National

In 2013, the United States emitted 6,673 MTCO_{2e} (Figure 3.8.2-1, *United States: GHG Emissions by Sector, 2013*). Total U.S. GHG emissions have increased by 5.9 percent from 1990 to 2013 at an average annual rate of 0.3 percent since 1990. From 2012 to 2013, U.S. GHG emissions increased 2 percent because of increased coal consumption and decreased natural gas consumption in electricity generation. Other factors include increase in energy use for heating during the cool winter conditions, increase in industrial production and emissions, and increase in vehicle miles traveled and fuel use in transportation. However, the national GHG emissions level in 2013 was 9 percent below 2005 levels.⁵⁸

⁵⁵ Intergovernmental Panel on Climate Change. 2014. *Climate Change 2014 Synthesis Report Summary for Policymakers*. Available at: http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf

⁵⁶ Infographic: What Do Your Country's Emissions Look Like? Accessed 23 June 2015. Available at: <http://www.wri.org/blog/2015/06/infographic-what-do-your-countrys-emissions-look>

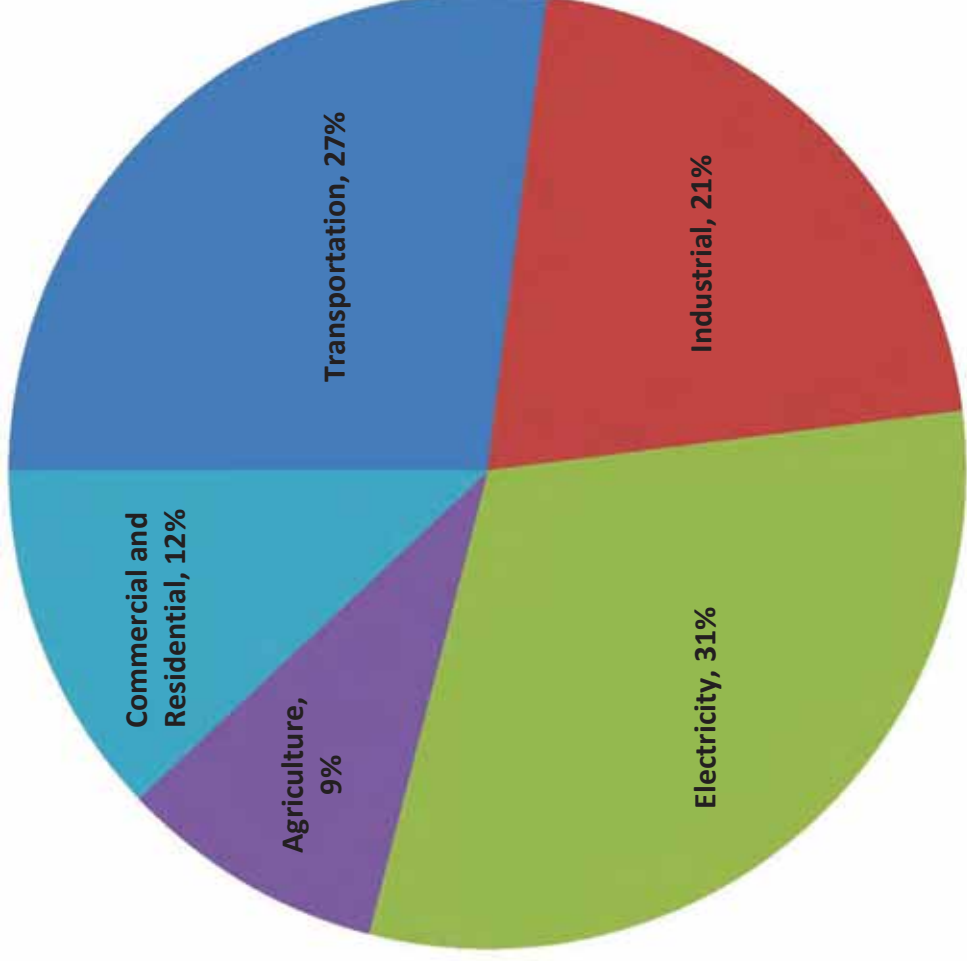
⁵⁷ Infographic: What Do Your Country's Emissions Look Like? Accessed 23 June 2015. Available at: <http://www.wri.org/blog/2015/06/infographic-what-do-your-countrys-emissions-look>

⁵⁸ U.S. Environmental Protection Agency. April 2015. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2013*. Available at: <http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2015-Chapter-Executive-Summary.pdf>

Figure 3.8.2-1:

United States: GHG Emissions by Sector, 2013

Total Emissions: 6,673 MMT CO₂e



Note: Land use, land-use change, and forestry is a net sink and offsets approx. 13% of GHG emissions

In June 2013, President Obama announced the U.S. Climate Action Plan, which takes a three-pronged approach by cutting carbon pollution, preparing for the impacts of climate change, and leading international efforts to address global climate change. The Plan aims to reduce carbon pollution by focusing on setting emission standards for new and existing power plants, improving energy efficiency in vehicles and buildings, reducing energy waste, and investing in renewable energy projects. The Plan also includes climate adaptation strategies to address climate vulnerabilities, such as drought and wildfires, and increases resiliency in how we build our cities.

State of California

California Greenhouse Gas Inventory

The California Greenhouse Gas Inventory, maintained by the CARB, includes emissions from carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and nitrogen trifluoride (NF₃). Of the total 459 MMTCO_{2e} of GHG emissions in 2013, 84 percent were from CO₂. In 2013, the transportation sector and the industrial sector were the top two GHG emissions contributors, at 37 percent and 23 percent, respectively. Starting in 2009, the GHG Mandatory Reporting Program provided the statewide emissions from electricity generation and stationary industrial sources (Table 3.8.2-1, *California Greenhouse Gas Inventory for 2000–2013 by Economic Sector*).⁵⁹ In 2011, CARB partnered with the University of California, Berkeley, to develop new methodologies using land based data sets and remote sensing data to evaluate carbon stock changes in California. The covered lands include forests, woodlands, shrub lands, grasslands, and wetlands, but not urban or agricultural lands.⁶⁰

⁵⁹ California Air Resources Board. 30 June 2015. *California Greenhouse Gas Emission Inventory -2015 Edition*. Available at: <http://www.arb.ca.gov/cc/inventory/data/data.htm>

⁶⁰ California Air Resources Board. 6 May 2015. *California Greenhouse Gas Inventory - Forests and Other Lands*. Available at: <http://www.arb.ca.gov/cc/inventory/sectors/forest/forest.htm>

**TABLE 3.8.2-1
CALIFORNIA GREENHOUSE GAS INVENTORY FOR 2000-2013 BY ECONOMIC SECTOR**

Sector	CO _{2e} Emissions (Million Metric Tons)													
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Electricity (In state)	59	63	50	48	49	45	50	54	54	53	47	41	51	51
Electricity (Imports)	46	59	59	65	66	63	55	60	66	48	44	47	44	40
Transportation	178	179	186	186	189	192	192	192	181	175	174	171	171	173
Industrial	105	104	105	104	107	105	103	100	101	99	103	103	104	104
Commercial	15	15	17	16	17	17	18	18	19	20	22	22	22	23
Residential	32	31	31	31	32	30	31	31	31	31	32	33	31	32
Agriculture & forestry	32	33	34	35	34	35	36	36	36	35	35	36	36	36
Not specified	1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total	469	485	483	486	495	488	486	493	490	462	456	455	461	459

SOURCE:

California Air Resources Board. Accessed 24 April 2015. California Greenhouse Gas Inventory for 2000-2013 – by Sector and Activity. Available at: http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_sector_sum_2000-13_20150424.pdf

In 2013, total California GHG emissions were 459 MMT of carbon dioxide equivalent (MMT CO_2e) (Figure 3.8.2-2, *California: GHG Emissions by Sector, 2013*). Total GHG emissions decreased by 1.5 million MMT CO_2e from 2012 to 2013. This is an overall decrease of 7 percent since peak levels in 2004. Per capita emissions in California have decreased by 14 percent from 2000 to 2013, going from 14 tonnes of CO_2e per person in the peak of 2001 to 12 tonnes of CO_2e per person in 2013.⁶¹ The GHG inventory additionally shows as GDP rises from 2000 to 2013, emissions per unit GDP, otherwise known as carbon intensity, has been declining. Carbon intensity has declined 23 percent since its 2001 peak.⁶²

For 2013, transportation makes up the largest portion at 37 percent of gross GHG emissions. Of the 173 MMT CO_2e emitted by transportation, 90 percent are from on-road sources including passenger vehicles and trucks. While population growth has increased the number of vehicles on the road, vehicles have been getting cleaner pursuant to AB 1493. The next largest emitting sectors are industrial and electricity generation, which contribute 23 percent and 20 percent, respectively, of the total GHG emissions.

In 2012, in-state electricity generation increased because of the closure of the San Onofre Nuclear Generating Station and lower hydropower generation as a result of California's drought. The lost zero-GHG generation was replaced by power in-state from natural gas powered generation plants. Although the drought and reduced availability of hydropower continued in 2013, in-state power generation has adapted by utilizing the more efficient combined-cycle power plants and continuing recent trends of greater use of renewable power. The closing of the last of the high-carbon-intensity petroleum coke power plants also reduced the emissions associated with power generation.⁶³

California ranks second in the United States in total GHG emissions behind Texas. However, from a per capita and per GDP standpoint, California has the 45th- and 46th-lowest emissions, respectively. On an international scale, California has the 20th-largest GHG emissions and the 38th-largest per capita emissions for year 2010.⁶⁴

Cap and Trade Program

The state-wide cap and trade expenditure plan allocated \$832 million dollars towards these programs that will help reduce GHG emissions, with set-asides for projects benefiting disadvantaged communities. The expenditure plan funds three main investment categories: (1) sustainable communities & clean transportation; (2) energy efficiency & clean energy; and (3) natural resources & waste diversion.⁶⁵

⁶¹ California Air Resources Board. 16 June 2015. *California Greenhouse Gas Emissions for 2000 to 2013 – Trend of Emissions and Other Indicators*. Available at: http://www.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_trends_00-13%20_10sep2015.pdf

⁶² California Air Resources Board. 16 June 2015. *California Greenhouse Gas Emissions for 2000 to 2013 – Trend of Emissions and Other Indicators*. Available at: http://www.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_trends_00-13%20_10sep2015.pdf

⁶³ California Air Resources Board. 16 June 2015. *California greenhouse gas emissions for 2000 to 2013 – trends of emissions and other indicators*. Available at: http://www.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_trends_00-13.pdf

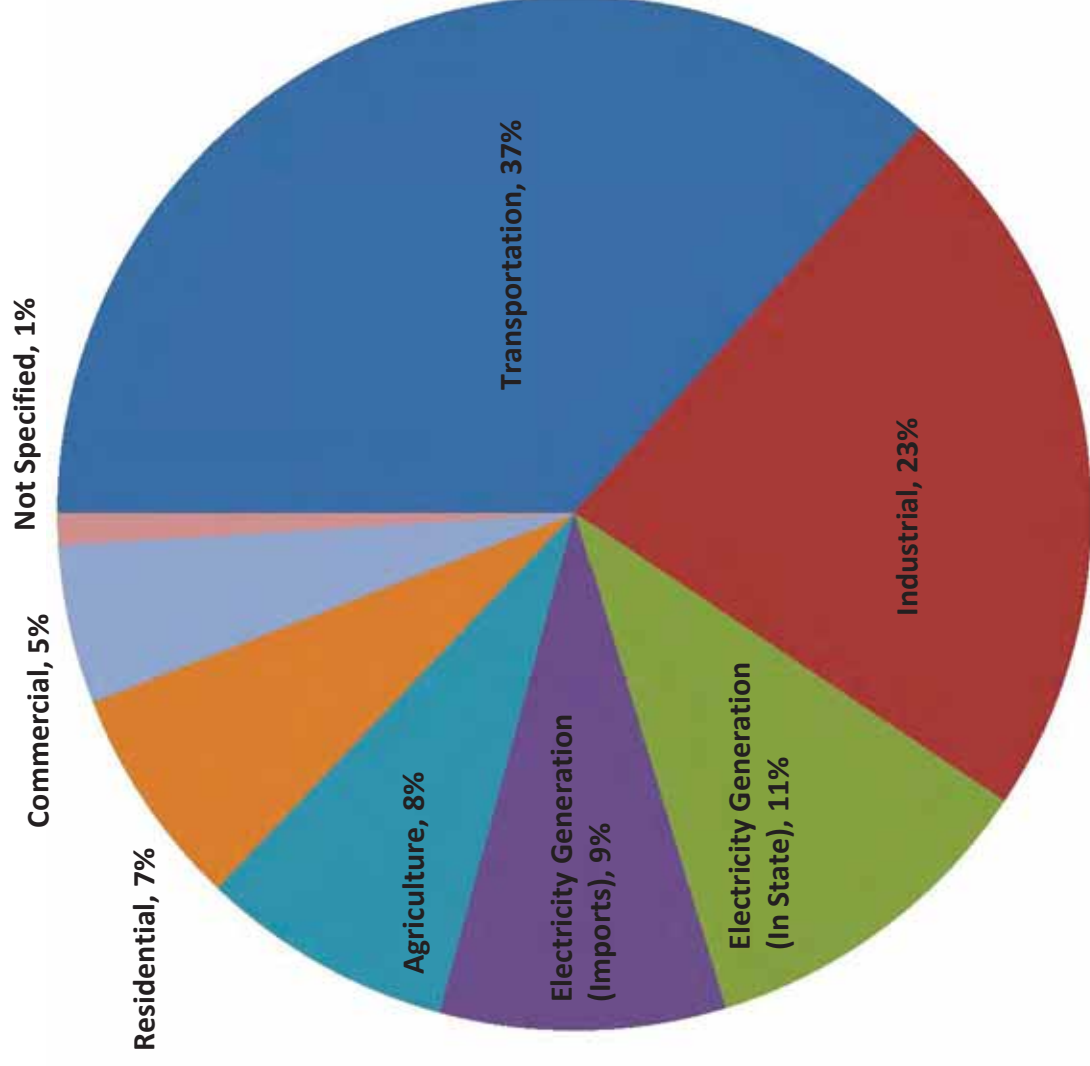
⁶⁴ California Air Resources Board. May 2014. *California Greenhouse Gas Emission Inventory: 2000 – 2012, 2014 edition*. Available at: http://www.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_00-12_report.pdf

⁶⁵ Southern California Association of Governments. Accessed 25 August 2015. *The Greenhouse Gas Reduction Fund*. Available at: <http://www.scag.ca.gov/programs/Pages/GGRFExpenditurePlan.aspx?opentab=2>

Figure 3.8.2-2:

California: GHG Emissions by Sector, 2013

Total Emissions: 459 MMT CO₂e



SCAG, as part of its 2013 and 2014 legislative priorities adopted by Regional Council, has partnered with transportation, local government, business and environmental stakeholders from around the state to work closely with the legislature to ensure that equitable allocations of cap-and-trade revenues flow to transportation programs and policies reducing GHG emissions. These critical funding programs are expected to help local jurisdictions and SCAG's partners implement the 2012-2035 RTP/SCS (2012 RTP/SCS), adopted by SCAG Regional Council in April 2012.⁶⁶

The Affordable Housing & Sustainable Communities (AHSC) Program is a statewide competitive program that provides grants and loans for affordable housing, infill development, transit oriented development and related infrastructure. The Strategic Growth Council (SGC) and Department of Housing and Community Development (HCD) administer the program, including project evaluation and the approval of funding awards. Nine projects in the SCAG region were awarded funding for Round One of the AHSC Program. The nine projects totaled approximately \$27.5 million, representing approximately 22.5 percent of total funding statewide. These nine projects are: (1) 127th Street Apartments (City of Los Angeles); (2) Anchor Place (City of Long Beach); (3) Crenshaw Villas (City of Los Angeles); (4) Depot at Santiago (City of Santa Ana); (5) El Segundo Family Apartments (City of Los Angeles); (6) Macarthur Park Apartments Phase B (City of Los Angeles); (7) March Veterans Village (Riverside County); (8) Mosaic Gardens at Westlake (City of Los Angeles); and (9) Sylmar Court Apartments (City of Los Angeles).^{67,68} The Fiscal Year (FY) 2015–2016 Cap and Trade Expenditure Plan has an increase of approximately 270 million for the AHSC program, totaling \$400 million. The Greenhouse Gas Reduction Fund (GGRF) is expected to be \$2.2 billion in FY 2015–2016.⁶⁹

SCAG Region

The most recent GHG emissions data by sector for the SCAG region is from 2008 (**Figure 3.8.2-3, SCAG: GHG Emissions by Sector, 2008**). Similar to the 2013 U.S. and California GHG emission profiles, transportation, industrial, and electricity are the three largest contributors to GHG emissions (**Figure 3.8.2-1 and Figure 3.8.2-2**). Total SCAG emissions in 2008 were 230 MMTCO_{2e}. Transportation emissions are most prevalent relative to all other sectors in California and specifically in the SCAG region. Transportation emissions accounted for 40 percent of total emissions in the SCAG region, compared to 27 percent of total emissions in the United States.

In light of climate change, the SCAG region could face devastating environmental impacts if GHG emissions continue at a business as usual rate. Southern California will likely warm by 4 degrees Fahrenheit by 2100 with emission controls, or as much as 10 degrees Fahrenheit with no climate action. The region will experience longer, hotter, and more frequent heat waves as well as drought conditions

⁶⁶ Southern California Association of Governments. Accessed 25 August 2015. *The Greenhouse Gas Reduction Fund*. Available at: <http://www.scag.ca.gov/programs/Pages/GGRFExpenditurePlan.aspx?opentab=2>

⁶⁷ The SCAG region includes nearly 50 percent of the State's population and approximately 67 percent of the State's disadvantaged communities. In light of the approximately 23 percent of total statewide funding from the AHSC Program, SCAG plans to seek a fair share of funding in future rounds of cap and trade funding through implementation of the AHSC Program Action Plan, adopted by SCAG Regional Council in July 2015. Available at: http://scag.granicus.com/MetaViewer.php?view_id=9&clip_id=856&meta_id=15443

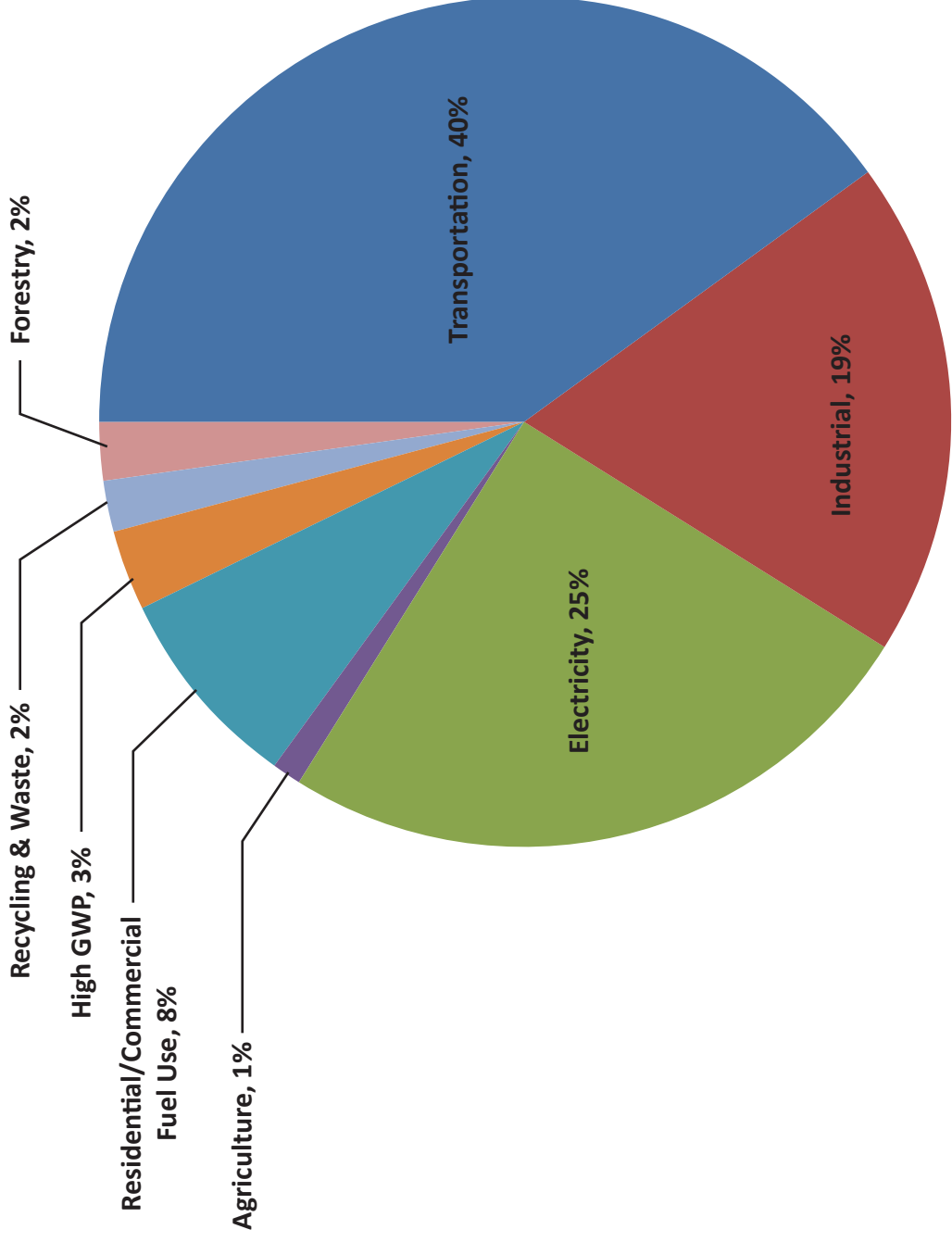
⁶⁸ Southern California Association of Governments. 3 September 2015. *Regional Council staff Report: Cap and Trade Greenhouse Gas Reduction Fund: Affordable Housing & Sustainable Communities (AHSC) Program Update*.

⁶⁹ Southern California Association of Governments. 2 July 2015. *Regional Council Staff Report: Cap and Trade Greenhouse Gas Reduction Fund: Affordable Housing & Sustainable Communities (AHSC) Program and State Expenditure Plan Update*.

Figure 3.8.2-3:

SCAG: GHG Emissions by Sector, 2008

Total Emissions= 230 MMT CO₂e



that limit the region's water supply as the snowpack in the Sierra Nevada and Colorado River Watershed is reduced. Along the coasts, the sea level could rise up to 1 foot above the 2000 level by 2050, and 1.5 feet to 4 feet above 2000 level by 2100.⁷⁰

Ongoing GHG Emission Reduction and Adaptation Strategies in the SCAG Region

Climate change affects natural and human systems globally. Climate mitigation strategies include reducing or sequestering GHG emissions, while climate adaptation is preparing for the unavoidable impacts from climate change. Climate mitigation strategies include, but are not limited to:⁷¹

- Promoting energy efficiency in buildings
- Using low carbon electricity
- Transitioning to high efficiency heating and cooling systems
- Using low carbon and alternative fuels
- Incorporating zero emission or hybrid vehicles
- Incorporating healthy community planning (active transportation)
- Increasing urban density
- Reducing automobile dependence
- Increasing transit options
- Integrating renewable energy
- Improving waste management

Climate adaptation solutions would be long term and require a shift in thinking on how communities are designed. Adaptation strategies include, but are not limited to:⁷²

- Using scarce water more efficiently
- Adapting building codes to future climate conditions and extreme weather events
- Building flood defenses and raising the levels of levees
- Developing drought tolerant crops
- Implementing urban tree planting and reforestation
- Setting aside land corridors for species migration
- Increasing collaboration on climate preparedness strategies among public agencies

The CARB Climate Action Plan Update, Appendix D1, the California Air Pollution Control Officers Association (CAPCOA) and Other Local and Regional Efforts to Implement Climate Protection Strategies, details the various approaches that local jurisdictions in California have taken to achieve GHG reduction targets. Regulations, plans, permitting, GHG inventories, emission banking and trading, grants,

⁷⁰ Southern California Association of Governments. July 2009. *Climate Change and the Future of Southern California*. Available at: http://sustain.scag.ca.gov/Sustainability%20Portal%20Document%20Library/ClimateChange_Full_lores.pdf

⁷¹ Energy + Environmental Economics. 6 April 2015. *Summary of the California State Agencies' PATHWAYS Project: Long-Term Greenhouse Gas Reduction Scenarios*. Available at: https://ethree.com/documents/E3_Project_Overview_20150406.pdf

⁷² California Air Resources Board. 2015. *FAQ about EO B-30-15: 2030 Carbon Target and Adaptation*. http://www.arb.ca.gov/newsrel/2030_carbon_target_adaptation_faq.pdf

incentives, and education have contributed to changing how people use energy and started a system where emissions are tracked and monitored.⁷³

Multiple jurisdictions in the SCAG region have taken action to address climate change. After assessing the climate vulnerabilities distinct to their community, these jurisdictions formulate a plan to move forward to minimize the impacts of these vulnerabilities. These actions take the form of climate action plans, general plan policies, GHG reduction plans, sustainability plans, and ordinances.⁷⁴ As shown above, the Regulatory Framework section covers these actions in greater detail as applicable to the counties and cities within the SCAG region.

SCAG presents annual Sustainability Awards to recognize exemplary planning projects that support the core principles of mobility, livability, prosperity, and sustainability. On May 7, 2015, SCAG presented Sustainability Awards to the following cities/counties and their associated sustainability projects:⁷⁵

- City of Anaheim—Anaheim Regional Transportation Intermodal Center (ARTIC)
- Los Angeles Department of Transportation—Broadway Dress Rehearsal Existing Conditions Report
- City of Glendale—Greener Glendale Plan for Community Activities
- City of Coachella—City of Coachella General Plan Update
- City of Rialto Public Works Department—Rails to Trails/ Along the Pacific Electric Railway
- Orange County Transit Association—Measure M2 Environmental Cleanup Program
- Los Angeles County—Los Angeles County General Plan Update

Past Sustainability Award winners include:

2014:

- Los Angeles County Metropolitan Transportation Authority (Metro)— First/Last Mile Strategic Plan & Planning Guidelines
- City of Santa Monica - Bike Santa Monica/Santa Monica Bike Action Plan
- City of San Gabriel City of San Gabriel - Greening the Code
- City of Santa Ana - Triada at the Station District
- Los Angeles Department of Transportation - LADOT People St
- City of Yucaipa - Historic Uptown Revitalization Program
- City of Oxnard-Groundwater Recovery, Enhancement and Treatment (GREAT) Program
- City of Lynwood - City-wide Residential Design Guidelines
- Imperial County Transportation Commission - El Centro and Brawley Transit Transfer Stations

⁷³ California Air Resources Board. February 10, 2014. *Climate Action Plan Update, Appendix D1, CAPCOA and Other Local and Regional Efforts to Implement Climate Protection Strategies*. Available at: http://www.arb.ca.gov/cc/scopingplan/2013_update/appendix_d.pdf

⁷⁴ California Governor's Office of Planning and Research. 17 June 2014. *California Jurisdictions Addressing Climate Change*. Available at: http://www.opr.ca.gov/docs/California_Jurisdictions_Addressing_Climate_Change_PDF.pdf

⁷⁵ Southern California Association of Governments. Accessed 1 September 2015. *SCAG Sustainability Awards*. Available at: <http://sustain.scag.ca.gov/Pages/Awards.aspx>

- San Bernardino Associated Governments & County of San Bernardino - Countywide Vision

2013:

- Los Angeles County Metropolitan Transportation Authority (METRO) - Countrywide Sustainability Planning Policy
- City of Los Angeles - Cornfields Arroyo Specific Plan
- Coachella Valley Association of Governments – Coachella Valley Parkway 1e11
- County of Los Angeles - One Valley One Vision, Santa Clarita (OVOV)
- Western Riverside Council of Governments (WRCOG) - Highway 395 Corridor Study for Southwest Riverside County
- City of Fontana - Senior Apartments
- South Bay Bicycle Coalition/LA County Bicycle Coalition - South Bay Bicycle Master Plan
- City of Long Beach - The Collage Apartments
- Riverside Transit Agency (RTA)- Travel Training Program

2012:

- City of Glendale – Safe & Healthy Streets
- Western Riverside Council of Governments - Home Energy Renovation Opportunity (HERO) Program
- Orange County Transportation Authority - 4th Supervisorial District Bikeways Collaborative
- City of La Mirada - Imperial Highway Specific Plan
- City of Irvine - Irvine Business Complex Residential/Mixed Use Vision Plan
- City of La Quinta - Wolff Waters Place Affordable Housing Complex
- City of Long Beach - 4th & Linden Adaptive Reuse Project
- City of Artesia - Artesia Boulevard Corridor Specific Plan
- City of Los Angeles - Bonnie Brae Village Senior Community
- City of Chino - Re-Envisioning Chino: Implementing the 2025 General Plan

SCAG 2012 RTP/SCS

For the SCAG region, in 2011, CARB set the GHG emission reduction targets at 8 percent per capita by 2020 and 13 percent per capita by 2035. In April 2012, SCAG Regional Council approved the 2012 RTP/SCS. The 2012 RTP/SCS stated it would meet or exceed the region's GHG targets set by CARB by achieving a 9 percent per capita reduction by 2020 and a 16 percent per capita reduction by 2035 compared to the 2005 level on a per capita basis.⁷⁶ These targets remain the same for the 2016 RTP/SCS.

⁷⁶ Southern California Association of Governments. Adopted April 2012. *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy: Executive Summary*. Available at: http://rtpscsc.scag.ca.gov/Documents/2012/final/2012fRTP_ExecSummary.pdf

3.8.3 THRESHOLDS OF SIGNIFICANCE

The 2016 RTP/SCS would have a significant impact related to GHG emissions if it would:

- Increase GHG emissions compared to existing conditions (2015);
- Conflict with SB 375 GHG emission reduction targets; or
- Conflict with AB 32 or other applicable plan, policy or regulation adopted for the purpose of reducing emissions of GHGs.

CEQA Guidelines Section 15064.4(a) confirms that lead agencies retain the discretion to determine the significance of GHG emissions. The Guidelines advise lead agencies to consider the following factors in determining the significance of GHG emissions: whether the project increases or reduces GHG emissions compared to the existing environmental setting, whether project emissions exceed a threshold of significance identified by the lead agency as appropriate to the project, and the extent to which the project compiles with regulations or requirements of certain adopted GHG reduction plans. (CEQA Guidelines Section 15064.4(b)). However, fundamentally, the courts recognize that lead agencies are allowed to decide what threshold of significance they will apply to a project. (See *Citizens for Responsible Equitable Development v. City of Chula Vista* (2011) 197 Cal.App. 4th 327, upholding an AB 32–based approach to setting significance thresholds.)

This PEIR uses three thresholds of significance: increase in GHG emissions compared to existing conditions; conflict with SB 375 GHG emission reduction targets; or conflict with AB 32 or other applicable plan, policy or regulation adopted for the purpose of reducing emissions of GHGs. SCAG selected the SB 375–based threshold, because complying with SB 375 is the statutory requirement for the SCS. Evaluation to AB 32 and other applicable plan, policy, or regulation is consistent with CEQA Guidelines suggestions.

SCAG chose not to use the Executive Order emissions reduction goals as a specific threshold of significance because goals of the Executive Order are currently not considered an adopted GHG reduction target within the meaning of CEQA Guidelines Section 15064.4(b)(2), nor are the Executive Orders, regulations or requirements adopted to implement a statewide plan for reduction or mitigation of GHG under Section 15064.4(b)(3).⁷⁷ The 2016 Plan will be evaluated in terms of meeting AB 32 GHG emission reduction goals, SB 375 emission targets, and to determine if the trajectory of the SB 375 GHG emission reductions for the 2016 RTP/SCS would be consistent with the trajectory of the State’s long-term (2050) GHG emission reduction goals as set forth in the Executive Order S-3-05, Executive Order B-16-2012 and Executive B-30-15 as well as the accelerated GHG emission reduction timeline of Executive Order B-30-15.

Methodology

The GHG emissions were analyzed based off the Scenario Planning Model (SPM) and transportation modeling conducted by SCAG in 2015 (see also **Appendix C**). The SPM includes model run data for

⁷⁷Note that the California Supreme Court is currently reviewing the role of Executive Order S-3-05 in the context of CEQA thresholds for GHG emissions in *Cleveland Nat'l Forest Foundation v. San Diego Assn. of Gov'ts* (2014) 231 Cal. App. 4th 1056. Nevertheless, given the State’s policy to reduce GHG emissions in long term, the PEIR compares the regional GHG emissions resulting from the plan with the long terms goals set forth in Executive Order S-3-05, Executive Order B-16-2012, and Executive B-30-15.

energy, water, non-transportation GHG emissions, and public health data. GHG emissions and transportation data were projected to 2040 using SCAG's Regional Travel Demand Model and ARB's EMFAC2014 emissions model. Estimates of energy and water use are based on (1) current demand factors and (2) emission rates associated with current power generation operations and water supply.

Analysis of the potential GHG impacts of the 2016 Plan was conducted based on detailed modeling of on-road and gross estimates of stationary sources. As water and energy prices rise and as GHG regulations become stricter, it is anticipated that future energy demand will decrease as people respond to increased prices reducing the amount of energy they use. As energy providers and water suppliers respond to AB 32 and the Scoping Plan, emission rates associated with power and water delivery are anticipated to decrease. However, in order to present a conservative analysis and without knowledge of future regulations, technologies or market drivers, only modest reductions in demand are assumed. While the analysis takes into account regulations, programs, and policies currently in place, there is substantial uncertainty in projecting emissions for future horizon years. The analysis used reasonable assumptions regarding future conditions, but is limited as the Renewable Portfolio Standard does not set targets beyond 2020 and the ARB Advanced Clean Cars Program does not address passenger vehicles beyond the 2025 model year (see **Appendix C** for additional information regarding assumptions and methods used in the characterization of baseline conditions and analysis of greenhouse gas emissions).

3.8.4 IMPACT ANALYSIS

Impact GHG-1: Potential to directly or indirectly result in an increase in GHG emissions compared to existing conditions (2015).

Less than Significant Impact

The GHG emissions resulting from the Plan would be considered significant if the Plan is to cause an increase over existing (2015) levels. This impact threshold is based on CEQA's requirement that project impacts be compared to existing conditions.

Across the six counties in the SCAG region, the 2016 RTP/SCS would result in an approximately 24 percent decrease in GHG emissions by 2040, with the largest losses occurring in Los Angeles, Orange, and Ventura Counties (**Table 3.8.4-1 *Greenhouse Gas Emissions from Transportation by County***). **Table 3.8.4-1** includes CO₂ instead of CO_{2e} because CO₂ is the primary GHG emitted by human activities. Thereby analyzing CO₂ emissions is representative of the GHG emissions.⁷⁸

⁷⁸ U.S. EPA. Overview of Greenhouse Gases. Accessed November 12, 2015.
<http://www3.epa.gov/climatechange/ghgemissions/gases/co2.html>

**TABLE 3.8.4-1
GREENHOUSE GAS EMISSIONS FROM TRANSPORTATION BY COUNTY***

County	CO ₂ Emissions (tons/day)				
	2005	2012 Base Year	2020 Plan	2040 Plan	2040 Plan vs. 2012 Base Year
Imperial	3,806.6	3,500.7	3,809.5	4,683.4	34%
Los Angeles	133,629.0	120,929.1	106,253.9	78,830.9	-35%
Orange	40,202.9	38,664.1	34,199.4	24,082.5	-38%
Riverside	32,937.6	33,447.2	33,593.3	32,489.4	-3%
San Bernardino	36,397.3	36,690.1	35,595.0	39,019.9	6%
Ventura	10,416.1	9,920.4	8,813.9	6,413.2	-35%
SCAG total	257,389.5	243,151.7	222,265.0	185,519.2	-24%

NOTE:

*Light and medium duty vehicles and heavy duty truck

SOURCE:

SCAG modeling, 2015.

As part of the transportation strategies, the 2016 RTP/SCS includes transportation investments which promote more active transportation opportunities and facilities. Between 2015 and 2040, the region is anticipated to experience substantial increases in population, households and jobs (see **Section 2, Project Description**, and **Section 3.14, Population, Housing, and Employment**). The 2016 RTP/SCS also includes land use strategies that seek to balance the region’s land use choices and transportation investments. This means the Plan focuses new growth and development in existing urbanized areas and opportunity areas such as the high quality transit corridors (HQTAs) and incorporates strategies to increase walking, biking or other forms of active transportation. To complement the integrated land use and transportation strategies is the implementation of technology. The integration of technology would include location-based land use strategies, increasing the efficiency to Plug-in Hybrid Electric Vehicles (PHEV) in the region and proposing a regional charging network. Because of the anticipated increase in compact and higher density development, less energy (e.g., multi-family housing units are insulated by each other as compared to single-family units and, therefore, require less heating and cooling) and less water (e.g., multi-family units have less landscaping requiring irrigation as compared to single-family units) is expected to be used and would contribute to the reduction in GHG emissions.

GHG emissions result from direct and indirect sources. Direct emissions in the transportation sector derive from fuel combustion in vehicles (i.e., autos, trucks, trains, buses, planes, ships and trains) and natural gas combustion from stationary sources. Indirect sources include off-site emissions occurring as a result of electricity, water consumption and solid waste. County-level GHG emissions from transportation were estimated for the GHG Baseline (2005), Year 2012 (Base Year), Year 2020 with Plan, and Year 2040 with Plan (**Table 3.8.4-1**). For the purpose of analyzing the 2016 RTP/SCS, the transportation emissions include on-road mobile sources: light and medium duty vehicles, and heavy duty trucks.

In the absence of reliable 1990 GHG emissions estimates, ARB’s Climate Change Scoping Plan recommends an equivalent metric of 15 percent below 2005 GHG emissions. On-road transportation emissions include fuel consumption from passenger vehicles, heavy-duty trucks, buses, and other motor vehicles. Transportation accounts for the greatest proportion of GHG emissions on a regional and state level. As part of the Plan, transportation network improvements would be included, and more compact,

infill, walkable and mixed-use development strategies to accommodate new region's growth would be encouraged to accommodate increases in population, households, employment, and travel demand. Across the six counties in the SCAG region, GHG emissions from transportation are expected to decrease by approximately 24 percent by 2040 compared to existing conditions (2012 Base Year) with the largest losses in Orange, Los Angeles, and Ventura counties (Table 3.8.4-1).

In order to determine an increase or decrease in total GHG emissions, emissions from other major sectors including building energy and water-related consumption must be considered. Population and job growth would induce land use change (development projects) and increase VMT, and would result in direct and indirect GHG emissions. The Plan supports sustainable growth through a more compact, infill, and walkable development pattern. As stated previously, the Plan focuses growth in existing urban regions and opportunity areas, where transit and infrastructure are already in place. Locating new growth near bikeways, greenways, and transit would active transportation options and the use of other transit modes (public transit, carpooling), thereby reducing number of vehicle trips and trip lengths and associated emissions. Land use strategies included in the 2016 RTP/SCS encourage higher density development in existing urban cores and opportunity areas which would encourage more multi-family and/or mixed-use projects, via vertical development, instead of the traditional single-family home develop. Compact development and utilization of conservation strategies (i.e. Title 24 building codes, LEED certification), if implemented, would limit energy and water consumption.

Building energy emissions were computed in the SCAG model using a factor of 11.66 pounds (lb) CO_{2e}/therm for natural gas emissions from 2012 to 2040. Electricity emissions used a baseline (2040 No Project) of 0.74 lb CO_{2e}/kilowatt-hour (kWh) in all future years (2020, 2035 and 2040). Water-related energy assumed a factor of 13,021 kWh/MG for indoor water energy use and 11,110 kWh/MG for outdoor water energy use. As shown in Table 3.8.4-2, *Greenhouse Gas Emissions Summary for the SCAG Region*, transportation, building and water-related energy, shows a net decrease by 18 percent with the Plan in 2040 compared to existing conditions (2012 Base Year). These three sectors account for approximately 70 percent of the total GHG emissions in the SCAG region. It is important to note that the Plan is not responsible for addressing sectors beyond transportation, building, water-related energy consumption, and construction. Though GHG emissions from construction are generally associated with construction equipment, current and projected data with respect to construction emissions is not available. However, as noted in the 2012 RTP/SCS PEIR, construction related emissions account for less than 0.3 percent of total of the three sectors shown in Table 3.8.4-2. This is due to the fact that the Plan is primarily a transportation plan with land use development strategies. SCAG does not collect information beyond their requirements and cannot assess the GHG impacts to the remaining contributing sectors. Given this limited scope, the Plan would result in a less than significant impact with respect to GHG emissions compared to existing conditions, and mitigation measures would not be required.

**TABLE 3.8.4-2
GREENHOUSE GAS EMISSIONS SUMMARY FOR THE SCAG REGION**

Area	CO ₂ e Emissions (MMT CO ₂ e per year)			
	2012 Base Year	2020 Plan	2040 Plan	2040 vs. 2012
Transportation*	88.75	81.62	67.71	-24%
Building energy**	53.68	40.51	49.99	-7%
Water-related energy**	7.41	3.84	4.79	-35%
Total	149.84	125.97	122.49	-18%

NOTE:

* Light and medium duty vehicles and heavy duty trucks.

** Scenario Planning Model is a scenario planning tool used for developing scenarios for the Plan during the scenario planning process to compare relative differences among scenarios.

SOURCE:

SCAG Modeling, 2015.

Impact GHG-2: Potential to conflict with SB 375 GHG Emission Reduction Targets.

Less than Significant Impact

As indicated by CEQA Appendix G, a significant GHG impact is identified if the Plan could conflict with applicable GHG reduction plans, policies, or regulations. As described in the Regulatory Framework, SB 375 requires CARB to develop regional GHG emission reduction targets for cars and light trucks for 2020 and 2035 (compared to 2005 emissions) for each of the State MPOs on a per capita basis. Each MPO is required to prepare an SCS in conjunction to with the RTP in order to meet these GHG emissions reduction targets by aligning transportation, land use, and housing strategies with respect to AB 375. For SCAG, the targets are to reduce per capita GHG emissions by 8 percent below 2005 levels by 2020 and 13 percent below 2005 levels by 2035. Determining the per capita CO₂ emissions requires modeling vehicle miles traveled (VMT) by passenger vehicles and light trucks that emit CO₂ (see Table 3.3.4-4, *Daily VMT by County*, in Section 3.3, *Air Quality*) and dividing that number by the total population.

SCAG estimates that the per capita 2005 emissions from cars and light-duty trucks as 23.8 pounds CO₂ per person per day (Table 3.8.4-3, *SB 375 Analysis*).

**TABLE 3.8.4-3
SB 375 ANALYSIS**

	2005 (Baseline)	2020 (Plan)	2035 (Plan)	2040 (Plan)
Resident population (per 1,000)	17,161	19,060	21,475	22,116
CO ₂ emissions (per 1,000 tons)	204.0*	203.6**	206.0**	203.0**
Per capita emissions (pounds/day)	23.8	21.4	19.5	18.7
% difference from Plan (2020) to Baseline (2005)				-8%*
% difference from Plan (2035) to Baseline (2005)				-18%***
% difference from Plan (2040) to Baseline (2005)				-22%***

NOTE:

* Based on EMFAC2007

** Based on EMFAC2014

***Included off-model adjustments for 2035 and 2040

SOURCE:

SCAG modeling, 2015

Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

As shown in **Table 3.8.4-3**, per capita CO₂ emissions from cars and light duty trucks (only) are calculated to be 21.4 pounds per day in 2020 with the Plan. The result of the Plan is an 8 percent decrease in per capita CO₂ emissions from 2005 to 2020. The percent decrease would achieve the 8 percent emissions reduction target by 2020 for the region set by SB 375. By 2035, the 2016 RTP/SCS projects 19.5 pounds per day for per capita CO₂ emissions from cars and light duty trucks (only). This represents an approximately 18 percent decrease in per capita CO₂ emissions from 2005 to 2035. This 18 percent decrease would meet and exceed the 13 percent emissions reduction target set by CARB for 2035. Furthermore, although there is no per capita GHG emission reduction targets for passenger vehicles set by CARB for 2040, the Plan’s GHG emission reduction trajectory shows that more aggressive GHG emission reductions are projected for 2040 (**Table 3.8.4-3**). The Plan would result in an estimated 22 percent decrease in per capita GHG emissions by 2040 (**Figure 3.8.4-1, SB 375 GHG (per capita) Reduction Trajectory**). By meeting and exceeding the SB 375 targets for 2020 and 2035, as well as achieving an approximately 22 percent decrease in per capita GHG emissions by 2040 (an additional 4 percent reduction in the five years between 2035 [18 percent] and 2040 [22 percent]), the Plan is expected to fulfill and exceed its portion of SB 375 compliance with respect to meeting the State’s GHG emission reduction goals. As such, the Plan would not conflict with SB 375 GHG emission reduction targets and would result in a less-than-significant impact, and mitigation measures would not be required.

Impact GHG-3: Potential to conflict with AB 32 or any applicable plan, policy or regulation adopted for the purpose of reducing emissions of GHGs.

Less than Significant Impact

AB 32 Discussion. As indicated by CEQA Appendix G, a significant GHG impact is identified if the Plan could conflict with applicable GHG reduction plans, policies, or regulations. AB 32 calls for GHG emissions to be reduced to 1990 levels by 2020. CARB’s Scoping Plan functions as a roadmap to achieve AB 32 GHG reductions. Because the Plan focuses on a portion of the transportation sector (i.e., automobiles and light duty trucks pursuant to SB 375) and land use strategies, it does not incorporate

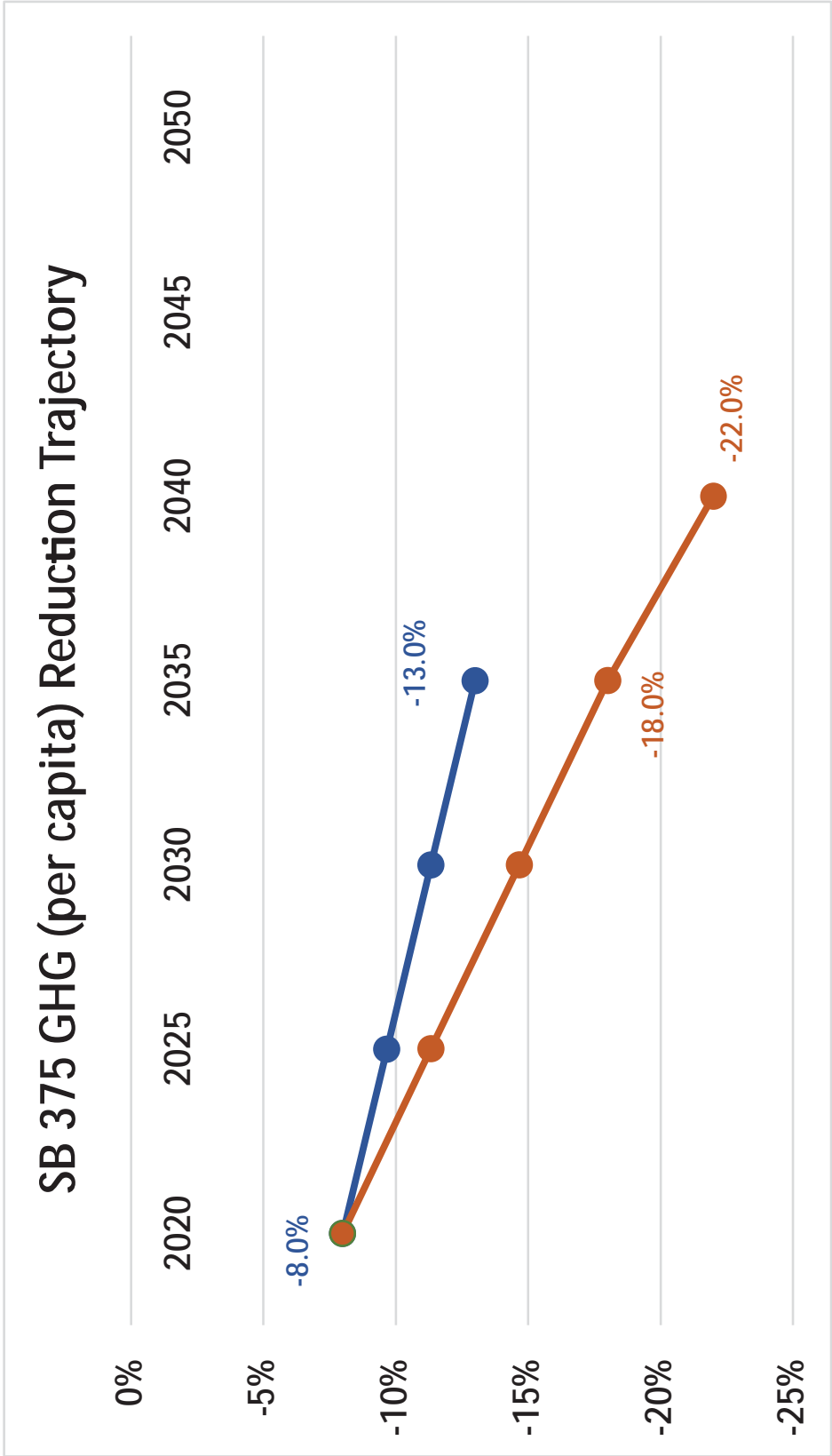


FIGURE 3.8.4-1:

SB 375 GHG (per capita) Reduction Trajectory

implementation of all the AB 32 Scoping Plan strategies that address a broad range of economic sectors. GHG emissions reductions achieved through SCS land use strategies are incorporated into the analysis of the transportation network improvement emissions reductions. The Plan includes proposed transportation improvements to be integrated and coordinated with proposed land use changes that would lead to reduced congestion, reduced VMT, and increased transit, walking, and biking options.

The Plan alone is not intended to meet the AB 32 emissions reduction targets. By meeting the SB 375 targets, the Plan has contributed its share, if not greater, to meeting the AB 32 targets. The Plan has demonstrated that it met and exceeded CARB's targets for greenhouse gas emissions from light duty passenger vehicles for 2020 and 2035, respectively. Specifically, as shown in **Figure 3.8.4-1**, the Plan is showing a GHG emission reduction trajectory that would meet and exceed SB 375 between 2020 and 2040, and beyond. Given that the primary statutory responsibility of the 2016 RTP/SCS is to achieve SB 375 targets, which it does, and the goals set forth by AB 32 are intended to be achieved by all the responsible sectors, the Plan has successfully contributed its share, if not greater, to meeting the AB 32 target. Additionally, "California is on track to meet the near-term 2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32."⁷⁹ The compact land use patterns of the Plan provide more efficient use of water and energy of building operations, among others. This efficiency leads to GHG emissions reduction beyond SB 375 and ensures the region to be on track with AB 32 goals. The assurance for meeting statewide AB 32 goals as outlined in the Plan as well as in the First Update to the Climate Change Scoping Plan provide a pathway towards meeting the State's long-term GHG emissions reduction goals as set forth in Executive Orders. Therefore, the Plan is not in conflict with AB 32.

In summary, the proposed Plan would not conflict with applicable recommendations in the ARB's Scoping Plan Update for the Transportation focus area. The 2014 Scoping Plan Update identified several recommended actions within the Transportation sector to achieve future GHG reductions, with the recommendations primarily focused on achieving major technological and regulatory changes in order to reduce GHG emissions from all types of vehicles and transportation fuels, including more efficient vehicles, low carbon fuels like electricity and hydrogen, and supporting infrastructure. The Update also identified the following applicable recommendations for transportation:

- - Caltrans and regional transportation agencies will increase investment in expanded transit and rail services, active transportation, and other VMT reduction strategies in their next regional transportation plans.
 - ARB, Caltrans, the Strategic Growth Council, and the Department of Housing and Community

Development, along with other State, local and regional agencies, would coordinate planning and support to ensure that the expected GHG emission reductions from approved SCS are achieved or exceeded. The Plan would not conflict with the recommendation to increase investment in expanded transit and rail services, active transportation, and other VMT reduction strategies in the Scoping Plan Update. From 2016 to 2040, the Plan includes increased investment in transit and rail services, active transportation, and other VMT reduction strategies.

⁷⁹ California Air Resources Board. May 2014. *First Update to the Climate Change Scoping Plan*. Available at: <http://www.ourenergypolicy.org/wp-content/uploads/2014/05/cali-scoping.pdf>

Climate-Related Plans Discussion. The 2016 RTP/SCS is in alignment with the goals and objectives set by the county and city climate-related plans. While the specific targets may vary by city/county, the 2016 RTP/SCS takes a look at the programmatic level to assess consistency with these plans. Both on the regional and local levels, the climate-related plans lay out efforts to increase energy efficiency, promote energy conservation, design green buildings, reduce VMT, encourage transit-oriented developments, and integrate renewable energies. As described in **Section 2.0, *Project Description***, of this PEIR, the Plan includes integrated transportation and land use strategies to promote active transportation opportunities, compact development, car sharing and ride sourcing, and technology in zero-emission vehicles and neighborhood electric vehicles. Additionally, the 2016 RTP/SCS includes a regional charging network that will increase the number of Plug-in Hybrid Electric Vehicles (PHEV) miles driven on electric power, thereby resulting in a potential to double the electric range of PHEVs and reducing vehicle miles traveled that produce tail-pipe GHG emissions. With aligned goals, the 2016 RTP/SCS is expected to result in a less than significant impact on city and county climate-related plans.

Executive Orders Discussion. On April 29, 2015, Governor Brown issued Executive Order (EO) B-30-15, which established a new statewide interim GHG emissions reduction target of 40 percent below 1990 GHG emissions levels by 2030. The EO B-30-15 also reiterated the GHG emissions reduction target to reduce emissions to 80 percent below 1990 levels by 2050 set forth by EO S-3-05 in 2005 by Governor Schwarzenegger. Executive Order B-16-2012 also set the same target for 2050 for the transportation sector: 80 percent less than 1990 levels. This 2050 target is also incorporated in the CARB Scoping Plan Update.

The following discussion is for illustrative purposes as the Executive Orders are not plans, policies or regulations adopted for the purpose of reducing GHG emissions. As stated above, the 2016 RTP/SCS alone is not intended to meet the AB 32 target or the targets set by EO B-30-15, EO B-16-2012, and EO S-3-05. By meeting the SB 375 targets (see **Impact GHG-2: Potential to conflict with SB 375 GHG Emission Reduction Targets**), the Plan has successfully contributed its share, if not greater, to meeting the AB 32 target. The 2016 RTP/SCS is currently required to meet the GHG reduction targets set by CARB, i.e., 8% reduction by 2020 and 13% by 2035, both on per capita basis relative to 2005 levels. The GHG reduction trajectory of the 2016 RTP/SCS is consistent with and is more aggressive than the ARB GHG Reduction Target Trajectory for the SCAG region, as the Plan's trajectory shows aggressive GHG reductions between 2020 and 2040 (**Figure 3.8.4-1**). It should be noted that CARB has not established a 2030 target or a 2050 target for the transportation sector to meet the targets set by EO B-30-15, EO B-16-2012, and EO S-3-05. However, the new statewide interim 2030 target set forth under EO B-30-15 suggests that an accelerated timeline would be necessary. In order to address this new interim 2030 target, the 2016 RTP/SCS accelerates the reduction of GHG emissions such that by 2030, the Plan is expected to achieve a 14.7% reduction. This reduction would exceed SCAG's current target of 13% by 2035.

In addition, by 2040, the horizon year of the 2016 RTP/SCS, the Plan is expected to achieve a 22% reduction in the GHG emissions of cars and light trucks. As shown on **Figure 3.8.4-1**, the 2016 RTP/SCS has met and exceeded the CARB's targets for 2020 and 2035, respectively. The GHG reduction trajectory of the 2016 RTP/SCS is much more aggressive than CARB's targets between 2020 and 2035. Additionally, the GHG reduction trajectory of the 2016 RTP/SCS beyond 2030 is consistent, if not more aggressive, with the accelerated pace established in the recent Executive Order B-30-15. Further, it should be noted that the goals set forth by AB 32 and the Executive Orders are intended to be achieved by all the responsible sectors. Yet, the 2016 RTP/SCS is demonstrated to contribute the Plan's

share, if not more, comparing to the accelerated pace. Therefore, the Plan itself is not in conflict with the State long-term GHG emissions reduction goals as set forth in Executive Orders.

3.8.5 CUMULATIVE IMPACTS

Impact GHG-1: Potential to directly or indirectly result in an increase in GHG emissions compared to existing conditions (2015).

Less than Significant Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with other development and infrastructure projects within the SCAG region and surrounding areas, would result in a 22 percent decline in GHG emissions by 2040 compared to existing conditions. Other GHG-emitting sectors beyond light and medium duty vehicles and heavy duty trucks for transportation, building energy, and water-related energy are not considered as part of the Plan. Given the state and federal leadership as shown in AB 32, EO B-30-15, EO B-16-2012, EO S-3-05, Presidential Executive Order 13154 and Revised Draft Guidance on Consideration of Greenhouse Gas Emissions and Climate Change in NEPA Reviews. As a result, the Plan would result in a less than significant cumulative impact with respect to increasing GHG emissions compared to existing conditions.

Impact GHG-2: Potential to conflict with SB 375 GHG Emission Reduction Targets.

Less than Significant Cumulative Impact

The Plan meets and exceeds SB 375 targets for reducing GHG emissions. This demonstrates that the Plan is able to do more than its share to reducing GHG emissions for light and medium duty vehicles and heavy trucks resulting in a less than significant cumulative impact with respect to the SB 375 targets.

Impact GHG-3: Potential to conflict with AB 32 or any applicable plan, policy or regulation adopted for the purpose of reducing emissions of GHGs.

Significant Cumulative Impact

While the Plan acknowledges all the responsible sectors are not in conflict with AB 32 and Executive Orders, in the event of a worst case scenario, such as other responsible agency implementation activities do not achieve their respective GHG emission reduction goals to the appropriate level, the environmental analysis results in a determination that there would be a potential for a significant cumulative impact requiring the consideration of mitigation measures.

3.8.6 MITIGATION MEASURES

Mitigation measures described below are in response to the significant cumulative impact. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures.

SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by Lead Agencies for transportation and development projects, as applicable and feasible.

Cumulative Impacts

IMPACT GHG-3: Potential to conflict with AB 32 and or any applicable plan, policy or regulation adopted for the purpose of reducing emissions of GHGs.

SCAG Mitigation Measures

MM-GHG-3(a)(1): SCAG shall update any future RTP/SCS to incorporate policies and measures that lead to reduced GHG emissions in accordance with AB 32.

MM-GHG-3(a)(2): SCAG shall coordinate with CARB and air districts in efforts to implement the AB 32 Scoping Plan.

MM-GHG-3(a)(3): SCAG shall continue coordination with other metropolitan planning organizations (MPOs) regarding statewide strategies to reduce GHG emissions and facilitate the implementation of SB 375.

MM-GHG-3(a)(4): SCAG shall work with utilities, sub-regions, and other stakeholders to promote accelerated penetration of zero- (and/or near zero-) emission vehicles in the region, including developing a strategy for the deployment of public charging infrastructure.

MM-GHG-3(a)(5): SCAG shall in its capacity as a Clean Cities Coalition establish coordinated, creative public outreach activities, including publicizing the importance of reducing GHG emissions and steps community members may take to reduce their individual impacts.

MM-GHG-3(a)(6): SCAG shall work with local community groups and business associations to organize and publicize walking tours and bicycle events, and to encourage pedestrian and bicycle modes of transportation such as the “Go Human” Campaign.

MM-GHG-3(a)(7): SCAG shall support and/or sponsor workshops on water conservation activities, such as selecting and planting drought tolerant, native plants in landscaping, and installing advanced irrigation systems.

MM-GHG-3(a)(8): SCAG shall in coordination with local jurisdictions (as practicable) support and/or sponsor a periodic Climate Protection Summits or Fairs, to educate the public on current climate science, projected local impacts, and local efforts and opportunities to reduce GHG emissions, including exhibits of the latest technology and products for conservation and efficiency.

MM-GHG-3(a)(9): Schools Programs: SCAG shall develop and implement a program in coordination with school districts to present information to students about climate change and ways to reduce GHG emissions, and will support school-based programs for GHG reduction, such as school-based trip reduction and the importance of recycling.

MM-GHG-3(a)(10): As outlined in the AHSC Action Plan approved by the Regional Council at the July 2, 2015, meeting, SCAG shall work with the Strategic Growth Council and seek legislative revisions to AHSC programs to revise the AHSC competitive grant program for future rounds.

MM-GHG-3(a)(11): SCAG shall encourage local jurisdictions to support the following transportation-related strategies to reduce emissions:

- Support the planning and development of HQTAs, jobs and housing balance, transit oriented development, and infill development through transportation investments and other funding decisions.
- Offer incentives such as free or low-cost monthly transit passes to employees or free ride areas to residents and customers
- Coordinate the funding of low carbon transportation with smart growth development.
- Promote parking management measures that encourage walking and transit use in smart growth areas.
- Develop comprehensive parking policies that encourages the use of alternative transportation
- Incorporate bicycle lanes, routes and facilities into street systems, new subdivisions, and large developments, and create transit, bicycle, and pedestrian connections.
- Require amenities for non-motorized transportation, such as secure and convenient bicycle parking.

MM-GHG-3(a)(12): As part of SCAG's Sustainability Program, SCAG shall assist local jurisdictions in developing Climate Actions Plans (CAPS, also known as Plans for the Reduction of Greenhouse Gas Emissions), as appropriate and feasible.

Project-Level Mitigation Measures

MM-GHG-3(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of greenhouse gases that are within the jurisdiction and authority of California Air Resources Board, local air districts, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of greenhouse gases, the Lead Agency can and should consider mitigation measures to mitigate the significant effects of greenhouse gas impacts to ensure compliance with all applicable laws, regulations, governing CAPs, general plans, adopted policies and plans of local agencies, and standards set forth by responsible public agencies for the purpose of reducing emissions of greenhouse gases, as applicable and feasible. Consistent with Section 15126.4(c) of the State CEQA Guidelines, compliance can be achieved through adopting greenhouse gas mitigation measures that have been used for projects in the SCAG region as set forth below, or through comparable measures identified by Lead Agency:

- Measures in an adopted plan or mitigation program for the reduction of emissions that are required as part of the Lead Agency's decision.

- Reduction in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines.
- Off-site measures to mitigate a project's emissions.
- Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to:
 - Use energy and fuel efficient vehicles and equipment;
 - Deployment of zero- and/or near zero emission technologies;
 - Use lighting systems that are energy efficient, such as LED technology;
 - Use the minimum feasible amount of GHG-emitting construction materials that is feasible;
 - Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
 - Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;
 - Incorporate design measures to reduce energy consumption and increase use of renewable energy;
 - Incorporate design measures to reduce water consumption;
 - Use lighter-colored pavement where feasible;
 - Recycle construction debris to maximum extent feasible;
 - Plant shade trees in or near construction projects where feasible; and
 - Solicit bids that include concepts listed above.
- Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to, transit-active transportation coordinated strategies, increased bicycle carrying capacity on transit and rail vehicles;
- Incorporating bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; providing adequate bicycle parking and planning for and building local bicycle projects that connect with the regional network;
- Improving transit access to rail and bus routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and
- Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs.
- Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
- Land use siting and design measures that reduce GHG emissions, including:
 - Developing on infill and brownfields sites;
 - Building high density and mixed use developments near transit;
 - Retaining on-site mature trees and vegetation, and planting new canopy trees;Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing

- or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and
- Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.

MM-EN-2(b).

3.8.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Cumulative Impacts

IMPACT GHG-3: Potential to conflict with AB 32 and or any applicable plan, policy or regulation adopted for the purpose of reducing emissions of GHGs.

While implementation of Mitigation Measures MM-GHG-3(a)(1) through MM-GHG-3(a)(12), MM-GHG-3(b) and MM-EN-2(b) would reduce the cumulative impacts related to GHG emissions, the effectiveness of the mitigation measures identified above cannot be reasonably quantified at this time. Although the mitigation measures would encourage reduction in GHG emissions, they would not guarantee GHG emission reductions. Under SCAG's limited authority, these measures are not directly enforceable and the cumulative impacts would remain significant and unavoidable.

HAZARDS AND HAZARDOUS MATERIALS

This section of the Program Environmental Impact Report (PEIR) describes the hazards and hazardous materials in the SCAG region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Plan,” or “Project”) in relation to posing risk or hazards to people or property from hazards or hazardous material, identifies mitigation measures for the impacts, and evaluates the residual impacts. The potential for the 2016 RTP/SCS to expose people or property to risk from hazards or hazardous materials was evaluated in accordance with Appendix G of the 2015 State California Environmental Quality Act (CEQA) Guidelines. The potential to expose people or property to risks from hazards or hazardous materials within the SCAG region was evaluated at the programmatic level of detail, in relation to the general plans of the six counties and the 191 cities within the SCAG region, a query of government data bases, a review of related literature germane to the SCAG region, as well as a review of SCAG’s 2012 RTP/SCS PEIR.¹

The quality of the environment in the SCAG region has been changed over time. In particular, changes due to the industrial revolution, dating to the 18th and 19th centuries, have affected the quality and healthfulness of air, water, and soil resources that are essential to well-being of humans and the other organisms that depend on natural habitats. These changes can be expressed as increased levels of natural occurring components such as trace metals and nutrient, and additional anthropogenic compounds, such as polychlorinated biphenyls (PCBs), and pesticides. Prior to the 1960s there was limited regulation of agriculture and manufacturing and the disposal of waste materials from these industries, as well as from the general public. This lack of regulation allowed the concentration of natural and anthropogenic compounds to persist in soil, water, and air, at unhealthful levels. Numerous regulations were enacted in the late 1960s and early 1970s in an effort to manage and remediate hazards and hazardous materials. The SCAG region lies within U.S. Environmental Protection Agency (EPA) Region 9, which has the responsibility for designation and oversight of Superfund sites on the National Priorities List. There are 13 Superfund sites on the National Priorities List in the SCAG region, including seven sites in the process of being cleaned up during the period of preparation of this PEIR.²

Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for hazards and hazardous materials are provided.

Certified Unified Program Agencies: California Unified Program Agencies (CUPA) implement the hazardous waste and material standard including petroleum storage, areas plans for hazardous material emergencies, California Accidental Release Prevention (CalARP) Program, hazardous materials release response plans and inventories, hazardous material management plan and inventory statements, onsite waste treatment program, and underground storage tank program. The CalARP program was

¹ Southern California Association of Governments. April 2012. Final Program Environmental Report: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy. Available at: <http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

² U.S. Environmental Protection Agency. Accessed 9 September 2015. *Pacific Southwest, Region 9. Map of Superfund Sites in Southern California*. Available at: <http://www.epa.gov/region9/socal/superfund/sfund-map.html>

implemented on 1997 to prevent accidental releases of substances that can cause serious harm to the public and the environment, to minimize the damage if releases do occur, and to satisfy community right-to-know laws. This is accomplished by requiring businesses that handled regulated substance above a threshold to develop a risk management plan with safety information, operating procedures, and training requirements, compliance audits, and other incident investigation measures to reduce accidental release potential.

Contaminated Sites: The California Department of Toxic Substances Control (DTSC) maintained a database, known as “CalSites,” which contained information on properties in California where hazardous substances were released, or where the potential for a release existed. In 2006, DTSC launched its brownfields site database, EnviroStor, which replaced the CalSites database. EnviroStor includes identification of formerly contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Federal Emergency Management Agency: SCAG is under the jurisdiction of FEMA Region 9. In Southern California, FEMA Region 9 specifically plans for hazards such as major earthquakes and wildfires.

Hazardous Material: The term “hazardous material” can have varying definitions depending on the regulatory programs. For the purposes of this PEIR, the term refers to both hazardous materials and hazardous wastes. The California Health and Safety Code Section 25501(p) defines hazardous material as follows:

Hazardous material means any material that because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include but are not limited to hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Soil and groundwater can become contaminated by hazardous material released in a variety of ways, including permitted or illicit use and accidental or intentional disposal or spillage. Before the 1980s, most land disposal of chemicals was unregulated, resulting in numerous industrial properties and public landfills becoming dumping grounds for unwanted chemicals. In general, the largest and most contaminated of these sites became federal Superfund sites in the early 1980s, so named for their eligibility to receive cleanup money from a federal fund established for that purpose under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). Sites are added to the National Priorities List (NPL) following a hazard ranking system. The U.S. EPA maintains this list of federal Superfund sites, as well as a more extensive list of all sites with potential to be listed known as Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS).

Numerous smaller properties also have been designated as contaminated sites. Often, these are gas station sites, where leaking underground storage tanks were upgraded under a federal requirement in the late 1980s. Another category of sites, which may have some overlap with the types already

mentioned, is brownfields sites. Brownfields sites are those areas that were previously used for industrial purposes or certain commercial uses. The land may be contaminated by low concentrations of hazardous waste or pollution, and has the potential to be reused once it is cleaned up. Both the U.S. EPA and DTSC maintain lists of known brownfield sites. These sites are often difficult to inventory due to their owners' reluctance to publicly label their property as potentially contaminated. In California, numerous regulatory barriers have blocked effective reuse of brownfields sites, including uncertainty as to cleanup levels and ultimate cleanup cost. Senate Bill (SB) 32, adopted in 2001, establishes a locally based program to help speed the cleanup and reuse of brownfields sites.

Hazardous Waste: A "hazardous waste" is a waste that poses substantial or potential threats to public health or the environment. Hazardous wastes are defined under the Resource Conservation and Recovery Act (RCRA) as exhibiting one or more of the characteristics identified below:

Toxic Substances: Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or even death. For example, such substances can cause disorientation, acute allergic reactions, asphyxiation, skin irritation, or other adverse health effects if human exposure exceeds certain levels. The level depends on the substances involved and is chemical-specific. Carcinogens (substances that can cause cancer) are a special class of toxic substances. Examples of toxic substances include benzene (a component of gasoline and a suspected carcinogen) and methylene chloride (a common laboratory solvent and a suspected carcinogen).

Ignitable Substances: Ignitable substances are hazardous because of their ability to burn. Gasoline, hexane, and natural gas are examples of ignitable substances.

Corrosive Materials: Corrosive materials can cause severe burns. Corrosives include strong acids and bases such as sodium hydroxide (lye) or sulfuric acid (battery acid).

Reactive Materials: Reactive materials may cause explosions or generate toxic gases. Explosives, pure sodium or potassium metals (which react violently with water), and cyanides are examples of reactive materials.

Radioactive Materials: Materials that emit radiation resulting from changes in the nuclei of atoms of the element.

By definition, EPA determined that some specific wastes are hazardous when they exhibit the characteristics of ignitability, reactivity, corrosivity, and toxicity. Once a site is determined hazardous, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) provides mechanism and assign liabilities for cleanup of the sites. The actions may involve short-term measures taken to address releases, long-term actions to permanently and significantly reduce the risk of release of hazardous substances, and a preliminary assessment/site inspection then a remedial investigation/feasibility study.

Office of Emergency Services: The Office of Emergency Services (OES) is an agency responsible for overseeing and coordinating emergency preparedness, response, recovery and homeland security activities, in cooperation with fire and law and other enforcement agencies. Each county within the SCAG region has an OES which is responsible for coordinating and maintaining resources necessary for first responders to protect the community. In addition to maintaining a Material Safety Data Sheets (MSDS), notifications to the OES must be made when there is a hazardous material incident or spill that

may require clean-up. OES is responsible for preparing, and gathering information on incident, participate in offering guidance to residents and communities affected by incident, coordinating with FEMA, state, and county/city agencies for other needed resource, and implement a reduction of risk program to prevent future accidents causing physical and natural or human casualties.

Spill Cleanup Site: Facilities with aboveground oil storage facilities greater than 1,320 gallons of oil and/or with total aggregate capacity of completely buried storage tanks greater than 42,000 gallons of oil are subjected to Spill Prevention Control and Countermeasure (SPCC) rules. These facilities need to be regulated to prevent discharge of oil into navigable waters or adjoining shorelines. Owners of a facility develop a response plan to prepare and respond to oil discharge or threats of discharge during drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil. The U.S. EPA is the lead federal response agency for providing cleanup of oil spills to prevent, prepare for, and respond to spills that occur in and around inland waters of the U.S.

State Response System: The State of California's response system is represented by the Department of Fish and Wildlife (CDFW), Office of Oil Spill Prevention and Response (OSPR), local government, and the U.S. Coast Guard. Section 8670.7 of the California Government Code establishes that the Administrator of OSPR has the primary state authority to direct removal, abatement, response, containment, and cleanup efforts with regard to all aspects of any oil spill in the marine waters of the state.

Superfund Sites: Superfund sites generally refer to contaminated sites that have been designated by EPA on the National Priorities List that are eligible for funding from the trust fund (the "Superfund") established by EPA for cleaning up abandoned or uncontrolled hazardous waste sites pursuant to CERCLA. CERCLA was enacted in the wake of the discovery of toxic waste dumps such as Love Canal and Times Beach in the 1970s. It allows the U.S. EPA to clean up such sites and to compel responsible parties to perform cleanups or reimburse the government for EPA-led cleanups.

Voluntary Cleanup Program (VCP): The VCP is a program administered by the California Environmental Protection Agency's Department of Toxic Substances Control (DTSC), and was introduced as a streamlined program to protect human health, clean up the environment and get property back to productive use. Corporations, real estate developers, local and state agencies entering into Voluntary Cleanup Program agreements are able to restore properties quickly and efficiently, rather than having their projects compete for DTSC's limited resources with other low-priority hazardous waste sites. State voluntary cleanup programs have played a major role in cleaning up brownfields since the 1990s. Through a nonbinding memorandum of agreement, the U.S. EPA partnered with the state to provide resource and coordination of Superfund sites to meet Resource Conservation and Recovery Act (RCRA) liabilities and provide corrective actions to provide "one cleanup" approaches. Selection of sites eligible for VCPs are provided under EPA's March 2003 guidance that exclude sites from "eligible response site" when not meeting regional determinations under Section 101(41)(C)(i) of CERCLA.³

³ California Environmental Protection Agency. Accessed 11 September 2015. *Guidance on Regional Determination Regarding Eligible Response Sites*. Available at: <http://www2.epa.gov/enforcement/guidance-regional-determinations-regarding-eligible-response-sites>

3.9.1 REGULATORY FRAMEWORK

Federal

Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act (29 Code of Federal Regulations [CFR] Parts 70 to 2400), which is implemented by the Federal Occupational Safety and Health Administration (OSHA), contains provisions with respect to hazardous materials handling. Federal OSHA requirements, as set forth in 29 CFR Section 1910 et seq., are designed to promote worker safety, worker training, and a worker's right-to-know. In California, OSHA has delegated the authority to administer OSHA regulations to the State of California.

Hazardous Materials Transportation Act of 1975

The Hazardous Materials Transportation Act (Title 49 U.S. Code [USC] Sections 5101–5127) is the principal federal law regulating the transportation of hazardous materials. Its purpose is to “protect against the risks to life, property, and the environment that are inherent in the transportation of hazardous material in intrastate, interstate, and foreign commerce” under the authority of the U.S. Secretary of Transportation.

Regulations implementing the Hazardous Materials Transportation Act of 1975 specify additional requirements and regulations with respect to the transport of hazardous materials. For example, the Act requires that every employee who transports hazardous materials receive training to recognize and identify hazardous materials and become familiar with hazardous materials requirements. Drivers are also required to be trained in function and commodity specific requirements.

Response Conservation and Recovery Act (RCRA)

The RCRA of 1976 (42 USC 2) was the first major federal act regulating the potential health and environmental problems associated with hazardous and nonhazardous solid waste. RCRA and the implementation regulations developed by the U.S. EPA provide the general framework for the national hazardous and nonhazardous waste management systems. This framework includes the determination of whether hazardous wastes are being generated, techniques for tracking wastes to eventual disposal, and the design and permitting of hazardous waste management facilities.

RCRA amendments enacted in 1984 and 1986 began the process of eliminating land disposal as the principal hazardous waste disposal method. Hazardous waste regulations promulgated in 1991 address site selection, design, construction, operation, monitoring, corrective action, and closure of disposal facilities. Additional regulations addressing solid waste issues are contained in 40 CFR, Part 258.

Hazardous Materials Transportation Act (HMTA)

Enacted in 1975, the HMTA (49 USC 51, Sections 5101 et seq.) is the principal federal law regulating the transportation of hazardous materials. Its purpose is to “protect against the risks to life, property, and

the environment that are inherent in the transportation of hazardous material in intrastate, interstate, and foreign commerce” under the authority of the U.S. Secretary of Transportation.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

CERCLA (1980; 42 USC Sections 1906 et seq.), also known as the Superfund Act, outlines the potential liability related to the cleanup of hazardous substances; available defenses to such liability; appropriate inquiry into site status under Superfund, which is the federal government’s program to clean up the nation’s uncontrolled hazardous waste sites; statutory definitions of hazardous substances and petroleum products; and the petroleum product exclusion under CERCLA. CERCLA provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also establishes the National Contingency Plan (NCP), which provides guidelines and procedures necessary to respond to releases and threatened releases of hazardous substances.

Emergency Planning and Community Right-to-Know Act (EPCRA)

The EPCRA of 1986 (42 USC 116, Sections 9601 et seq.) was created to help communities plan for emergencies involving hazardous substances. EPCRA requires hazardous chemical emergency planning by federal, state, and local governments; Native American tribes; and industry. It also requires industry to report on the storage, use, and releases of hazardous chemicals to federal, state, and local governments.

Superfund Amendment and Reauthorization Act (SARA), Title III

SARA, Title III, of 1986 is the Emergency Planning and Community Right-to-Know Act (40 CFR Parts 350–372). Facilities are required to report the following items on U.S. EPA Form R, the Toxic Chemical Release Inventory Reporting Form: facility identification, off-site locations where toxic chemicals are transferred in wastes, chemical-specific information, and supplemental information.

Form R requires a facility to list the hazardous substances that are handled on-site and to account for the total aggregate releases of listed toxic chemicals for the calendar year. Releases to the environment include emissions to the air, discharges to surface water, and on-site releases to land and underground injection wells.

Robert T. Stafford Disaster Relief and Emergency Assistance Act, as Amended, and Related Authorities

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 100-707), signed into law on November 23, 1988, amended the Disaster Relief Act of 1974 (Public Law 93-288). The Stafford Act constitutes the statutory authority for most federal disaster response activities especially as they pertain to FEMA and FEMA programs.

Disaster Mitigation Act (DMA) of 2000

DMA 2000 (Public Law 106-390) provides the legal basis for FEMA mitigation planning requirements for state, local and Indian Tribal governments as a condition of mitigation grant assistance. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act by repealing the previous mitigation planning provisions and replacing them with a new set of requirements that emphasize the need for state, local, and Indian Tribal entities to closely coordinate mitigation planning and implementation efforts. The requirement for a state mitigation plan is continued as a condition of disaster assistance, adding incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans. DMA 2000 also established a new requirement for local mitigation plans and authorized up to 7 percent of HMGP funds available to a state for development of state, local, and Indian Tribal mitigation plans.

Federal Emergency Management Agency (FEMA) Regulation

FEMA's mission is to reduce the loss of life and property and protect communities nationwide from all hazards, including natural disasters, acts of terrorism, and other man-made disasters. FEMA leads and supports the nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery and mitigation.

In March 2003, the Federal Emergency Management Agency (FEMA) became a department of the U.S. Department of Homeland Security (DHS), pursuant to 44 CFR, Chapter 1 Part 201. The primary mission of FEMA is to reduce the loss of life and property and protect the nation from all hazards, including natural disasters, acts of terrorism, and other human-made disasters, by leading and supporting the nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation. SCAG is under the jurisdiction of FEMA Region 9, which covers Arizona, California, Hawaii, Nevada, Guam, American Samoa, Commonwealth of Northern Mariana Islands, Republic of Marshall Islands, Federated State of Micronesia, and more than 150 sovereign tribal entities. In Southern California, FEMA Region 9 specifically plans for hazards such as major earthquakes and wildfires. A catastrophic earthquake could result in 1,800 fatalities, 9 million people displaced, and \$200 billion in losses.

Presidential Policy Directive 8: National Preparedness

The National Response Framework (NRF) is an essential component of the National Preparedness System mandated in Presidential Policy Directive 8: National Preparedness (PPD-8). PPD-8 is aimed at strengthening the security and resilience of the United States through systematic preparation for the threats that pose the greatest risk to the security of the Nation. PPD-8 defines five mission areas—Prevention, Protection, Mitigation, Response, and Recovery—and mandates the development of a series of policy and planning documents to explain and guide the Nation's collective approach to ensuring and enhancing national preparedness. The NRF presents the guiding principles that enable all response partners to prepare for and provide a unified national response to disasters and emergencies. It establishes a comprehensive, national, all-hazards approach to domestic incident response. The National Response Plan was replaced by the NRF effective March 22, 2008 and updated May 2013.

The NRF defines the principles, roles, and structures that organize response protocols as a nation. The NRF:

- Describes how communities, tribes, states, the federal government, private-sectors, and nongovernmental partners work together to coordinate national response;
- Describes specific authorities and best practices for managing incidents; and
- Builds upon the National Incident Management System (NIMS), which provides a consistent template for managing incidents.

Title 40 - Protection of Environment, Chapter 1 - Environmental Protection Agency (Continued) CFR Part 68 - Chemical Accident Prevention Provisions

This part sets forth the list of regulated substances and thresholds, the petition process for adding or removing substances to the list of regulated substances, the requirements for owners or operators of stationary sources concerning the prevention of accidental releases, and the state accidental release prevention programs approved under Section 112(r).

State

Hazardous Waste Control Law of 1972

The Hazardous Waste Control Act (Health and Safety Code Sections 25100 et seq.) created the state hazardous waste management program, which is similar to but more stringent than the federal RCRA program. The Act is implemented by regulations contained in Title 26 of the California Code of Regulations (CCR), which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transportation; design and permitting of recycling, treatment, storage, and disposal facilities; treatment standards; operation of facilities and staff training; and closure of facilities and liability requirements. These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with DTSC.

Hazardous Materials Release Response Plans and Inventory Law of 1985

The Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act; HSC Division 20 Chapter 6.95 [25500–25547.8]) governs hazardous materials handling, reporting requirements, and local agency surveillance programs.

California Disaster Assistance Act (CDAA)

The California Disaster Assistance Act (CDAA; CCR Title 19, Chapter 6) authorizes the Director of the California Governor's Office of Emergency Services (Cal OES) to administer a disaster assistance program that provides financial assistance from the state for costs incurred by local governments as a result of a disaster event. Funding for the repair, restoration, or replacement of public real property damaged or

destroyed by a disaster is made available when the Director concurs with a local emergency proclamation requesting state disaster assistance.

Hazardous Substances Account Act (State Superfund) (HSC Sections 25300–25301)

Chapter 6.8 of the California Health and Safety Code requires the DTSC to include “the largest manageable number” of potentially responsible parties (PRPs) in any cleanup order that applies to a multiple PRP site after considering certain factors, including the adequacy of the evidence of each PRP's liability, the financial viability of each PRP, and the degree to which each PRP contributed to the release of hazardous substances at the site.

California Vehicle Code

The California Vehicle Code (Title 13 of the CCR) establishes regulations for motor carrier transport of hazardous materials. For example, all motor carrier transporters of hazardous materials are required to have a Hazardous Materials Transportation license issued by the California Highway Patrol. In addition, placards identifying that hazardous materials are being transported must be displayed on the vehicle.

California Health and Safety Code

The transport of hazardous waste materials is further governed by California Health and Safety Code Section 25163 and Title 22, Chapter 13, of the CCR. Specifically, Section 25163 of the Health and Safety Code requires transporters of hazardous waste to hold a valid registration issued by the DTSC in his/her possession while transporting hazardous waste. Additionally, Title 22, Chapter 13, of the CCR includes a number of requirements, which include, but are not limited to, the following:

- Transporters shall not transport hazardous waste without first receiving an identification number and a registration certificate from DTSC;
- Registration as a hazardous waste transporter expires annually, on the last day of the month in which the registration was issued;
- To be registered as a hazardous waste transporter, an application must be submitted;
- Hazardous waste shall not be accepted for transport without a Uniform Hazardous Waste Manifest that has been properly completed and signed by generator and transporter; and
- Hazardous waste shall be delivered to authorized facilities only.

California Emergency Services Act (AB 38)

AB 38 gave Cal EMA responsibility for overseeing and coordinating emergency preparedness, response, recovery, and homeland security activities in the state. The Governor's Office of Emergency Services (OES) mission statement is “Protect lives and property, build capabilities, and support our communities for a resilient California.” OES goals include:

- Goal 1.** Anticipate and enhance prevention and detection capabilities to protect our State from all hazards and threats.

- Goal 2.** Strengthen California’s ability to plan, prepare for, and provide resources to mitigate the impacts of disasters, emergencies, crimes, and terrorist events.
- Goal 3.** Effectively respond to and recover from both human-caused and natural disasters.
- Goal 4.** Enhance the administration and delivery of all state and federal funding, and maintain fiscal and program integrity.
- Goal 5.** Develop a united and innovative workforce that is trained, experienced, knowledgeable, and ready to adapt and respond.
- Goal 6.** Strengthen capabilities in public safety communication services and technology enhancements.

2013 State Hazard Mitigation Plan (SHMP)

Approved by FEMA on September 30, 2013, as an Enhanced State Mitigation Plan, the 2013 SHMP update continues to build upon California’s commitment to reduce or eliminate the impacts of disasters caused by natural, technological, accidental, and adversarial/human-caused hazards, and further identifies and documents progress made in hazard mitigation efforts, new or revised state and federal statutes and regulations, and emerging hazard conditions and risks that affect the State of California. Resilience depends on the whole community and is a shared responsibility for all levels of government, private and nonprofit sectors, and individuals.

Hazardous Materials Release Cleanup (Assembly Bill (AB) 440 Chapter 588)

AB 440 Chapter 588, passed into law in 2013, authorizes a local agency to take clean up action similar to that under the Polanco Redevelopment Act that the local agency determines is necessary, consistent with other state and federal laws, to remedy or remove a release of hazardous substances within the boundaries of the local agency. AB 440 allows the local agency to designate another agency, in lieu of the department or the regional board, to review and approve a cleanup plan and to oversee the cleanup of hazardous material from a hazardous material release site, under certain conditions. It also provides immunity to the local agency as long as the action is in accordance with a cleanup plan prepared by a qualified independent contractor, and approved by the department, a regional board, or the designated agency, and the cleanup is undertaken and properly completed. Finally, AB 440 authorizes the local agency to recover cleanup costs from the responsible party.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) required the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The Program Elements consolidated under the Unified Program are: Hazardous Waste Generator and On-Site Hazardous Waste Treatment Programs (aka Tiered Permitting); Aboveground Petroleum Storage Tank Spill Prevention Control and Countermeasure Plan (SPCC); Hazardous Materials Release Response Plans and Inventory Program (aka Hazardous Materials Disclosure or “Community-Right-To-Know”); California Accidental Release Prevention Program (Cal ARP); UST Program; and Uniform Fire Code Plans and Inventory Requirements. The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed

programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA.

California Accidental Release Prevention Program

The California Accidental Release Prevention Program (CalARP; CCR Title 19, Division 2, Chapter 4.5) was implemented on January 1, 1997, and replaced the California Risk Management and Prevention Program (RMPP). The CalARP program encompasses both the federal "Risk Management Program," established in the Code of Federal Regulations, Title 40, Part 68, and the State of California program, in accordance with the Title 19 of the California Code of Regulations, Division 2, Chapter 4.5.

The main objective of the CalARP program is to prevent accidental releases of those substances determined to potentially pose the greatest risk of immediate harm to the public and the environment, and to minimize the consequences if releases do occur. These substances are called regulated substances and include both flammable and toxic hazardous materials listed on the Federal Regulated Substances for Accidental Release Prevention and on the State of California Regulated Substances lists. Businesses that handle regulated substances in industrial processes above threshold quantity levels are subject to CalARP program requirements.

The CalARP program requires businesses to have planning activities that are intended to minimize the possibility of an accidental release by encouraging engineering and administrative controls. It is further intended to mitigate the consequences of an accidental release, by requiring owners or operators of facilities to develop and implement an accident prevention program.

Local

Certified Unified Program Agencies (Senate Bill 1082)

Californians are protected from hazardous waste and materials by a unified program that ensures consistency throughout the state in regards to administrative requirements, permits, inspections, and enforcements. The goal of the CUPA is to create a more cohesive, effective, and efficient program. Under the CUPA, application and required submission forms are standardized and consolidated, inspections are combined where possible, annual fees for each program element are merged into a single fee system, and enforcement procedures are made more consistent. The program elements consolidated under the CUPA are:

- Hazardous waste generator and onsite hazardous waste treatment programs (a.k.a. Tiered permitting);
- Aboveground petroleum storage tank spill prevention control and countermeasure plan (SPCC);
- Hazardous materials release response plans and inventory program (a.k.a. hazardous materials disclosure or community-right-to-know)
- California Accidental Release Prevention Program (Cal ARP);
- Underground storage tank program (UST); and
- Uniform fire code plans and inventory requirements

CalEPA oversees the program, and certifies 83 local government agencies, including 37 in the SCAG region. Local agencies administering one or more of the six program elements have the option to either apply for CUPA status within the CalEPA or retain their programs by becoming a participating agency under another CUPA's jurisdiction. Some examples of the agencies that are participating under the CUPA are fire departments, environmental and health branches, Department of Toxic Substances Controls within city and municipal governments.

County General Plans

In addition to federal and state requirements, general plans and municipal codes of counties and cities in the SCAG region may include safety elements that goals and policies related protecting people and property from risks from hazards and hazardous materials.

Los Angeles County General Plan

The Safety Element of the Los Angeles County General Plan 2035 Update, in conjunction with the All-Hazard Mitigation Plan prepared by the Chief Executive Office, Office of Emergency Management (CEO OEM), sets strategies for natural and man-made hazards in Los Angeles County. The All-Hazard Mitigation Plan, which has been approved by FEMA and the California Emergency Management Agency (CalEMA), includes a compilation of known and projected hazards in Los Angeles County.

San Bernardino County General Plan

The San Bernardino County General Plan contains implementation programs related to reduction of household hazardous waste.

Imperial County General Plan

The Land Use Planning and Public Safety and Emergency Preparedness Elements of the Imperial County General Plan have established goals related to protection of public health and safety for consideration in the land use planning process. The specified goals and objectives are intended to minimize potential hazards to public health and safety, and prevent the loss of life and damage to properties, and rely heavily on ensuring conformance with established applicable state codes. The General Plan has specific goals related protecting the public from exposure to hazardous materials and wastes, by discouraging the transport of hazardous materials/waste near or through residential areas and critical facilities, measures to minimize the possibility of hazardous materials/waste spills, land use planning policies to discourage incompatible development adjacent to sites and facilities for the production, storage, disposal, and transport of hazardous materials/waste as identified in the County General Plan and other regulations, and an established objective of adopting and ordinances, policies, and guidelines that assure the safety of Imperial County ground and surface waters from toxic or hazardous materials and wastes.

Orange County General Plan

The Safety Element of the Orange County General Plan provides for the protection of people and property from risks associated with hazards and hazardous materials through the implementation of

mitigation measures as outlined in the California Emergency Plan, the California Master Mutual Aid Agreement, the Orange County Emergency Plan, the Orange County Operational Area Plan, S.O.N.G.S. Plan, County of Orange and Orange County Fire Authority Hazard Mitigation Plan, and other emergency management plans. The Safety Element of the Orange County General Plan focuses primarily upon the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, intentional acts of terrorism and nuclear protection operations. To reduce the County's susceptibility and vulnerability to extraordinary emergency situations, the Safety Element recommends continued emphasis is placed on several coordinated efforts:

- Mitigation
- Emergency planning
- Training of full-time, auxiliary, and reserve personnel
- Public awareness and education; and assuring the adequacy and availability of sufficient resources to cope with such emergencies

On March 15, 2011, the Board of Supervisors adopted the County of Orange and Orange County Fire Authority Hazard Mitigation Plan (HMP) in compliance with federal and state regulations.

Ventura County General Plan

The Safety Element of the Ventura County General Plan contains specific goals to minimize the risk of loss of life, injury, serious illness, damage to property, and economic and social dislocations resulting from the use, transport, treatment and disposal of hazardous materials and hazardous wastes. Additionally specific goals are identified to locate potentially hazardous facilities and operations in areas that would not expose the public to a significant risk of injury, loss of life, or property damage. The plan identifies five policies and 13 programs related to the management of hazards and hazardous materials.

City General Plans

The SCAG region spans six counties and 191, each of which has a general plan containing policies related to hazards and hazardous materials. Additional plans and ordinances at the master plan level, city-level, and specific plan level may also apply within the SCAG region. Furthermore, fire departments and other agencies in the SCAG region have a variety of local laws that regulate reporting, storage, handling, and transporting hazardous substances and materials.

3.9.2 EXISTING CONDITIONS

This section discusses the existing conditions related to hazardous materials in the SCAG region, including an overview of the presence of hazardous materials and the potential for impacts to occur as a result of the 2016 RTP/SCS, including increased transportation of hazardous materials as a result of increased transportation facilities, increased use of hazardous materials and generation of wastes as a result of increased development including industrial and other uses, the potential to expose school facilities to hazardous materials, the potential to increase hazards from public and private airports, the potential to impair implementation or physically interfere with an adopted emergency response plan, and the potential to expose people or structures to risk involving wildland fires.

Routine Transport, Use, or Disposal of Hazardous Materials

There are several risks associated with the transportation-related use of hazardous materials in the SCAG region. Actual transport of hazardous materials via truck, rail, and other modes involves a degree of risk of accident and release. The use of hazardous materials and the generation of hazardous waste in the construction and maintenance of the transportation system are other avenues for risk or exposure. Finally, the past disposal of hazardous materials in a manner that creates residual contamination of soil or water can be a source of risk when such sites are disturbed in the course of future transportation projects or associated development. Each of these avenues is discussed below.

Hazardous materials move through the SCAG region by a variety of modes: truck, rail, air, ship, and pipeline. According to the Office of Hazardous Materials Safety (OHMS) in the U.S. Department of Transportation (U.S. DOT), hazardous materials shipments can be regarded as equivalent to deliveries, but any given shipment may involve one or more movements, or trip segments, that may occur by different modes. For instance, a shipment might involve initial pickup by truck (one movement), a transfer to rail (a second movement), and a final delivery by truck again (for a total of three movements). Each movement of hazardous materials implies a degree of risk, depending on the material being moved, the mode of transport, and numerous other factors.

According to the U.S. DOT Bureau of Statistics Commodity Flow Survey (CFS) data, there were approximately 2.5 billion tons of hazardous materials shipments in the United States in 2012. Trucks move more than one-half of all hazardous materials shipped from a location in the United States (Table 3.9.2-1, *Hazardous Material Shipments in the United States*). By contrast, rail accounts for only 7 percent of shipments.⁴ According to the U.S. DOT, Bureau of Statistics, in 2012, nearly 20 million tons of hazardous materials were moved in the SCAG region, with the majority being moved via truck (Table 3.9.2-2, *Hazardous Material Shipments in the SCAG Region*).

⁴ U.S. Department of Transportation, Bureau of Transportation Statistics. 2012. *Hazardous Materials Commodity Flow Survey, 2012*.

**TABLE 3.9.2-1
HAZARDOUS MATERIAL SHIPMENTS IN THE UNITED STATES**

Mode	Total Commercial Freight Activity (thousand tons)	Hazardous Materials Shipped (thousand tons)	Percent of Hazardous Materials Shipped
Truck	8,060,166	1,531,405	19%
Pipeline	635,975	626,652	99%
Rail	1,628,537	110,988	7%
Water	575,996	283,561	49%

SOURCE:

U.S. Department of Transportation, Bureau of Transportation Statistics. 2012. *Hazardous Materials Commodity Flow Survey, 2012.*

U.S. Department of Transportation, Bureau of Transportation Statistics. 2007. *Commodity Flow Survey.*

**TABLE 3.9.2-2
HAZARDOUS MATERIAL SHIPMENTS IN THE SCAG REGION**

Mode	Total Commercial Freight Activity (thousand tons)	Hazardous Materials Shipped (thousand tons)	Percent of Hazardous Materials Shipped
Truck	11,712	1,159.5	53%
Pipeline	3,529	661.4	30%
Rail	1,979	109.4	5%
Water	1,668	228.2	10%

SOURCE:

U.S. Department of Transportation, Bureau of Transportation Statistics. 2012. *Hazardous Materials Commodity Flow Survey, 2012.*

U.S. Department of Transportation, Bureau of Transportation Statistics. 2007. *Commodity Flow Survey.*

Aside from rail, pipeline, and water shipments, hazardous materials transported through the SCAG region make use of many of the same freeways, arterials, and local streets as other traffic in the region. This creates a risk of accidents and associated release of hazardous materials for other drivers and for people along these routes, as does the use of rail modes for hazardous materials shipments. According to the U.S. DOT, Hazardous Materials Information System, from 2005 to 2014, highways accounted for the largest share of hazardous materials incidents, with a total of 166,004 incidents or 86 percent of total incidents. Air accounted for 9 percent of total hazardous materials incidents, followed by rail and water transport.⁵ There are 20 hazardous material treatment storage and disposal facilities in the SCAG region (Table 3.9.2-3, *Hazardous Material Treatment Storage and Disposal Facilities in the SCAG Region*).

⁵ U.S. State Department of Transportation. Accessed 19 July 2015. *Hazardous Materials Information System*. Available at: https://hip.phmsa.dot.gov/analyticsSOAP/saw.dll?Dashboard&NQUser=HazmatWebsiteUser1&NQPassword=HazmatWebsiteUser1&PortalPath=/shared/Public%20Website%20Pages/_portal/10%20Year%20Incident%20Summary%20Reports

**TABLE 3.9.2-3
HAZARDOUS MATERIAL TREATMENT STORAGE AND DISPOSAL FACILITIES IN THE SCAG REGION**

Facility Name	Handler ID	Address (click for map)	Contact	Operator	Wastes Handled
Clean Harbors Los Angeles, LLC	CAD050806850	5756 Alba Street Los Angeles, CA 90058	Contact: Roger R Fox, 3232772528	Operator: Clean Harbors Los Angeles, LLC	Mixed media/debris/devices; inorganic liquids; organic liquids; inorganic solids; organic solids; inorganic sludges; organic sludges
Clean Harbors Westmorland, LLC	CAD000633164	5295 S Garvey Rd Westmorland, CA 92281	Contact: Andrew M Yadavishi, 7603449400 Ext. 4004	Operator: Clean Harbors Westmorland LLC	Inorganic sludges;
Crosby & Overton	CAD028409019	1610 West 17th Street Long Beach, CA 90813	Contact: Michael A Shlob, 5624325445 Ext. 228	Operator: Crosby And Overton INC	Mixed media/debris/devices; inorganic liquids; organic liquids; inorganic solids; organic solids
Demunno / kerdoon	CAT080013352	2000 North Alameda Street Compton, CA 90222	Contact: Bonnie Booth, 3105377100 Ext. 224	Operator: Demunno / kerdoon	
DK Environmental	CAT080033681	3650 East 26th Street Los Angeles, CA 90023	Contact: Rosemary Domino, 3232685056 Ext. 108	Operator: DK Environmental	
Filter Recycling Services, Inc.	CAD982444481	180 West Monte Avenue Rialto, CA 92376	Contact: Wade K Riddering, 9098734141	Operator: Filter Recycling Services, Inc.	
GCE Industries, Inc	CAD981377492	1891 Nirvana Ave Chula Vista, CA 91911	Contact: Charles W Ball, 6194211151 Ext. 254	Operator: GCE Industries, Inc	
Heraeus Metal Processing, Inc.	CAD060398229	13429 Alondra Blvd. Santa Fe Springs, CA 90670	Contact: Peter Eckert, 5624881830	Operator: Heraeus Metal Processing, Inc.	Mixed media/debris/devices; inorganic liquids; inorganic solids;
Lighting Resources Inc	CAL000827758	805 Francis St Ontario, CA 91761	Contact: Dan P Gillespie, 9099237252 Ext. 14	Operator: Dan Gillespie	Inorganic solids;
Onyx Environmental Services, L.L.C.	CAD008302903	1704 W First St Azusa, CA 91702	Contact: Javed Hussain, 6268152220	Operator: Onyx Environmental Services	Mixed media/debris/devices; inorganic liquids; organic liquids; inorganic solids; organic sludges
Pacific Resource Recovery Services	CAD008252405	3150 East Pico Blvd. Los Angeles, CA 90023	Contact: Mark Russell, 3232618114 Ext. 343	Operator: Pacific Resource Recovery	Organic liquids
Phibro-Tech, Inc.	CAD008488025	8851 Dice Road Santa Fe Springs, CA 90670	Contact: Marty Voss, 5626988036 Ext. 120	Operator: Phibro-Tech, Inc.	Inorganic liquids; inorganic solids
Quemetco, Inc.	CAD066233966	720 S. 7th Avenue City of Industry, CA 91746	Contact: Neal I Lyon, 6263302294 Ext. 242	Operator: Quemetco, Inc.	Mixed media/debris/devices
Raytheon Co Space And Airborne Systems	CAD000633230	2000 E El Segundo Blvd El Segundo, CA 90245	Contact: Dean D Richardson, 3103347385	Operator: Raytheon Co	Mixed media/debris/devices; inorganic liquids; organic liquids; inorganic solids
RHO-Chem Corp	CAD008364432	425 Isis Avenue Inglewood, CA 90301	Contact: Hector U Sanchez, 3237766233 Ext. 204	Operator: Philip Services Corporation	Mixed media/debris/devices; inorganic liquids; organic liquids; inorganic solids; organic sludges; organic sludges
Safety-Kleen Systems Inc	CAT000613976	2120 South Yale Santa Ana, CA 92704	Contact: Nahid Toossi, 7144294355	Operator: Safety-Kleen Systems Inc	Organic liquids
Safety-Kleen Systems Inc	CAT000613927	7979 Palm Ave Unit A Highland, CA 92346	Contact: Nahid Toossi, 7144294355	Operator: Safety-Kleen Systems Inc	Inorganic liquids
Safety-Kleen Systems Inc	CAT000613893	10625 Hickson St Unit A El Monte, CA 91731	Contact: John Matthews, 6264010106	Operator: Safety-Kleen Systems Inc	Mixed media/debris/devices; inorganic liquids; organic liquids; organic sludges
Safety-Kleen Systems Inc	CAT000613935	2918 Worthen Ave Los Angeles, CA 90039	Contact: John Matthews, 6264010106	Operator: Safety-Kleen Systems Inc	Inorganic liquids
Teris Wilmington	CAD044429835	1737 E Denni St Wilmington, CA 90744	Contact: Joe L Christopher, 3108359998 Ext. 499	Operator: Teris LLC	
USFilter Recovery Services	CAD097030993	5375 South Boyle Avenue Vernon, CA 90058	Contact: Ingun Littorin, 3232771518 Ext. 1518	Operator: USFilter Recovery Services	

SOURCE:
TSD & Recycling State Resource Locator. Accessed 16 November 2015. Website. Available at: <http://www.envcap.org/statetools/tsdf/>

Release of Hazardous Materials in the Environment

Hazardous Materials

Hazardous materials may be released into the environment in a variety of ways, including permitted or illicit use and accidental or intentional disposal or spillage. Before the 1980s, most land disposal of chemicals was unregulated, resulting in numerous industrial properties and public landfills becoming the recipients of authorized and unauthorized hazardous materials. In general, the largest and most contaminated of these sites became federal Superfund sites in the early 1980s, so named for their eligibility to receive cleanup money from a federal fund established for that purpose under CERCLA. Sites are added to the NPL following a hazard ranking system. The U.S. EPA maintains this list of federal Superfund sites, as well as a more extensive list of all sites with potential to be listed known as CERCLIS. Seven of the 13 superfund sites on the National Priorities List in the SCAG region were in the process of being cleaned up during the period of preparation of this PEIR:

- Del Amo Hazardous Waste Site, Torrance
- Halaco Engineering Company, Oxnard
- Montrose Chemical Corp, Torrance
- Palos Verdes Shelf
- Pemaco, Maywood
- San Fernando Valley, All Areas, County of Los Angeles
- San Gabriel Valley (Area 2): Aerojet, Baldwin Park⁶

Numerous smaller properties also have been designated as contaminated sites. Often, these are gas station sites, where leaking underground storage tanks were upgraded under a federal requirement in the late 1980s. Another category of sites, which may have some overlap with the types already mentioned, are Brownfields sites. Brownfields sites are those areas that were previously used for industrial purposes or certain commercial uses. The land may be contaminated by low concentrations of hazardous waste or pollution, and has the potential to be reused once it is cleaned up. Both the U.S. EPA and DTSC maintain lists of known brownfield sites. These sites are often difficult to inventory due to their owners' reluctance to publicly label their property as potentially contaminated. In California, numerous regulatory barriers have blocked effective reuse of brownfields sites, including uncertainty as to cleanup levels and ultimate cleanup cost.

Radioactive Materials

San Onofre Nuclear Generating Station

Although there are no nuclear power stations within the SCAG region, the retired San Onofre Nuclear Generating Station (SONGS) is located just south of Orange County near San Clemente, in the northwestern corner of San Diego County and is jointly owned by SCE, San Diego Gas & Electric, and the

⁶ U.S. Environmental Protection Agency. Accessed 9 September 2015. *Pacific Southwest, Region 9. Map of Superfund Sites in Southern California*. Available at: <http://www.epa.gov/region9/socal/superfund/sfund-map.html>

City of Riverside.⁷ SONGS went offline in January 2012 and was ordered by the Nuclear Regulatory Commission to stay offline while tubing wear issues were investigated. Subsequently, plant owners announced in June 2013 that remaining Units 2 and 3 would be permanently retired. Since the decision to retire the facility, SCE has initiated the process of providing for final repository of radioactive materials from SONGS. Spent fuel storage from SONGS poses a risk to the SCAG region if cracks develop in the thin steel canisters that will store the waste, and radioactive waste material is released into the environment. In 2015, SCE provided an update to the public regarding the process for retiring SONGS and appropriate storage of associated radioactive materials:

Now that San Onofre is permanently retired, SCE is taking steps to transfer all of the used nuclear fuel into dry cask storage. This proven technology involves sealing used fuel in airtight steel (or in steel and concrete) containers or casks that provide both structural strength and shielding. Dry cask storage systems are designed to withstand various natural phenomena such as floods, projectiles from a tornado, seismic events, temperature extremes and lightning.

In 2014, SCE established a Community Engagement Panel (CEP) to advise the company on decommissioning San Onofre, including issues such as interim storage of used nuclear fuel. The CEP has heard presentations from federal regulators, dry storage suppliers and energy policy experts on issues ranging from dry storage technology to national energy policy. Currently, about one-third of San Onofre's used nuclear fuel is in dry storage and SCE plans to transfer all remaining fuel to dry storage by mid-2019.

The fuel will remain on site until the federal government puts in place a program to dispose of these materials. By law, the U.S. Department of Energy is responsible for developing a disposal facility for the long-term management of used uranium fuel from San Onofre and other U.S. nuclear power plants. However, the federal government does not have a viable program for the management of used nuclear fuel. After two years of study, the President's Blue Ribbon Commission on America's Future issued recommendations to create a safe, long-term solution for managing and disposing of used nuclear fuel.⁸

Hazardous Emissions within One-Quarter Mile of a School Site

There are approximately 5,269 public and private schools in the SCAG region ranging from K–12 through the California State University and University of California university systems (**Table 3.9.2-4, *Public and Private Schools in the SCAG Region***). Over half of the K–12 schools and community colleges are located in Los Angeles County, and the least number of the K–12 schools and community colleges are located in Imperial County, with comparable statistics for private schools, with Los Angeles County having 42 percent of the private K–12 schools. The University of California System has three campuses in three counties, and the California State University System has eight campuses in four counties.

⁷ California Energy Commission. Accessed 6 July 2015. *Nuclear Energy in California*. Available at: <http://www.energy.ca.gov/nuclear/california.html>

⁸ Southern California Edison. Accessed 11 September 2015. *Continued Safe Storage of Nuclear Fuel*. Available at: <http://www.songscommunity.com/nuclear-fuel-storage.asp>

**TABLE 3.9.2-4
PUBLIC AND PRIVATE SCHOOLS IN THE SCAG REGION**

County	Public Schools				UC System ⁵	Cal State System ⁶	Private Schools (Active) ⁷	
	K-12 ^{1,2}		Community College ^{3,4}				K-12	College
	Districts	Schools	Districts	Schools				
Imperial	17	67	1	1	—	—	5	—
Los Angeles	89	2,274	11	21	1	5	265	61
Orange	29	605	4	9	1	1	158	25
Riverside	25	500	4	6	1	—	89	5
San Bernardino	34	561	5	6	—	1	81	9
Ventura	22	231	1	3	—	1	34	4
Total	216	4,238	26	46	3	8	632	104

SOURCE:

¹ California Department of Education. Accessed 13 May 2015. *DataQuest*. Available at: <http://dq.cde.ca.gov/dataquest/content.asp>

² California Department of Education. Accessed 13 May 2015. *School Directory*. Available at: <http://www.cde.ca.gov/re/sd/index.asp>

³ Los Angeles Almanac. Accessed 13 May 2015. *Directory of Public Community Colleges, Los Angeles County*. Available at: <http://www.laalmanac.com/education/ed38.htm>

⁴ California Community Colleges Chancellor's Office. Accessed 13 May 2015. *Find a Community College*. Available at: <http://californiacommunitycolleges.cccco.edu/maps/map.asp>

⁵ University of California. Accessed 13 May 2015. Website. Available at: <http://www.universityofcalifornia.edu/campuses/welcome.html>

⁶ California State University. Accessed 13 May 2015. *The 23 Outstanding Campuses of the CSU*. Available at: http://www.calstate.edu/datastore/campus_map.pdf

⁷ Findthebest.com, Inc. Accessed June 30, 2015. *Compare Private Colleges in California*. Available at: <http://colleges.startclass.com/d/b/Private/California>

The California Education Code has a number of minimum standards to minimize the potential for hazardous emissions within one-quarter mile of a school site:

- The property line of the school site, even if it is operated pursuant to a joint use agreement, shall be sited as specified distances from the edge of respective power line easements:
 - 1.100 feet for 50-133 kV line.
 - 2.150 feet for 220-230 kV line.
 - 3.350 feet for 500-550 kV line.
- If the proposed site is within 1,500 feet of a railroad track easement, a safety study shall be done by a competent professional trained in assessing cargo manifests, frequency, speed, and schedule of railroad traffic, grade, curves, type and condition of track need for sound or safety barriers, need for pedestrian and vehicle safeguards at railroad crossings, presence of high pressure gas lines near the tracks that could rupture in the event of a derailment, preparation of an evacuation plan. In addition to the analysis, possible and reasonable mitigation measures must be identified.

- The site shall not be located near an above-ground water or fuel storage tank or within 1,500 feet of the easement of an above ground or underground pipeline that can pose a safety hazard as determined by a risk analysis study, conducted by a competent professional, which may include certification from a local public utility commission.
- Existing or proposed zoning of the surrounding properties shall be compatible with schools in that it would not pose a potential health or safety risk to students or staff in accordance with Education Code Section 17213 and Government Code Section 65402 and available studies of traffic surrounding the site.
- The district is required to consider environmental factor of light, wind, noise, aesthetics, and air pollution in its site selection process.
- If the proposed site is on or within 2,000 feet of a significant disposal of hazardous waste, the school district shall contact the Department of Toxic Substance Control for a determination of whether the property should be considered a Hazardous Waste Property or Border Zone Property.

Properties Included on a List of Hazardous Materials Sites Pursuant to Government Code Section 65962.5

The DTSC maintained a database, known as CalSites, which contained information on properties in California where hazardous substances were released, or where the potential for a release existed. In 2006, DTSC launched its brownfields site database, EnviroStor, which replaced the CalSites database. EnviroStor includes identification of formerly contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites (Table 3.9.2-5, *Number of Cleanup Sites by County*).

**TABLE 3.9.2-5
NUMBER OF CLEANUP SITES BY COUNTY**

County	Federal Superfund (NPL)	School Cleanup	State Response	Voluntary Cleanup	Total
Imperial	1	0	16	9	26
Los Angeles	22	146	160	307	635
Orange	3	13	36	38	90
Riverside	4	16	24	24	68
San Bernardino	5	21	38	25	89
Ventura	2	3	15	21	41

SOURCE:

Department of Toxic Substances Control. Accessed 19 July 2015. *EnviroStor*. Available at: http://www.envirostor.dtsc.ca.gov/public/data_download.asp

Several California environmental agencies maintain lists of properties that are contaminated or are otherwise associated with the use of hazardous materials, including the following:

- DTSC:
 - HazNet list—data on hazardous waste shipments from Hazardous Waste Information System
 - Hazardous Waste and Substances Site List (“Cortese” list)—hazardous materials release locations
- California Integrated Waste Management Board (part of Cal/EPA)
 - Solid Waste Information System—data on open, closed, and inactive solid waste disposal facilities and transfer stations
- State Water Resources Control Board (SWRCB; part of Cal/EPA)
 - Leaking Underground Storage Tank (LUST) list—data for specific parts of the state is also maintained by the RWQCB
- Cal/EPA
 - Annual Work Plan—indicates which sites are targeted for cleanup using state funds

Underground Storage Tanks (USTs)⁹

A UST system is a tank and any underground piping connected to the tank that has at least 10 percent of its combined volume underground. The federal UST regulations apply only to underground tanks and piping storing either petroleum or certain hazardous substances. When the UST program began, there were approximately 2.1 million regulated tanks in the United States. Today, there are far fewer regulated tanks, since many substandard UST systems have been closed. Nearly all USTs at these sites contain petroleum. These sites include marketers who sell gasoline to the public (such as service stations and convenience stores) and nonmarketers who use tanks solely for their own needs (such as fleet service operators and local governments). The U.S. EPA estimates about 10,000 tanks hold hazardous substances covered by the UST regulations.

The greatest potential hazard from a leaking underground storage tank (LUST) is that the petroleum or other hazardous substance can seep into the soil and contaminate groundwater, the source of drinking water for nearly half of all Americans (although not such a high percentage in the SCAG region). A LUST can present other health and environmental risks, including the potential for fire and explosion. Until the mid-1980s, most USTs were made of bare steel, which is likely to corrode over time and allow UST contents to leak into the environment. Faulty installation or inadequate operating and maintenance procedures also can cause USTs to release their contents into the environment. There are nearly 15,000 LUSTs in the SCAG region, with over half in Los Angeles County, and the least number, by an order of magnitude, in Imperial County (Table 3.9.2-6, *Leaking Underground Storage Tank Cleanup Sites*).

⁹ U.S. Environmental Protection Agency. Accessed 19 July 2015. *Overview of Federal Underground Storage Tank Program*. Available at: <http://www.epa.gov/OUST/overview.htm>

**TABLE 3.9.2-6
LEAKING UNDERGROUND STORAGE TANK CLEANUP SITES**

County	Leaking Underground Storage Tank (LUST)
Imperial	225
Los Angeles	7,424
Orange	3,002
Riverside	1,357
San Bernardino	1,074
Ventura	1,406

SOURCE:

California Environmental Protection Agency, State Water Resources Control Board. Accessed 19 July 2015. Website. Available at: http://geotracker.waterboards.ca.gov/sites_by_county.asp

Properties Located within Two Miles of a Public, Public Use, or Private Airport

There are 57 public and private airports in the SCAG region, including 12 major airports (Figure 3.9.2-1, *Airports in the SCAG Region*).¹⁰

Emergency Response Plan / Emergency Evacuation Plan

California updated its State of California Multi-Hazard Mitigation Plan in 2010. The state is required to adopt a federally approved State Multi-Hazard Mitigation Plan (the Plan) to be eligible for certain disaster assistance and mitigation funding. The Plan is an evaluation of the hazards California faces and the strategies, goals, and activities the state will pursue to address these hazards. The Plan:

- Documents statewide hazard mitigation planning in California,
- Describes strategies and priorities for future mitigation activities,
- Facilitates the integration of local and tribal hazard mitigation planning activities into statewide efforts, and
- Meets state and federal statutory and regulatory requirements.

All six SCAG counties and a number of cities within the SCAG region have completed Hazard Mitigation Plans. EMA dictates that these plans must also be updated every three years.¹¹

Wildland Fires

Wildland fires are a threat throughout the SCAG region. The region is at risk from significant fire hazards based on fuels, terrain, weather, and other relevant factors. Approximately 22 percent of the SCAG region consists of areas that are considered extreme, very high, or high fire hazard risk (Table 3.9.2-7,

¹⁰ U.S. Federal Aviation Administration. Accessed 19 July 2015. Website. Available at: http://www.faa.gov/airports/airport_safety/airportdata_5010/

¹¹ California Emergency Management Agency. Accessed 19 July 2015. Website. Available at: <http://hazardmitigation.calema.ca.gov/planning>

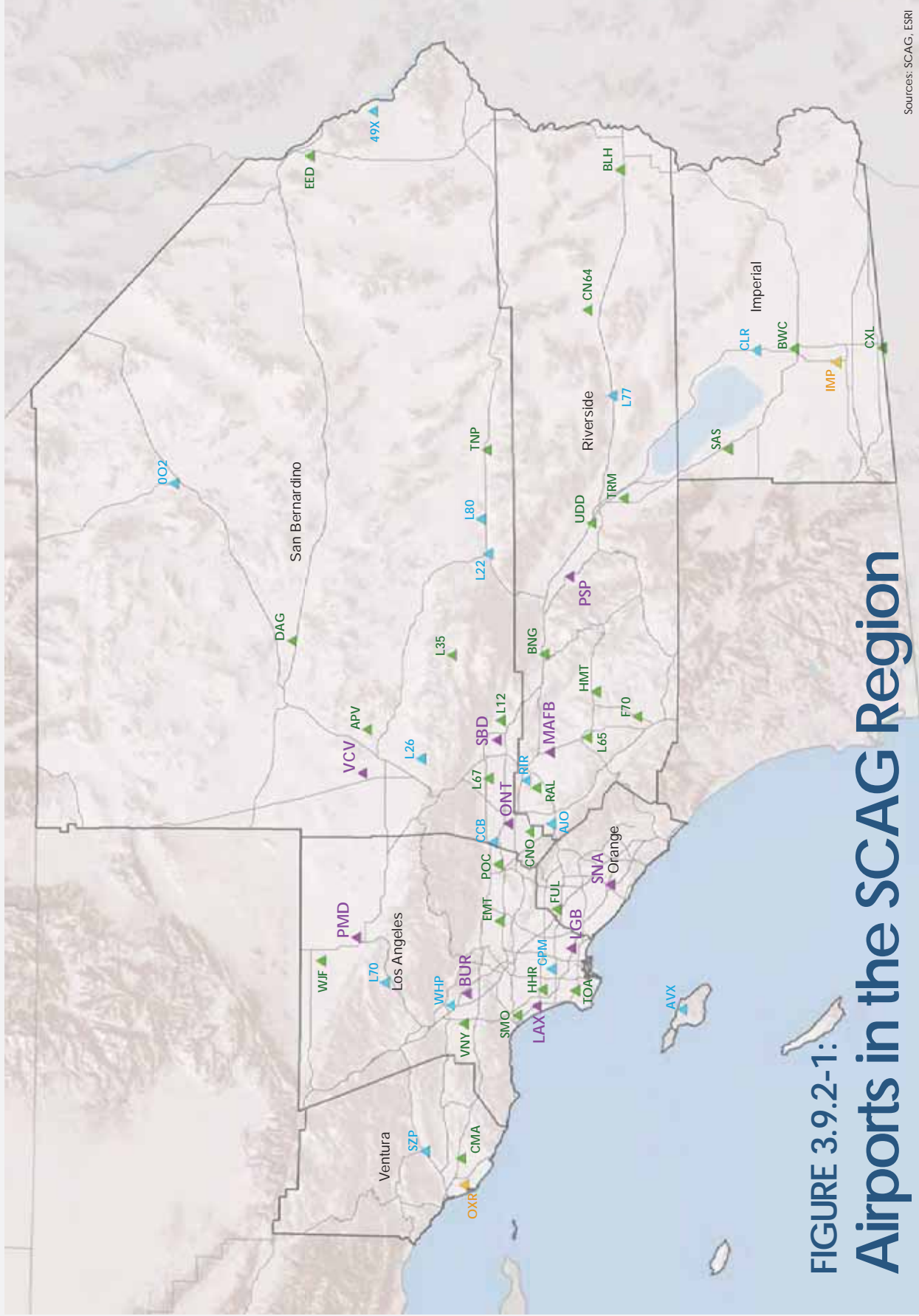


FIGURE 3.9.2-1:
Airports in the SCAG Region

- # Commercial Aircraft
- # Commuter Aircraft
- # Light Personal Aircraft
- # Small Corporate Aircraft

Fire Risk in the SCAG Region, and Figure 3.9.2-2, *Fire Risk in the SCAG Region*). The areas within SCAG region susceptible to high, very high, and extremely high fire risk include mountainous areas near north Los Angeles County, a portion of San Bernardino County and Riverside County, and along the forested and wildland areas where the natural habitats interfaced with human activities in the region. In unaltered systems, the fire is also contributed by natural sources of ignition, such as lightning. In all regions with high to extreme fire risks, it is important to note that most fires are ignited by human activity, and the largest fires occur in the summer during years of low rainfall and extended dry periods and in the fall during Santa Ana wind events.

**TABLE 3.9.2-7
FIRE RISK IN THE SCAG REGION**

Threat	Acres	Square Miles	Percentage of SCAG Area
Extreme	1,255,123.9	1,961.1	5%
Very High	2,524,399.9	3,944.4	10%
High	1,806,099.4	2,822.0	7%
Moderate	16,871,631.9	26,361.9	69%
Little or No Hazard	2,156,763.2	3,369.9	9%
Total	24,614,018.2	38,459.4	100%

SOURCE:

California Department of Forestry and Fire Protection. Accessed 19 July 2015. Website. Available at: http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones.php

3.9.3 THRESHOLDS OF SIGNIFICANCE

Based on CEQA Appendix G and as appropriate for the 2016 RTP/SCS, the Plan would have a significant impact related to hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazards or hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous materials within one-quarter mile of a school.
- Disturb contaminated property located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, during the construction of new transportation or expansion of existing transportation facilities would it create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

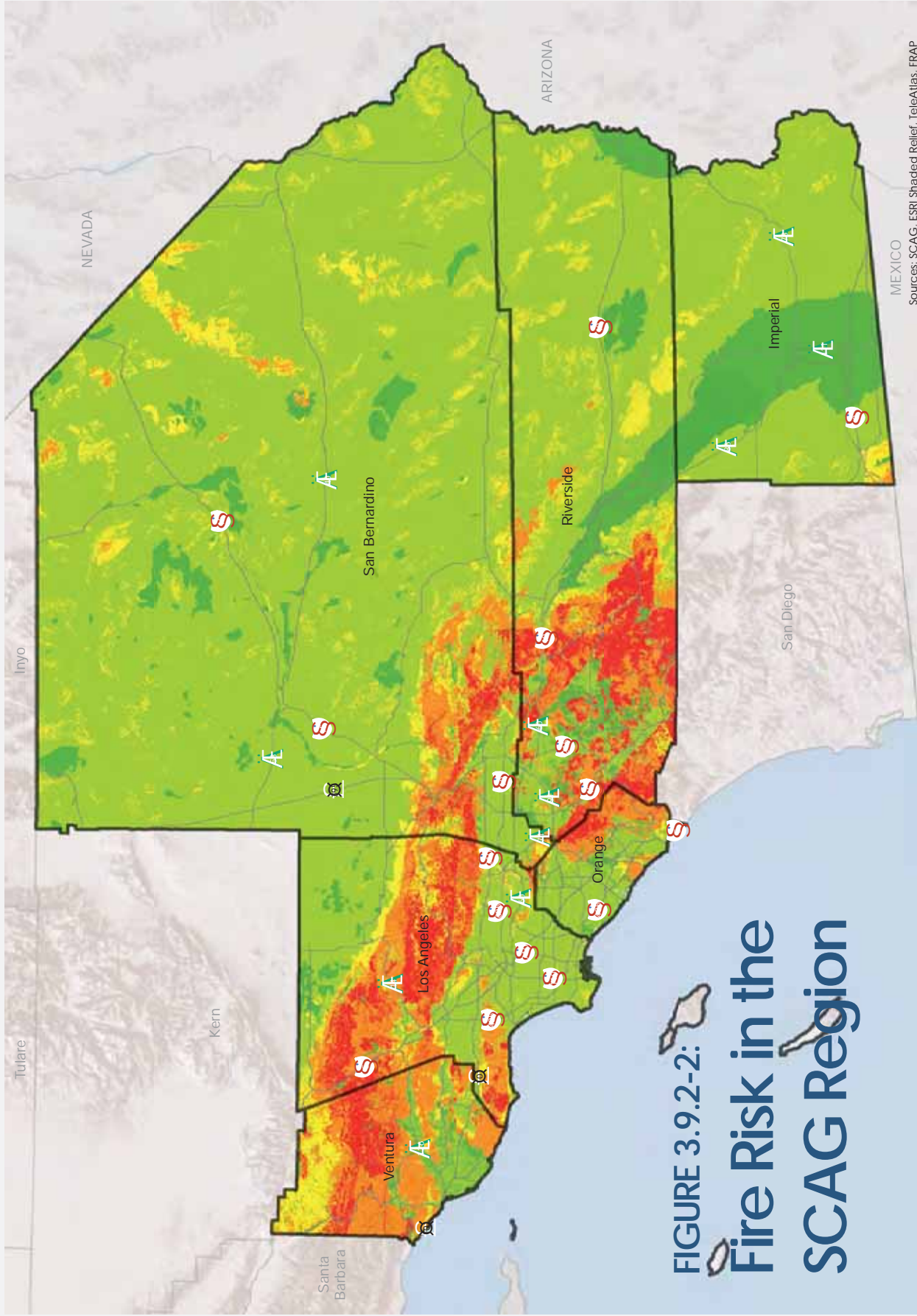


FIGURE 3.9.2-2:
Fire Risk in the
SCAG Region

FRAP Fire Threat Class

- Little or No Threat
- Moderate
- Very High
- Extreme

0 5 10 20
 Miles

Sources: SCAG, ESRI, Shaded Relief, TeleAtlas, FRAP

- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Methodology

As stated by the OHMS, the frequency and location of hazardous material shipments are an indicator of risk. Therefore, the impact of hazardous materials transportation through the SCAG region can be assessed by examining the 2016 RTP/SCS's effect on shipments of hazardous materials. To assess potential hazards to sensitive receptors adjacent to transportation corridors, geographic information systems (GIS) analysis was used to identify where major highway, rail, and transit projects included in the 2016 RTP/SCS would be within 150 feet of 2040 residential land uses. Major projects considered in the 2016 RTP/SCS since the 2012 RTP/SCS was adopted include additional highway projects, high-occupancy vehicle (HOV) projects, mixed flow projects, rail projects, and toll projects (see **Section 2.0, Project Description**).¹²

The methodology for determining the significance of hazardous material impacts compares the existing conditions (2015) to the future 2040 conditions under the Plan, as required in CEQA Section 15126.2(a). Implementation of the 2016 RTP/SCS would affect the transportation and handling of hazardous materials in the SCAG region by improving and increasing transportation routes in proximity to sensitive receptors such as schools and residential uses. The potential for risk related to the transport of hazardous materials was assessed by evaluating the locations of proposed transportation projects in relation to the surrounding uses, as well as the potential expected significant impacts related to the risk of accidental releases of hazardous materials due to an increase in the transportation of hazardous materials and the potential for such releases to reach schools, and communities adjacent to transportation facilities included in the 2016 RTP/SCS. The following discussion presents a programmatic regional evaluation of potential impacts of transportation projects included in the proposed 2016 RTP/SCS on increased risk of exposure to hazardous materials.

3.9.4 IMPACT ANALYSIS

IMPACT HAZ-1: Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Significant Impact

The 2016 RTP/SCS includes transportation projects and development patterns influenced by land use strategies. These projects and strategies may create a significant hazard to the public or the environment through the transportation, use, and/or disposal of hazardous materials, constituting a significant impact. In particular, the proposed freight rail enhancements and other goods movement capacity enhancements identified in the 2016 RTP/SCS could result in increased or new transport of

¹² Major Transportation Projects include but are not limited to projects that involve ground disturbing activities and projects outside of existing rights-of-way such as projects that require new rights-of-way, adding traffic lanes, and grade separation.

hazardous materials or wastes. In addition, construction and maintenance of these projects would result in use of equipment that contains or uses routine hazardous materials (e.g., diesel-fuel, paint and cleaning solutions), and the transportation of excavated soil and/or groundwater containing contaminants from previously contaminated areas. Port traffic (and associated goods movement in the region) is anticipated to triple over the lifetime of the Plan. Container traffic is anticipated to increase from approximately 14 million Twenty-foot Equivalent Units (TEUs) in 2015 to a projected 43 million TEUs in 2040. The fraction of containers that include hazardous materials is not known, but if it is assumed that it remains constant, transport of hazardous materials would be expected to triple along with other container traffic. In addition to container traffic, hazardous materials are transported via company trucks (for example gas companies transport gasoline, diesel and other flammable substances) and various industrial users transport materials for their businesses (raw materials and waste products), and so on.

In general, it is anticipated that the increase in transport of hazardous materials would result in a less than significant hazard to the public and/or the environment, because handling and transport of hazardous materials and wastes are subject to numerous laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers. These include the EPA, OSHA, U.S. DOT, and the Food and Drug Administration (FDA) for the federal government. State agencies, including the Cal/EPA, have parallel and, in some cases, more stringent rules governing the use of hazardous materials. U.S. DOT requires that hazardous waste inventories (which are used to ensure that hazardous wastes are strictly monitored and tracked from the point of generation through ultimate disposal) be maintained. To operate in California, all hazardous waste transporters must be registered with the DTSC. Unless specifically exempted, hazardous waste transporters must comply with the California Highway Patrol Regulations, the California State Fire Marshal Regulations, and the U.S. DOT regulations.

The construction and maintenance of transportation facilities reflected in the Plan as well as development influenced by land use strategies that occurs during implementation of the Plan, would involve the use of hazardous materials such as fuels, solvents, paints, and other architectural coatings. The use and storage of these materials is regulated by local fire departments, Certified Unified Program Agencies (CUPAs), and the Cal OSHA. Materials remaining after project construction can likely be reused on other projects. For materials that cannot be or are not reused, disposal would be regulated by DTSC under state and federal hazardous waste regulations. Additionally, increased transport and handling of hazardous materials particularly by goods movement facilities could result in increased risk of accidental releases reaching neighborhoods and communities adjacent to the transportation facilities).

To accommodate the region's new growth (approximately 3.8 million people by 2040), the 2016 RTP/SCS directs growth adjacent to transit and transportation facilities in order to reduce trips and trip lengths. However, with increasing growth adjacent to such transportation facilities, there would be greater potential risk for exposure of people and property to hazardous materials from the routine transport, use, storage, and disposal of hazardous materials. Although individual transportation and development projects influenced by land use strategies would be required to comply with all existing applicable regulations, due to the volume of them contained in the 2016 RTP/SCS, it is possible that significant impacts could occur thus requiring the consideration of mitigation measures.

IMPACT HAZ-2: Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Significant Impact

Implementation of transportation projects included in the 2016 RTP/SCS would result in significant impacts by facilitating the movement of goods, including hazardous materials, through the SCAG region. The SCS portion of the Plan would guide regional growth of all types, including industrial uses that use and generate hazardous materials. The 2016 RTP/SCS includes approximately 70,000 lane-miles.¹³ As a result of anticipated growth that is projected to occur within cities and counties under the Plan in the next 25 years, it is anticipated that there would be a substantial increase in vehicle miles traveled (VMT) by trucks, a common mode of hazardous materials transport, as Plan transportation improvements close critical gaps in the highway network. In addition, freight rail enhancements, truck mobility improvements, intermodal facilities, and other goods movement capacity enhancements are included in the Plan. Transportation of goods, in general, and hazardous materials, in particular, can thus be expected to increase substantially with implementation of the transportation projects included in the 2016 RTP/SCS. It is estimated that daily regional heavy duty truck vehicle hours of delay (VHD) within the SCAG region would increase from 118,000 in 2015 to 184,000 in 2040, which is a 35 percent increase.¹⁴ The past several RTP updates, as well as this one, have included the concept of user supported (toll) dedicated truck lane facilities. These facilities would be aligned to connect freight-intensive locations such as the ports, warehousing/distribution center locations and manufacturing locations. They would have fewer ingress/egress locations than typical urban interstates have to smooth the flow of goods in the region. Additional strategies for transportation improvements included in the 2016 RTP/SCS would generally improve transportation safety, thus reducing the likelihood of hazardous material transportation incidents. Specific elements in the Plan, including rail-to-rail grade separations, rail operations safety improvements, truck mobility improvements such as truck-only freight corridors, and grade separations of streets and highways from rail lines, could be expected to reduce the level of risk posed by hazardous materials transport by separating freight transportation from other traffic types and reducing the risk of collisions. Such improvements to the transportation system may provide an incentive for even greater goods shipment through the SCAG region, potentially offsetting this benefit. The imposition of tolls or fees for dedicated truck lane facilities may induce the transfer of some freight, including hazardous materials, to rail rather than truck. Federal statistics show that hazardous materials incidents are much less common by rail than on highways.

Even with these improvements, there remains the potential for significant impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment from transportation projects included in the 2016 RTP/SCS, requiring the consideration of mitigation measures.

¹³ Southern California Association of Governments. December 2015. *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy: Highways & Arterials Appendix*. Los Angeles, CA.

¹⁴ SCAG modeling, 2015.

IMPACT HAZ-3: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Significant Impact

The transportation projects included in the 2016 RTP/SCS would result in significant impact in regards to emitting hazardous emission or handling of hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school. Transportation projects as well as urban development potentially influenced by regional land use strategies anticipated to occur under the Plan would result in the use, transport and/or storage of potentially hazardous materials. The types and quantities of hazardous materials transported, used and stored is heavily regulated. Using SCAG’s GIS data, the 2016 RTP/SCS network of transportation projects was overlaid on the region to determine the potential for effects related to hazardous materials emissions to impact schools. Results of the GIS analysis show that under the Plan, approximately 541 existing kindergarten through 12th-grade schools are within a one-quarter mile buffer of the transportation projects included in the 2016 RTP/SCS and could be affected (see Table 3.9.4-1, *School, Hospitals, and Nursing Homes within One-Quarter Mile of 2016 RTP/SCS Major Transportation Projects*). Hazardous materials carried on roadways within one-quarter mile of schools could affect these schools if there were to be a release or incident during transportation. Compliance with all applicable local, state, and federal laws, and regulations, as described in the regulatory framework section above, regulate, control, or respond to hazardous waste, transport, disposal, or cleanup in order to ensure that hazardous materials do not pose a significant risk to nearby receptors.

**TABLE 3.9.4-1
SCHOOLS, HOSPITALS, AND NURSING HOMES
WITHIN ONE-QUARTER MILE OF 2016 RTP/SCS MAJOR TRANSPORTATION PROJECTS**

Mode	No Project	2016 RTP/SCS
Colleges	15	58
Hospitals	6	45
K-12 Schools	147	541
Nursing Homes	37	186
Senior Centers	6	47
Urgent Care Centers	4	36

SOURCE:

SCAG GIS data and analysis, 2015.

However, due to the number of transportation projects and amount of more densified and compact urban development potentially influenced by the regional land use strategies included in the 2016 RTP/SCS, there would be the potential for significant impacts related to the emission of hazardous materials or the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school, requiring the consideration of mitigation measures.

IMPACT HAZ-4: Potential to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

Significant Impact

Transportation projects and potential development resulting from land use strategies included in the 2016 RTP/SCS would result in significant impacts in regards to the potential to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The 2016 RTP/SCS includes transportation system improvements to close critical gaps in the transportation network that currently hinder access to certain parts of the region. Construction related to these transportation improvements and other projects (including development potentially influenced by land use strategies included in the Plan could involve construction on or adjacent to sites that are contaminated (buildings and/or soil and/or groundwater) due to past use or disposal of hazardous materials. Federal, state, and local laws provide for remediation of these sites, and it is likely that the majority of contaminated sites have been identified or are easily identifiable from existing information. Given the intensity of past use of land, there are a substantial number of potentially contaminated sites in the SCAG region. In urban as well as rural areas, many projects, both transportation and development, would likely need to address at least the potential for contamination. Because of the large number of contaminated sites and the risk associated with encountering and cleaning up of these sites, this impact could be significant.

The regional land use strategies included in the 2016 RTP/SCS and those transportation strategies and investments that are intended to increase mobility and improve accessibility would potentially influence population distribution, resulting in a potentially significant impact related to disturbance of contaminated sites by new urban development, most of which would be in existing urban areas. The land use strategies included in the 2016 RTP/SCS aim to direct future population growth toward high-quality transit areas (HQTAs) in close proximity to transit. Consequently, the redevelopment and reuse of urban infill lands as well as urban opportunity areas that are currently underutilized may become more common as the region grows.

Because the 2016 RTP/SCS may cause transportation projects and development to be located on sites which are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, the Plan would have the potential to create a significant hazard to the public or the environment, requiring the consideration of mitigation measures.

IMPACT HAZ-5: Potential for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.

Less than Significant Impact

The 2016 RTP/SCS would result in less than significant impacts in regard to transportation projects being located within an airport land use plan. There are 57 public and private airports in the SCAG region, including 12 major airports (Figure 3.9.2-1). The Plan would not in itself result in a safety hazard; however, increased population that would occur by 2040, from projected growth forecasts included in the Plan, would likely result in increased air traffic in major commercial airports in Southern California. Air travel in the SCAG region continues to grow. The 2016 Plan's regional air passenger demand forecast is 136.2 million annual passengers (MAP) in 2040, and the 2016 Plan's air cargo demand is approximately 3.78 million metric tons in 2040.¹⁵ The MAP forecast is lower than the previously adopted 2012 RTP/SCS's number of 145.9 MAP adopted for 2035, and the air cargo demand is similarly lower than what was adopted in the previously adopted 2012 RTP/SCS (approximately 5.605 million metric tons in 2035).¹⁶ The 2016 RTP/SCS land use policies aim to focus growth in HQTAs and transit priority areas (TPAs) in locations away from airport clear zones and accident potential zones. Encouraging and distributing new growth in HQTAs and TPAs is expected to decrease the number of Southern California residents' proximity to airports and potential for safety risks and hazards associated with air traffic. In addition, implementation of Airport Land Use Compatibility Plans would also help avoid or remedy safety risks associated with air traffic. Therefore, impacts would be less than significant, and the consideration of mitigation measures is not required.

IMPACT HAZ-6: Potential for a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.

Less than Significant Impact

The 2016 RTP/SCS would result in less than significant impacts in regards to the proximity of private airstrips. The SCAG region includes 14 private airstrips, three of which are within one mile of an HQTA. As described above, the 2012 RTP/SCS had forecasted the regional passenger demand forecast of 145.9 MAP in 2035.¹⁷ According to the August 6, 2015, Staff Report to SCAG Transportation Committee, the 2016 RTP/SCS has a regional passenger demand forecast of 136.2 MAP in 2040, which is a decrease of

¹⁵ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

¹⁶ Southern California Association of Governments. April 2012. *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS): Aviation Appendix*. Available at: <http://rtpscs.scag.ca.gov/Pages/2012-2035-RTP-SCS.aspx>

¹⁷ Southern California Association of Governments. April 2012. *2012–2035 Regional Transportation Plan / Sustainable Communities Strategy*. Los Angeles, CA.

approximately 7 percent.¹⁸ Transportation projects and potential development resulting from land use strategies included in the 2016 RTP/SCS would not be encouraged to be located in proximity to a private airstrip, as a result of the Plan. Therefore, at the regional level, impacts would be less than significant, and the consideration of mitigation measures is not required.

IMPACT HAZ-7: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Significant Impact

The 2016 RTP/SCS would result in significant impacts in regards to impairing implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan. **Section 3.15, Public Services**, addresses the potential for the Plan to result in substantial physical impacts associated with the provision of new or physically altered fire stations that would be required to maintain acceptable service ratios and response time for fire protective services. Chapter 5 of the 2016 RTP/SCS, titled “a Plan for Mobility, Sustainability, and a High Quality of Life,” provides a discussion on how to best meet the region’s population growth, which is projected to grow by more than 20 percent from approximately 19 million people in 2015 to more than 22 million people in 2040 in all types of communities from urban centers, cities, towns, and suburban neighborhoods, while allowing the region to remain a vital gateway for goods and services so residents can enjoy a high quality of life complemented by easily accessible transportation options; well-maintained infrastructures; and reduced congestion on highways and arterials, express and toll lane network, public transit and active transportation. Depending upon the timing, location, and duration of construction activities from transportation project included in the 2016 RTP/SCS, several of the transportation projects included, including grade crossings, arterials, interchanges, and auxiliary lanes, could delay emergency vehicle response times or otherwise disrupt delivery of emergency response services. By closing off one or more lanes of a roadway during project construction, emergency routes would be impaired. The closure of these lanes could potentially cause traffic delays and ultimately prevent access to calls for service.

The 2016 RTP/SCS land use strategies aim to focus new growth in areas well-served by transit, and HQTAs including livable corridors, that allow residents to be closer to jobs and other recreational and active transportation amenities and opportunities, to increase mobility and accessibility, and to shift growth away from high value habitat areas. Despite the efforts of the proposed Plan, congestion would likely increase in existing and new urban development, like HQTAs, and existing communities in cities and counties in the SCAG region, which could adversely affect emergency access.

Although California driving laws require motorist to yield the right-of-way to emergency vehicles in response mode (lights and/or sirens), such provisions may not be sufficient to offset the delays due to congestion resulting from construction activities or increased VMT driven by the anticipated growth in population between 2016 and 2040. Therefore, the Plan would have the potential to result in a significant impact to hazards in relation to an adopted emergency response plan or emergency evacuation plan, requiring the consideration of mitigation measures.

¹⁸ Southern California Association of Governments. 6 August 2015. *Staff Report to Transportation Committee*. Los Angeles, CA. Available at: <http://www.scag.ca.gov/programs/Pages/ASA.aspx>

IMPACT HAZ-8: Potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Significant Impact

The 2016 RTP/SCS would have the potential to result in significant impacts in regard to exposing people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Approximately 22 percent of the SCAG region consists of areas that are considered extreme, very high, or high fire hazard risk (Table 3.9.2-6, *Fire Risk in the SCAG Region*; Figure 3.9.2-2, *Fire Risk in the SCAG Region*). The regional land use strategies included in the proposed Plan encourage compact development and smart growth, and the Plan includes policies to minimize uncontrolled, haphazard development in an area outside of existing developable footprint. However, due to the size of the region and its population, there would remain the potential for significant impacts, requiring the consideration of mitigation measures.

3.8.5 CUMULATIVE IMPACTS

IMPACT HAZ-1: Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Significant Cumulative Impact

The 2016 RTP/SCS includes transportation projects and regional land use strategies that would shape the region over the next 25 years. These changes would include the preservation and strategic extension of transportation systems and encouraging population growth to new urban development like HQTAs, existing suburban town centers and more walkable, mixed-use communities. The SCAG travel demand model estimates vehicle trips (autos and trucks) in 2040, as a result of population, households, and employment projected for 2040. The year 2040 would be the year with the largest demand on the transportation system during the lifetime of the 2016 RTP/SCS. The forecasted urban development and growth that would occur under the Plan and that would be accommodated by the transportation investments in the 2016 RTP/SCS, plus the anticipated increased mobility expected from implementation of the 2016 RTP/SCS, would result in not only increased hazardous materials transport through the region but also outside the region. These trips would add to trips from outside the region to result in cumulative impacts outside the region. As the population increases through 2040, the number of trips in the SCAG region that originate, end, or pass through Santa Barbara, San Diego, and Kern Counties as well as other counties and states would increase, including trips involving the transportation of hazardous materials. The 2016 RTP/SCS would contribute to significant hazardous material transportation impacts in these other areas. Implementation of mitigation measures would reduce cumulative impacts related to hazardous materials transport outside of the SCAG region; however, impacts would remain significant, requiring the consideration of mitigation measures.

IMPACT HAZ-2: Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Significant Cumulative Impact

Implementation of transportation projects included in the 2016 RTP/SCS, when taken in to consideration with other reasonably foreseeable development in the SCAG region and surrounding areas, would result in significant cumulative impacts. The potential for cumulative impacts to create a significant hazard to the public or the environment, through reasonably foreseeable upset and accident conditions involving the release of hazardous materials in to the environment would be exacerbated by increased trips by heavy duty trucks to facilitate the movement of goods, including hazardous materials, through the SCAG region. It is estimated that daily regional heavy duty truck vehicle hours of delay (VHD) within the SCAG region would increase from 118,000 in 2015 to 184,000 in 2040, which is a 35 percent increase. Implementation of transportation projects included in the 2016 RTP/SCS, when taken into consideration with other reasonably foreseeable development in the SCAG region and surrounding areas, would result in significant cumulative impacts, requiring the consideration of mitigation measures.

IMPACT HAZ-3: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Significant Cumulative Impact

The transportation projects included in the 2016 RTP/SCS when taken into consideration with other reasonably foreseeable development in the SCAG region and surrounding areas, would result in significant cumulative impacts in regards to emitting hazardous emission or handling of hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school. Under the Plan, approximately 541 existing kindergarten through 12th-grade schools are within a one-quarter mile buffer of the transportation projects included in the 2016 RTP/SCS. Hazardous materials carried on roadways within one-quarter mile of schools could affect these schools if there were to be a release or incident during transportation involving the emission of acutely hazardous materials, substances, or waste (see Table 3.9.4-1, *School, Hospitals, and Nursing Homes within One-Quarter Mile of 2016 RTP/SCS Major Transportation Projects*). The potential for such incidents would be increased when taken into consideration with anticipated population growth and associated goods movement of areas surrounding the SCAG region, constituting a significant cumulative impact requiring the consideration of mitigation measures.

IMPACT HAZ-4: Potential to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

No Cumulative Impact

Transportation projects and potential development resulting from land use strategies included in the 2016 RTP/SCS would result in significant impacts in regards to the potential to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. However, where such incidences occur, the need for remediation would be limited to resolving the horizontal and vertical extent of contamination and would not necessarily be affected by other sites in the SCAG region or surrounding areas included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, there would no contribution to cumulative impacts related to hazardous materials sites, and the consideration of mitigation measures is not required.

IMPACT HAZ-5: Potential for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.

Less than Significant Cumulative Impact

Transportation projects and potential development resulting from land use strategies included in the 2016 RTP/SCS would result in significant impacts in regards to the potential to result in a safety hazard for people residing or working in the project that are located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. The increased population that would occur by 2040, from projected growth forecasts included in the Plan, would likely result in increased air traffic in major commercial airports in Southern California. Air travel in the SCAG region continues to grow. The 2016 RTP/SCS land use policies aim to focus growth in HQTAs and TPAs in locations away from airport clear zones and accident potential zones. Encouraging and distributing new growth in HQTAs and TPAs is expected to decrease the number of Southern California residents' proximity to airports and potential for safety risks and hazards associated with air traffic. In addition, implementation of Airport Land Use Compatibility Plans would also help avoid or remedy safety risks associated with air traffic; therefore, impacts would be less than significant. Therefore, contributions to cumulative impacts would be less than significant, and the consideration of mitigation measures is not required.

IMPACT HAZ-6: Potential for a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.

Less than Significant Cumulative Impact

Transportation projects and potential development resulting from land use strategies included in the 2016 RTP/SCS would result in significant impacts in regards to the potential to result in a safety hazard for people residing or working in the project area that are located within the vicinity of a private airstrip. The increased population that would occur by 2040, from projected growth forecasts included in the Plan, would likely result in increased air traffic in major commercial airports in Southern California. Air travel in the SCAG region continues to grow. The 2016 RTP/SCS land use policies aim to focus growth in HQTAs and transit priority areas (TPAs) in locations away from airport clear zones and accident potential zones. Encouraging and distributing new growth in HQTAs and TPAs is expected to decrease the number of Southern California residents' proximity to airports and potential for safety risks and hazards associated with air traffic. In addition, implementation of Airport Land Use Compatibility Plans would also help avoid or remedy safety risks associated with air traffic. Therefore, impacts would be less than significant, and the consideration of mitigation measures is not required.

IMPACT HAZ-7: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Significant Cumulative Impact

The 2016 RTP/SCS would contribute to cumulative significant impacts in the region when considered with related projects such as the proposed town of Centennial in Los Angeles County and subdivision projects in currently rural areas in regard to emergency response services because many areas already have insufficient fire protection and emergency response service, and implementation of the 2016 RTP/SCS would have the potential to further exacerbate existing needs and expanded needs from related projects. The related transportation projects and growth development patterns would also require the provision of new or physically altered governmental facilities to provide adequate emergency response times in the vicinity of new development, resulting in a significant cumulative impact requiring the consideration of mitigation measures.

IMPACT HAZ-8: Potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Significant Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with related development and infrastructure projects within the SCAG region and surrounding areas, and anticipated growth and land use development patterns, would contribute to cumulative significant impacts with regard to the potential to expose people and structures to wildland fires. The 2016 RTP/SCS includes a set of regional land use strategies that are intended to guide future

land development patterns to focus new growth in HQTAs, existing suburban town centers, and walkable mixed-use communities. While the specific impact of this pattern of development relative to wildland fires is unknown, it could result in cumulative significant impacts with regard to more people being exposed to the effects of effects of wildland fires. **Appendix B, 2016 RTP/SCS Project List**, shows the related transportation projects for each county and major cities in the SCAG region that would be expected to contribute to the cumulative impacts from the 2016 RTP/SCS. Therefore, the Plan would result in cumulative significant impacts with regard to the potential to expose additional people and structures to the effects of wildland fires, requiring the consideration of mitigation measures.

3.9.5 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to hazards and hazardous materials are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT HAZ-1: Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

SCAG Mitigation Measures

MM-HAZ-1(a)(1): SCAG shall work with the U.S. DOT, the OES, Caltrans, and the private sector to continue to conduct driver safety training programs and enforce speed limits on roadways. In an effort to reduce risks associated with the transport of hazardous materials in the SCAG region, SCAG shall encourage the U.S. DOT and the California Highway Patrol to continue to enforce speed limits and existing regulations governing goods movement and hazardous materials transportation.

MM-HAZ-1(a)(2): SCAG shall work with the CUPAs and counties and cities within the SCAG region to encourage education and monitoring of the use and storage of hazardous materials consistent with the provisions OSHA CPL 02-02-038.

MM-HAZ-1(a)(3): SCAG shall notify member agencies of the importance of ensuring that construction and operation of transportation projects provide for the safe transport and disposal of hazardous waste, consistent with the provisions of HMR, 49 CFR Parts 171–180.

MM-HAZ-1(a)(4): SCAG shall coordinate with OES to identify any transportation infrastructure elements within the SCAG region where risks to people and property occur at an above-average incident level, potentially warranting consideration for remedial design in future RTPs.

Project-Level Mitigation Measures

MM-HAZ-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects related to the routine transport, use or disposal of hazardous materials that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the provisions of the Hazardous Waste Control Act, the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program, the Hazardous Waste Source Reduction and Management Review Act of 1989, the California Vehicle Code, and other applicable laws and regulations, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Where the construction or operation of projects involves the transport of hazardous material, provide a written plan of proposed routes of travel demonstrating use of roadways designated for the transport of such materials.
- Where the construction or operation of projects involves the transport of hazardous materials, avoid transport of such materials within one-quarter mile of schools, when school is in session, wherever feasible.
- Where it is not feasible to avoid transport of hazardous materials, within one-quarter mile of schools on local streets, provide notification of the anticipated schedule of transport of such materials.
- Specify the need for interim storage and disposal of hazardous materials to be undertaken consistent with applicable federal, state, and local statutes and regulations in the plans and specifications for transportation improvement project.
- Submit a Hazardous Materials Business/Operations Plan for review and approval by the appropriate local agency. Once approved, keep the plan on file with the Lead Agency (or other appropriate government agency) and update, as applicable. The purpose of the Hazardous Materials Business/Operations Plan is to ensure that employees are adequately trained to handle the materials and provides information to the local fire protection agency should emergency response be required. The Hazardous Materials Business/Operations Plan should include the following:
 - The types of hazardous materials or chemicals stored and/or used on-site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids.
 - The location of such hazardous materials.
 - An emergency response plan including employee training information.
 - A plan that describes the manner in which these materials are handled, transported and disposed.
- Specify the appropriate procedures for interim storage and disposal of hazardous materials, anticipated to be required in support of operations and maintenance activities, in conformance with applicable federal, state, and local statutes and regulations, in the Operations Manual for projects.
- Follow manufacturer's recommendations on use, storage, and disposal of chemical products used in construction.
- Avoid overtopping construction equipment fuel gas tanks.

- During routine maintenance of construction equipment, properly contain and remove grease and oils.
- Properly dispose of discarded containers of fuels and other chemicals.

IMPACT HAZ-2: Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

SCAG Mitigation Measures

MM-HAZ-1(a)(1) through MM-HAZ-1(a)(4).

Project-Level Mitigation Measures

MM-HAZ-1(b).

IMPACT HAZ-3: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

SCAG Mitigation Measures

MM-HAZ-1(a)(1) through MM-HAZ-1(a)(4).

Project-Level Mitigation Measures

MM-HAZ-1(b).

IMPACT HAZ-4: Potential to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

SCAG Mitigation Measures

MM-HAZ-1(a)(1) through MM-HAZ-1(a)(4).

Project-Level Mitigation Measures

MM-HAZ-4(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines; SCAG has identified mitigation measures capable of avoiding or reducing the significant effects related to a project placed on a hazardous materials site, that are in the jurisdiction and responsibility of regulatory agencies, other public agencies and/or Lead Agencies. Where the Lead Agency has identified that a

project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the provisions of the Government Code Section 65962.5, Occupational Safety and Health Code of 197; the Response Conservation, and Recovery Act; the Comprehensive Environmental Response, Compensation, and Liability Act; the Hazardous Materials Release and Clean-up Act, and the Uniform Building Code, and County and City building standards, and all applicable federal, state, and local laws and regulations governing hazardous waste sites, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Complete a Phase I Environmental Site Assessment, including a review and consideration of data from all known databases of contaminated sites, during the process of planning, environmental clearance, and construction for projects.
- Where warranted due to the known presence of contaminated materials, submit to the appropriate agency responsible for hazardous materials/wastes oversight a Phase II Environmental Site Assessment report if warranted by a Phase I report for the project site. The reports should make recommendations for remedial action, if appropriate, and be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer.
- Implement the recommendations provided in the Phase II Environmental Site Assessment report, where such a report was determined to be necessary for the construction or operation of the project, for remedial action.
- Submit a copy of all applicable documentation required by local, state, and federal environmental regulatory agencies, including but not limited to: permit applications, Phase I and II Environmental Site Assessments, human health and ecological risk assessments, remedial action plans, risk management plans, soil management plans, and groundwater management plans.
- Conduct soil sampling and chemical analyses of samples, consistent with the protocols established by the U.S. EPA to determine the extent of potential contamination beneath all underground storage tanks (USTs), elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition or construction activities would potentially affect a particular development or building.
- Consult with the appropriate local, state, and federal environmental regulatory agencies to ensure sufficient minimization of risk to human health and environmental resources, both during and after construction, posed by soil contamination, groundwater contamination, or other surface hazards including, but not limited to, underground storage tanks, fuel distribution lines, waste pits and sumps.
- Obtain and submit written evidence of approval for any remedial action if required by a local, state, or federal environmental regulatory agency.
- Cease work if soil, groundwater, or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums, or other hazardous materials or wastes are encountered), in the vicinity of the suspect material. Secure the area as necessary and take all appropriate measures to protect human health and the environment, including but not limited to: notification of regulatory agencies and identification of the nature and extent of contamination. Stop work in the areas affected until the measures have been implemented consistent with the guidance of the appropriate regulatory oversight authority.

- Use best management practices (BMPs) regarding potential soil and groundwater hazards.
- Soil generated by construction activities should be stockpiled on-site in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Complete sampling and handling and transport procedures for reuse or disposal, in accordance with applicable local, state and federal laws and policies.
- Groundwater pumped from the subsurface should be contained on-site in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies. Utilize engineering controls, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building.
- Prior to issuance of any demolition, grading, or building permit, submit for review and approval by the Lead Agency (or other appropriate government agency) written verification that the appropriate federal, state and/or local oversight authorities, including but not limited to the Regional Water Quality Control Board (RWQCB), have granted all required clearances and confirmed that the all applicable standards, regulations, and conditions have been met for previous contamination at the site.
- Develop, train, and implement appropriate worker awareness and protective measures to assure that worker and public exposure is minimized to an acceptable level and to prevent any further environmental contamination as a result of construction.
- If asbestos-containing materials (ACM) are found to be present in building materials to be removed, submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health and Safety Code Section 25915-25919.7; and other local regulations.
- Where projects include the demolitions or modification of buildings constructed prior to 1968, complete an assessment for the potential presence or lack thereof of ACM, lead-based paint, and any other building materials or stored materials classified as hazardous waste by state or federal law.
- Where the remediation of lead-based paint has been determined to be required, provide specifications to the appropriate agency, signed by a certified Lead Supervisor, Project Monitor, or Project Designer for the stabilization and/or removal of the identified lead paint in accordance with all applicable laws and regulations, including but not necessarily limited to: California Occupational Safety and Health Administration's (Cal OSHA's) Construction Lead Standard, Title 8 California Code of Regulations (CCR) Section 1532.1 and Department of Health Services (DHS) Regulation 17 CCR Sections 35001-36100, as may be amended. If other materials classified as hazardous waste by state or federal law are present, the project sponsor should submit written confirmation to the appropriate local agency that all state and federal laws and regulations should be followed when profiling, handling, treating, transporting, and/or disposing of such materials.

- Where a project site is determined to contain materials classified as hazardous waste by state or federal law are present, submit written confirmation to appropriate local agency that all state and federal laws and regulations should be followed when profiling, handling, treating, transporting, and/or disposing of such materials.

IMPACT HAZ-7: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

SCAG Mitigation Measures

MM-TRA-5(a).

Project-Level Mitigation Measures

MM-TRA-5(b).

IMPACT HAZ-8: Potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

SCAG Mitigation Measures

MM-HAZ-8(a): SCAG shall facilitate minimizing future impacts from wildland fires through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, GIS applications, and direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online Training materials. Resource agencies, such as the U.S. Geology Survey, shall be consulted during this update process.

Project-Level Mitigation Measures

MM-HAZ-8(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects from the potential exposure of people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands; that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with local general plans, specific plans, and regulations provided by County and City fire departments, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Adhere to fire code requirements, including ignition-resistant construction with exterior walls of noncombustible or ignition resistant material from the surface of the ground to the roof system. Other fire-resistant measures would be applied to eaves, vents,

- windows, and doors to avoid any gaps that would allow intrusion by flame or embers.
- Adhere to the Multi-Jurisdictional Hazards Mitigation Plan, as well as local general plans, contains policies and programs aimed at reducing the risk of wildland fires through land use compatibility, training, sustainable development, brush management, and public outreach.
 - Encourage the use of fire-resistant vegetation native to Southern California and/or to the local microclimate (e.g., vegetation that has high moisture content, low growth habits, ignition-resistant foliage, or evergreen growth), eliminate brush and chaparral, and discourage the use of fire-promoting species especially non-native, invasive species (e.g., pampas grass, fennel, mustard, or the giant reed) in the immediate vicinity of development in areas with high fire threat.
 - Encourage natural revegetation or seeding with local, native species after a fire and discourage reseeding of non-native, invasive species to promote healthy, natural ecosystem regrowth. Native vegetation is more likely to have deep root systems that prevent slope failure and erosion of burned areas than shallow-rooted non-natives.
 - Submit a fire safety plan (including phasing) to the Lead Agency and local fire agency for their review and approval. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. The local fire protection agency may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase.
 - Utilize Fire-wise Land Management by encouraging the use of fire-resistant vegetation and the elimination of brush and chaparral in the immediate vicinity of development in areas with high fire threat.
 - Promote Fire Management Planning that would help reduce fire threats in the region as part of the Compass Blueprint process and other ongoing regional planning efforts.
 - Encourage the use of fire-resistant materials when constructing projects in areas with high fire threat.

3.9.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT HAZ-1: Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Implementation of Mitigation Measures MM-HAZ-1(a)(1) through MM-HAZ-1(a)(4) and MM-HAZ-1(b) would reduce impacts related to routine transport, use or disposal of hazardous materials; however, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT HAZ-2: Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Implementation of Mitigation Measure MM-HAZ-1(a)(1) through MM-HAZ-1(a) (4) and MM-HAZ-1(b) would reduce impacts related to upset or accident conditions involving the release of hazardous

materials into the environment. However, given the large volume of hazardous materials currently being transported throughout the SCAG region, as well as improvements to the regional transportation system that would facilitate an increase in the transportation of all goods, including hazardous materials, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT HAZ-3: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Implementation of Mitigation Measure MM-HAZ-1(a)(1) through MM-HAZ-1(a)(4) and MM-HAZ-1(b) would reduce impacts related to hazardous materials emissions in the vicinity of a school. However, given the number of schools within a quarter-mile of transportation projects included in the proposed 2016 RTP/SCS the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT HAZ-4: Potential to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

Implementation of Mitigation Measures MM-HAZ-1(a)(1) through MM-HAZ-1(a)(4) and MM-HAZ-4(b) would ensure that contaminated properties are identified and appropriate steps are taken to minimize human exposure and prevent any further environmental contamination, thus reducing direct, indirect, and cumulative impacts to below the level of significance.

IMPACT HAZ-7: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Implementation of MM-TRA-5(a) and MM-TRA-5(b) would reduce impacts to the maximum extent practicable; however, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT HAZ-8: Potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Implementation of Mitigation Measures MM-HAZ-8(a) and MM-HAZ-8(b) would reduce the level of impacts; however the direct, indirect, and cumulative impacts would remain significant and unavoidable.

HYDROLOGY AND WATER QUALITY

This section of the Program Environmental Impact Report (PEIR) describes hydrology and water quality in the Southern California Association of Government (SCAG) region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategies (“2016 RTP/SCS,” “Plan” or “Project”) on hydrology and water quality, identifies mitigation measures for the impacts, and evaluates the residual impacts. Hydrology and water quality were evaluated in accordance with Appendix G of the 2015 State California Environmental Quality Act (CEQA) Guidelines. Hydrology and water quality, within the SCAG region, were evaluated at a programmatic level of detail, in relation to basin plans published by the six Regional Water Quality Control Boards (RWQCBs) that have jurisdiction in the SCAG region; National Wetland Inventory Maps; USGS topographic data; the General Plans of the six counties and 191 cities within the six-county SCAG region; a review of related literature germane to the SCAG region; as well as a review of SCAG’s 2012 RTP/SCS PEIR.¹

Many of the surface water bodies are concentrated in the Central Valley and northern part of California, while the southern third of the state, including the SCAG region which is home to approximately half of the State’s population, is lacking in surface water. The southern third of California is, in fact, rather dry, and a desert in most locations. The most notable of the state’s surface features are the San Francisco Bay, located on the western side of California, about in the middle, Lake Tahoe, on the eastern border, where California “bends,” and the Salton Sea, the large water body near California’s southern border. While the Salton Sea is located in the SCAG region, it is 50 percent saltier than the Pacific Ocean.² The hydrology and water quality of the SCAG region are a function of the geology, geomorphology, weather, climate, and plant communities. The SCAG region is characterized by a dramatic physical environment, ringed by two mountain ranges, the peninsular and transverse ranges; two deserts, the Mojave and Colorado; and bordered by the Pacific Ocean along an approximately 150-mile western margin, and the offshore Channel Islands. The majority of the precipitation occurs between November and March, with less than a third of the State-wide precipitation in Southern California, with an average of 10 inches per year in the coastal and inland valleys, and less than 2 inches per year on average in the deserts. Approximately 40 million acre-feet of the state’s natural water resources have been re-routed to support agricultural and urban land uses.³

Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for hydrology and water quality are provided.

¹ Southern California Association of Governments. April 2012. Final Program Environmental Report: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy. Available at: <http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

² Frackel, Todd. C. Accessed 14 September 2015. *California’s Largest Lake is Slipping Away Among an Epic Drought*. The Washington Post. Available at: http://www.washingtonpost.com/business/economy/californias-largest-lake-is-slipping-away-amid-an-epic-drought/2015/05/28/e83dd136-fe51-11e4-833c-a2de05b6b2a4_story.html

³ *Water Resources and Hydrology of California. Chapter 6, Rediscovering the Golden State*. Downloaded 14 September 2015. Website. Available at: <http://www.slideshare.net/lSchmidt1170/water-resources-and-hydrology-of-california>

Best Management Practices (BMPs): A BMP is defined by the Stormwater Quality Task Force as any program, technology, process, siting criteria, operating method, measure, or device that controls, prevents, removes, or reduces storm water pollution. Generally BMPs focus on water quality problems caused by increased impervious surfaces from land development. BMPs are designed to reduce stormwater volume, peak flows, and/or nonpoint source pollution through evapotranspiration, infiltration, detention, and filtration or biological and chemical actions.

Ephemeral Drainages: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Hydrologic Unit Code (HUC): The United States is divided and sub-divided into successively smaller hydrologic units which are classified into four levels: regions, sub-regions, accounting units, and cataloging units. The hydrologic units are arranged or nested within each other, from the largest geographic area (regions) to the smallest geographic area (cataloging units). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to eight digits based on the four levels of classification in the hydrologic unit system.

1. The first level of classification divides the Nation into 21 major geographic areas, or regions. These geographic areas contain either the drainage area of a major river, such as the Missouri region, or the combined drainage areas of a series of rivers, such as the Texas-Gulf region.
2. The second level of classification divides the 21 regions into 221 subregions. A subregion includes the area drained by a river system, a reach of a river and its tributaries in that reach, a closed basin(s), or a group of streams forming a coastal drainage area.
3. The third level of classification subdivides many of the subregions into accounting units. These 378 hydrologic accounting units are nested within, or can be equivalent to the subregions.
4. The fourth level of classification is the cataloging unit, the smallest element in the hierarchy of hydrologic units. A cataloging unit is a geographic area representing part of all of a surface drainage basin, a combination of drainage basins, or a distinct hydrologic feature. There are 2264 Cataloging Units in the Nation.

Impaired Waters: Under section 303(d) of the Clean Water Act, states, territories, and authorized tribes are required to develop lists of impaired waters. These are waters that are too polluted or otherwise degraded to meet the water quality standards set by states, territories, or authorized tribes. The law requires that these jurisdictions establish priority rankings for waters on the lists and develop Total Maximum Daily Loads for these waters.

Mudflow: Mudflows result from the downslope movement of soil and/or rock under the influence of gravity.

Non-Point Source Runoff: Runoff that occurs on surfaces before reaching a channel is also called a nonpoint source. If a nonpoint source contains man-made contaminants, the runoff is called nonpoint source pollution. A land area which produces runoff that drains to a common point is called a drainage basin. When runoff flows along the ground, it can pick up soil contaminants including, but not limited to, petroleum, pesticides, or fertilizers that become discharge or nonpoint source pollution.

Perennial Stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Runoff: Runoff is the water flow that occurs when the soil is infiltrated to full capacity and excess water from rain, meltwater, or other sources flows over the land. This is a major component of the water cycle, and the primary agent in water erosion. In addition to causing water erosion and pollution, surface runoff in urban areas is a primary cause of urban flooding, which can result in property damage, damp and mold in basements, and street flooding.

Regional Water Quality Control Board: As a result of the Porter-Cologne Act, nine RWQCBs were established that exercise rulemaking and regulatory activities by basin. Each RWQCB conducts a broad range of activities to protect ground and surface water resources within their respective jurisdictions. Six of the nine RWQCBs have jurisdiction that includes portions of the SCAG region as shown in **Figure 3.10-1, *Regional Water Quality Control Boards***:

Region 3—Central Coast RWQCB. The Central Coast RWQCB jurisdiction includes Santa Clara (south of Morgan Hill), San Mateo (southern portion), Santa Cruz, San Benito, Monterey, Kern (small portions), San Luis Obispo, Santa Barbara, Ventura (northern portion) counties.

Region 4—Los Angeles RWQCB. The Los Angeles RWQCB jurisdiction includes the coastal watersheds of Los Angeles and Ventura Counties, along with very small portions of Kern and Santa Barbara Counties.

Region 6—Lahontan RWQCB. The jurisdiction of the Lahontan RWQCB extends from the Oregon border to the northern Mojave Desert and includes all of California east of the Sierra Nevada crest, including San Bernardino County and northeastern Los Angeles County.

Region 7—Colorado River RWQCB. The Colorado River RWQCB jurisdiction includes Imperial, San Bernardino, Riverside, and San Diego counties.

Region 8—Santa Ana RWQCB. The Santa Ana RWQCB jurisdiction includes Orange, Riverside, and San Bernardino counties.

Region 9—San Diego RWQCB. The San Diego RWQCB includes San Diego, Imperial, and Riverside counties.

Seiche: A seiche is an oscillation of a body of water in an enclosed or semienclosed basin, such as a reservoir, harbor, lake, or storage tank.

Storm Water Pollution Prevention Plan (SWPPP): A plan created by constructors to show their plans for sediment and erosion control. Typically these plans are part of an overall design that details procedures to be followed during various phases of construction. This is required by a federal regulation of the

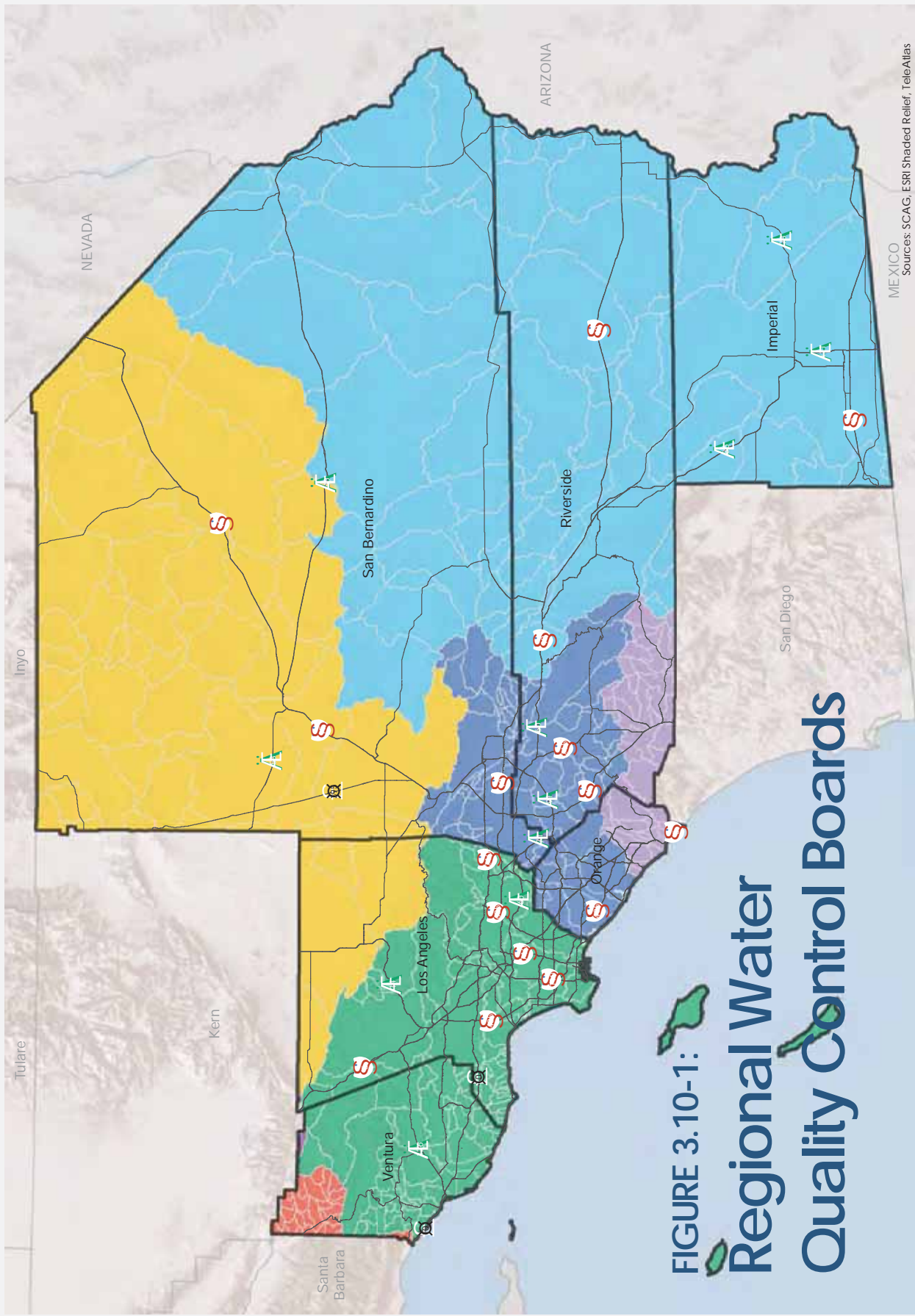


FIGURE 3.10-1:
Regional Water Quality Control Boards

- Central Coast
- Central Valley
- Colorado River
- Lahontan
- Los Angeles
- San Diego
- Santa Ana

United States of America governing stormwater runoff from active construction sites that are more than one acre in area.

Total Maximum Daily Loads (TMDL): A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards.

Tsunami: A tsunami is a great sea wave produced by a significant undersea disturbance.

Waters of the United States: Waters of the United States are defined as surface waters such as navigable waters and their tributaries, all interstate waters and their tributaries, natural lakes, all wetlands adjacent to other waters, and all impoundments of these waters.

3.10.1 REGULATORY FRAMEWORK

Federal

Rivers and Harbors Appropriation Act of 1899, Section 10

Authorization from the USACOE must be obtained for construction of a structure in or over any navigable water of the U.S., pursuant to Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 U.S. Code [USC] 403). Authorization is also needed for structures built near navigable water if they would affect the course, location, condition, or capacity of the water body, as through re-channelization, disposal of fill, and so forth.

Wild and Scenic Rivers Act of 1968 (WSRA)

The objective of the WSRA (Public Law 90–542), dated October 2, 1968, is the preservation of certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition. The WSRA provides permanent protection for some of the country's most outstanding free flowing rivers and prohibits federal support for actions such as the construction of dams or other harmful instream activities.

Clean Water Act of 1972, as amended (CWA)

The law was originally enacted as the Federal Water Pollution Control Act (FWPCA; Public Law 92–500) in 1948, but took on its modern form when completely rewritten in 1972 in an act entitled the Federal Water Pollution Control Act Amendments of 1972, now commonly known as the Clean Water Act. Major changes have subsequently been introduced via amendatory legislation including the Clean Water Act of 1977 and the Water Quality Act of 1987.

The Clean Water Act (CWA) is the primary federal law in the United States governing water pollution. Its objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. It is one of the United States' first and most influential modern environmental laws. As with many other major U.S. federal environmental statutes, it is administered by the U.S. Environmental Protection

Agency (EPA), in coordination with state governments. Its implementing regulations are codified at 40 C.F.R. Subchapters D, N, and O (Parts 100-140, 401-471, and 501-503).

Section 303(d)

Section 303(d) of the Federal CWA requires the SWRCB to list impaired water bodies and determine TMDLs of pollutants or other stressors that are contributing excessively to these impaired waters.

Section 401 – Water Quality Certification

Section 401 establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. and regulating quality standards for surface waters. Under the CWA, the U.S. Environmental Protection Agency (U.S. EPA) has implemented pollution control programs such as setting wastewater standards for industries and surface waters.

Section 402

Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit process. In California, NPDES permitting authority is delegated to, and administered by the nine RWQCBs. Pursuant to Section 402, a discharge of any pollutant from a point source into navigable waters, are prohibited unless an NPDES permit is obtained. Point sources are discrete conveyances such as pipes or manmade ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

Section 402(p) establishes that, storm water permits are required for discharges from a municipal separate storm sewer system (MS4) serving a population of 100,000 or more. U.S. EPA defines an MS4 as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned or operated by a State (40 CFR 122.26(b)(8)).

The California Department of Transportation (Caltrans) is responsible for the design, construction, management, and maintenance of the State highway system, including freeways, bridges, tunnels, Caltrans' facilities, and related properties, and is subject to the permitting requirements of CWA Section 402(p). Caltrans' discharges consist of storm water and non-storm water discharges from state-owned rights-of-way.

Before July 1999, discharges from Caltrans' MS4 were regulated by individual NPDES permits issued by the RWQCBs. On July 15, 1999, the SWRCB issued a statewide permit (Order No. 99-06-DWQ) that regulated all discharges from Caltrans MS4s, maintenance facilities, and construction activities. On September 19, 2012, Caltrans' permit was reissued (Order No. 2012-0011-DWQ), and it became effective on July 1, 2013.

Caltrans' Storm Water Management Plan (SWMP) describes the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. A revised SWMP must be submitted to the State Water Board for approval by July 1, 2014.

Section 404 – Discharge of Dredge or Fill Material

Section 404 of the federal CWA is administered and enforced by the U.S. Army Corps of Engineers (USACOE). Section 404 of the CWA establishes a program to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. USACOE administers the day-to-day program, including the determination of eligibility of project for use of Categorical Exclusions and Nationwide Permits, and review and consideration of individual permit decisions and jurisdictional determinations. USACOE also develops policy and guidance; and enforces Section 404 provisions.

Pollution Prevention Act of 1990

The Pollution Prevention Act (42 USC §13101 et seq.) focused on reducing the amount of pollution through cost-effective changes in production, operation, and raw materials. The Act focuses on source reduction which reduces the release of hazardous substances through practices that increase efficiency in energy, water, or other natural resources.

Antidegradation Policy

The Antidegradation Policy under U.S. EPA's Water Quality Standards Regulations (48 F.R. 51400, 40 CFR 131.12, November 8, 1983), requires states and tribes to establish a three-tiered antidegradation program to prevent a decrease in water quality standards.

- Tier 1—Maintains and protects existing uses and water quality conditions that support such uses. Tier 1 is applicable to all surface waters.
- Tier 2—Maintains and protects “high quality” waters where existing conditions are better than necessary to support “fishable/swimmable” waters. Water quality can be lowered in such waters but not to the point at which it would interfere with existing or designed uses.
- Tier 3—Maintains and protects water quality in outstanding national resource waters (ONRWs). Water quality cannot be lowered in such waters except for certain temporary changes.

Antidegradation was explicitly incorporated into the federal CWA through 1987 amendments, codified in section 303(d)(4)(B), requiring satisfaction of antidegradation requirements before making certain changes in NPDES permits.

Clean Water Rule: Definition of Waters of the United States (WOTUS Rule)

On June 29, 2015, the U.S. EPA and USACOE jointly published the final WOTUS Rule (40 CFR Parts 110, 112, 116, *et al.* and 33 CFR Part 328) for determining the extent to which wetlands and other water features are protected under the CWA. The final rule:

- **Clearly defines and protects tributaries that impact the health of downstream waters.** The CWA protects navigable waterways and their tributaries. The rule says that a tributary must show physical features of flowing water—a bed, bank, and ordinary high water mark—to warrant protection. The rule provides protection for headwaters that have these features and science shows can have a significant connection to downstream waters.
- **Provides certainty in how far safeguards extend to nearby waters.** The rule protects waters that are next to rivers and lakes and their tributaries because science shows that they impact downstream waters. The rule sets boundaries on covering nearby waters for the first time that are physical and measurable.
- **Protects the nation's regional water treasures.** Science shows that specific water features can function as part of a system and impact the health of downstream waters. The rule protects prairie potholes, Carolina and Delmarva bays, pocosins, western vernal pools in California, and Texas coastal prairie wetlands when they impact downstream waters.
- **Focuses on streams, not ditches.** The rule limits protection to ditches that are constructed out of streams or function like streams and can carry pollution downstream. So ditches that are not constructed in streams and that flow only when it rains are not covered.
- **Maintains the status of waters within Municipal Separate Storm Sewer Systems.** The rule does not change how those waters are treated and encourages the use of green infrastructure.
- **Reduces the use of case-specific analysis of waters.** Previously, almost any water could be put through a lengthy case-specific analysis, even if it would not be subject to the Clean Water Act. The rule significantly limits the use of case-specific analysis by creating clarity and certainty on protected waters and limiting the number of similarly situated water features.

A CWA permit is only needed if a “water of the United States” is going to be polluted or destroyed. The Clean Water Rule only protects the types of waters that have historically been covered under the CWA. It does not regulate most ditches and does not regulate groundwater, shallow subsurface flows, or tile drains. It does not make changes to current policies on irrigation or water transfers or apply to erosion in a field. The Clean Water Rule addresses the pollution and destruction of waterways—not land use or private property rights.

The WOTUS rule protects clean water necessary for farming, ranching, and forestry and provides greater clarity and certainty to farmers about coverage of the CWA. Farms across America depend on clean and reliable water for livestock, crops, and irrigation. The final rule specifically recognizes the vital role that U.S. agriculture serves in providing food, fuel, and fiber at home and around the world. The rule does not create any new permitting requirements for America’s farmers. Activities like planting, harvesting, and moving livestock have long been exempt from CWA regulation, and the Clean Water Rule preserves those exemptions.

States opposing the far-reaching impacts of the WOTUS rule have challenged the validity of the rule in 13 states, and the fight has expanded nationwide. Attorney generals from 18 states filed a motion with the 6th Circuit Court of Appeals in Ohio in early September asking the court to place a stay on WOTUS, barring EPA from enforcing it for 50 days. The move came after U.S. District Court-District of North

Dakota placed a stay on the WOTUS rule in the 13 states under its jurisdiction but, in a separate ruling, refused to expand the injunction nationwide.⁴ This ruling was appealed and on October 9, 2015, the Sixth Circuit Court of Appeals stayed the WOTUS rule nationwide. It is unclear how long this stay will be in place because as pointed out in the dissenting opinion to this order, if the Sixth Circuit finds it does not have jurisdiction to hear the case, then it also lacks jurisdiction to grant a stay.

Executive Order 11988, Flood Plain Management

The objective of Presidential Executive Order 11988, dated May 24, 1977, is the avoidance of, to the extent possible, long- and short-term adverse impacts associated with the occupancy and modification of the base floodplain (100-year floodplain) and the avoidance of direct and indirect support of development in the base floodplain wherever there is a practicable alternative. Under the Executive Order, the USACOE must provide leadership and take action to:

- Avoid development in the base floodplain unless it is the only practicable alternative
- Reduce the hazard and risk associated with floods
- Minimize the impact of floods to human safety, health, and welfare
- Restore and preserve the natural and beneficial values of the base floodplain

State

Porter Cologne Water Quality Control Act

The Porter Cologne Water Quality Control Act of 1967 (Cal. Water Code Section 13000 et seq.), requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect State waters. These criteria include the identification of beneficial uses, narrative to the applicable and numerical water quality standards, and implementation procedures.

The Porter-Cologne Water Quality Control Act also authorizes the State Boards to adopt, review, and revise policies for all waters of the state (including both surface and ground waters) and directs the regional boards to develop Basin Plans. The act also authorizes State Boards to adopt Water Quality Control Plans. In the event of inconsistencies among state and regional board plans, the more stringent provisions apply.

Lake or Streambed Alteration

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, Section 1600 of the California Fish and Game Code requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state, or local government agency or public utility that proposes an activity that will:

⁴ Cohen, Bonner R. 13 October 2015. Judicial Wrangling Over WOTUS Rule Continues. Available at: <http://news.heartland.org/newspaper-article/2015/10/13/judicial-wrangling-over-wotus-rule-continues>.

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The notification requirement applies to any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water. If CDFW determines that the activity may substantially adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. In August 2005, the California Fish and Game Commission policy regarding wetlands resources stated that “it is the policy of the Fish and Game Commission to seek to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California” and to “strongly discourage development in or conversion of wetlands.”⁵ As a result, although the Commission has no independent statutory permitting authority related to wetlands, the policy underscores that the Commission does not support wetland development proposals unless “project mitigation assures there will be ‘no net loss’ of either wetland habitat values or acreage” and “prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values.” The Agreement includes reasonable conditions necessary to protect those resources and must comply with CEQA. The entity may proceed with the activity in accordance with the final Agreement.

Sustainable Groundwater Management Act (SGMA)

On September 16, 2014 Governor Edmund G. Brown Jr. signed a three-bill package known as the Sustainable Groundwater Management Act. The legislation allows local agencies to customize groundwater sustainability plans to their regional economic and environmental needs. SGMA creates a framework for sustainable, local groundwater management for the first time in California history.

The three bills that make up SGMA are Assembly Bill (AB) 1739 by Assembly Member Roger Dickinson, Senate Bill (SB) 1319, and SB 1168 by Senator Fran Pavley.

In September 2015, Governor Brown signed SB 13, by Senator Fran Pavley. The Bill makes various technical, clarifying changes to SGMA including requirements for groundwater sustainability agency formation, the process for State Water Board intervention if no responsible agency is specified for a basin, guidelines for high- and medium-priority basins, and participation of mutual water companies in a groundwater sustainability agency.

California Ocean Plan

The California Ocean Plan establishes water quality objectives for California’s ocean waters and provides the basis for regulation of wastes discharged into the state’s coastal waters. The plan applies to point and nonpoint source discharges. Both the SWRCB and the six coastal RWQCBs implement and interpret the California Ocean Plan. The California Ocean Plan identifies the applicable beneficial uses of marine

⁵ California Fish and Game Commission. Accessed 14 September 2015. *Miscellaneous Policies: Wetlands Resources*. Available at: <http://www.fgc.ca.gov/policy/p4misc.aspx#WETLANDS>

waters. These beneficial uses include preservation and enhancement of designated Areas of Special Biological Significance (ASBS), rare and endangered species, marine habitat, fish migration, fish spawning, shellfish harvesting, recreation, commercial and sport fishing, mariculture, industrial water supply, aesthetic enjoyment, and navigation.

The California Ocean Plan establishes a set of narrative and numerical water quality objectives to protect beneficial uses. These objectives are based on bacterial, physical, chemical, and biological characteristics as well as radioactivity. The water quality objectives in Table 1 (formerly Table B) of the California Ocean Plan apply to all receiving waters under the jurisdiction of the plan and are established for the protection of aquatic life and for the protection of human health from both carcinogens and noncarcinogens. Within Table 1 there are 21 objectives for protecting aquatic life, 20 for protecting human health from noncarcinogens, and 42 for protecting human health from exposure to carcinogens. The Ocean Plan also includes an implementation program for achieving water quality objectives. Effluent limitations are established for the protection of marine waters.

Regional

Water Quality Control Plan for the Central Coastal Basin

The Water Quality Control Plan for the Central Coastal Basin, or Basin Plan, identifies how the quality of the surface and ground waters in the Central Coast Region should be managed to provide the highest water quality reasonably possible. This Basin Plan lists the various water uses (Beneficial Uses, Chapter Two). Second, it describes the water quality which must be maintained to allow those uses (Water Quality Objectives, Chapter Three). Chapter Four, the Implementation Plan, then describes the programs, projects, and other actions which are necessary to achieve the standards established in this plan. Chapter Five, Plans and Policies, summarizes SWRCB and RWQCB plans and policies to protect water quality. Chapter Six describes statewide surveillance and monitoring programs as well as regional surveillance and monitoring programs. The Regional Board implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges can affect water quality. These requirements can be either State Waste Discharge Requirements for discharges to land, or federally delegated NPDES permits for discharges to surface water. Methods of treatment are not specified. When such discharges are managed so that: (1) they meet these requirements, (2) water quality objectives are met, and (3) beneficial uses are protected and water quality is controlled. The Basin Plan is also implemented by encouraging water users to improve the quality of their water supplies, particularly where the wastewater they discharge is likely to be reused. Public works or other projects which can affect water quality are reviewed and their impacts identified. Proposals which implement or help achieve the goals of the Basin Plan are supported; the Regional Board makes water quality control recommendations for other projects.

Water Quality Control Plan for the Los Angeles Region

The RWQCB has prepared a Water Quality Control Plan for the Los Angeles Region (Basin Plan), which encompasses all coastal drainages flowing to the Pacific Ocean between Rincon Point (on the coast of western Ventura County) and the eastern Los Angeles County line, as well as the drainages of five coastal islands (Anacapa, San Nicolas, Santa Barbara, Santa Catalina, and San Clemente). In addition, the Los Angeles region includes all coastal waters within three miles of the continental and island coastlines. As the eastern boundary, formed by the Los Angeles County line, departs somewhat from the hydrologic

divide, the Los Angeles and Santa Ana regions share jurisdiction over watersheds along their common border. The first essentially complete Basin Plan, which was established under the requirements of California's 1969 Porter-Cologne Water Quality Control Act (Section 13000 [Water Quality] *et seq.* of the California Water Code), was adopted in 1975 and revised in 1984. The latest version was adopted in 1994.

The Basin Plan assigned beneficial uses to surface and groundwater such as municipal water supply and water-contact recreation to all waters in the basin. It also set water quality objectives, subject to approval by the EPA, intended to protect designated beneficial uses. These objectives apply to specific parameters (numeric objectives) and general characteristics of the water body (narrative objectives). An example of a narrative objective is the requirement that all waters must remain free of toxic substances in concentrations producing detrimental effects upon aquatic organisms. Numeric objectives specify concentrations of pollutants that are not to be exceeded in ambient waters of the basin.

The Los Angeles RWQCB is involved in the regulation of a number of activities that are relevant to the consideration of the Project:

- Prepares, monitors compliance with, and enforces Waste Discharge Requirements, including NPDES permits;
- Implements and enforces local stormwater control efforts;
- Enforces water quality laws, regulations, and waste discharge requirements; and
- General Construction Activity Stormwater Discharges

Stormwater discharges that are composed entirely of runoff from qualifying construction activities may require regulation under the General Construction Activity Storm Water Permit issued by the SWRCB. Construction activities that qualify include clearing, grading, excavation, reconstruction, and dredge-and-fill activities that result in the disturbance of at least one acre and less than five acres of total land area. The evaluation of the Project does not generate the need for compliance with the Construction General Permit. The development of single family residences would require to obtain permits coverage if the development disturbs greater than one acre of land. Additionally the Project would require the consideration of a Standard Urban Stormwater Management Plan (SUSMP) as part of compliance with the NPDES General Construction Activity Storm Water Permit to reduce water quality impacts to the maximum extent practicable. A SUSMP is a report that includes one or more site maps, an identification of construction activities that could cause pollutants to enter the stormwater, and a description of measures or best management practices (BMPs) to control these pollutants to the maximum extent practicable.

Water Control Plan for the Lahontan Region

This Basin Plan for the Lahontan Region is the basis for the Regional Board's regulatory program. It sets forth water quality standards for the surface and ground waters of the Region, which include both designated beneficial uses of water and the narrative and numerical objectives which must be maintained or attained to protect those uses. It identifies general types of water quality problems, which can threaten beneficial uses in the Region. It then identifies required or recommended control measures for these problems. The Plan also summarizes past and present water quality monitoring programs, and identifies monitoring activities, which should be carried out to provide the basis for future Basin Plan updates and for waste discharge requirements or conditional waivers.

Additionally the Lahontan Region Basin Plan implements a number of state and federal laws, the most important of which are the federal CWA and the State Porter-Cologne Water Quality Control Act. Other pertinent federal laws include the Safe Drinking Water Act, Toxic Substances Control Act, Resource Conservation and Recovery Act, and Endangered Species Act, and the Comprehensive Response, Compensation, and Liability Act (CERCLA or “Superfund”) and Superfund Amendment and Reauthorization Act (SARA). Other applicable California laws include the Health and Safety, Fish and Game, and Food and Agriculture Codes.

Water Control Plan for the Colorado River Basin

The intent of the Basin Plan is to provide definitive guidelines and give direction to the full scope of Regional Board activities that serve to optimize the beneficial uses of the state waters within the Colorado River Basin Region of California by preserving and protecting the quality of these waters. Water uses and water benefits vary. Water quality is an important factor in determining use and benefit. For example, drinking water has to be of higher quality than the water used to irrigate pastures. Both of these are beneficial water uses, but the quality requirements for irrigation water are different from those for drinking water. The Basin Plan recognizes the variations of water quality and water uses. The Basin Plan lists and defines the various beneficial water uses (Chapter 2). It describes the water quality which must be maintained to support such uses (Water Quality Objectives, Chapter 3). The section on implementation (Chapter 4) describes the programs, projects and other actions that are necessary to achieve the standards established in this Plan. Plans, Policies and Issues (Chapter 5), summarize the various plans and policies which protect water quality. This chapter also describes water quality issues which require special attention. Surveillance and Monitoring (Chapter 6), describes activities within the Colorado River Basin Region related to surveillance, monitoring, assessment, lab support, and quality assurance and quality control.

Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin

The Basin Plan establishes water quality standards for the ground and surface waters of the region. The term “water quality standards,” as used in the federal CWA, includes both the beneficial uses of specific waterbodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the Regional Board and others that are necessary to achieve and maintain the water quality standards. The Regional Board regulates waste discharges to minimize and control their effects on the quality of the region’s ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For waterbodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included.

The Water Quality Control Plan for the San Diego Basin

The San Diego Regional Board's Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan: (1) designates beneficial uses for surface and ground waters, (2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state’s antidegradation policy, (3) describes implementation programs to protect the beneficial uses of all waters in the Region, and (4)

describes surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan (California Water Code sections 13240–13244, section 13050(j)). Additionally, the Basin Plan incorporates by reference all applicable State and Regional Board plans and policies.

Local

County of Los Angeles General Plan

As part of the Conservation and Natural Resources Element of the 2040 General Plan Update, the Board of Supervisors of the County of Los Angeles has adopted three goals for water quality initiatives related to hydrology and water quality and two goals related to watershed and river master plans:

Water Quality Initiatives

- Support multi-benefit outcomes, such as water quality benefits arising from ecosystem restoration efforts, and identify, attract, and create funds and resources to implement this initiative.
- Participate in Enhanced Watershed Management Programs and Watershed Management Programs in coordination with other agencies throughout Los Angeles County.
- Participate in Coordinated Integrated Watershed Monitoring Plans in coordination with other agencies throughout Los Angeles County.

Watershed and Rivers Master Plans

- Participate with stakeholders in the preparation of Watershed Management Plans in response to the NPDES Municipal Separate Storm Sewer Systems (MS4) Permit by promoting multi-benefit outcomes, including, but not limited to new public access to natural resources, new recreational opportunities, enhanced aquatic habitats, and restored natural features, where appropriate, while maintaining necessary levels of flood protection.
- Identify, attract, and create funds and resources to implement these plans.

County of Riverside General Plan

The County of Riverside General Plan specifically addresses hydrology and water quality in relate to four categories: water resources, water quality (including groundwater quality), floodplain management, and wetlands.

Water Resources

The General Plan acknowledges that contamination from natural or manufactured sources has reduced groundwater quality such that its use requires treatment. Management of the amount of water available (local and imported) and its quality, is identified as an important response to the gap between supply and demand in Riverside County. The General plan provides policies that seek to protect and

enhance the water resources in the county. These policies address broad water planning issues, and the relationship of land use decisions to water issues.

Water Quality

The General Plan recognizes the BMPs established by the three applicable RWQCBs, Regions 7, 8, and 9 to provide state-level water quality policy and the NPDES as effective means of managing water quality problems that have occurred in Riverside County. Such problems have related to inadequate subsurface sewage disposal, waste disposal management of the Santa Ana River, agriculturally related problems such as citricultural runoff in the western county and increasing salinity of the desert groundwater basins, sediment buildup of water bodies from construction-related erosion, lake water quality problems, and pollution due to urban stormwater system runoff.

Floodplain and Riparian Area Management

The intent of the county is to sustain living riparian habitats to the maximum extent possible.

Wetlands

The General Plan provides specific policies for the protection of wetlands including the requirement to ensure compliance with the Section 404 of the federal CWA in terms of wetlands mitigation policies and policies concerning fill material in jurisdictional wetlands during development review and approval process; preservation of buffer zones around wetlands where feasible and biologically appropriate; and consideration of wetlands for use as natural water treatment areas that will result in improvement of water quality.

San Bernardino County General Plan

San Bernardino County has established goal and policies to ensure coordination and cooperation with governmental agencies at all levels to ensure safe, reliable, and high-quality water supply for all residents and ensure prevention of surface and ground water pollution. The County General Plan provides specific policies for adherence to federal and state water quality standards for surface and groundwater and wastewater discharge requirements in the review of development proposals that relate to type, location and size of the Project to safeguard public health. Similarly, the County General Plan specifies the need to work with the RWQCBs to establish uniform criteria for appropriate sewerage options for new development. The County General Plan further directs cooperation with State, regional, and responsible authorities to expand water sampling programs to determine ambient groundwater quality conditions affecting public, agricultural, and private wells. Identify the sources, extent, and types of organic and inorganic groundwater contaminants, and evaluation of their impacts on groundwater resources. The County General Plan calls for the prevention of surface and groundwater pollution through continued cleanup of contaminated waters and watersheds.

Imperial County General Plan

Protection of Surface Waters

The Imperial County General Plan provides specific goals and policies related to maintaining the viability of the Salton Sea and other surface water resources in the county.

- **Goal 2:** Long-term viability of the Salton Sea, Colorado River, and other surface waters in the County will be protected for sustaining wildlife and a broad range of ecological communities.
 - **Objective 2.1:** The continued viability of the agricultural sector as an important source of surface water for the maintenance of valuable wildlife and recreational resources in the County.
 - **Objective 2.2:** A balanced ecology associated with the riparian and ruderal biological communities important as breeding and foraging habitats for native and migratory birds and animals occurring within the County.
 - **Objective 2.3:** Preservation of riparian and ruderal habitats as important biological filters as breeding and foraging habitats for native and migratory birds and animals.

Orange County General Plan

In the Orange County region, the protection of water quality is a major concern. The need to maintain safe water quality may constrain the development of energy resources, from methane (landfills) and geothermal sources. At a minimum, water quality concerns will need to be considered during the process of developing these resources and water intensive resources such as agriculture.

Development of land and the increase in population density has also created new sources of non-stormwater discharges and pollutants in stormwater discharges. The San Diego and Santa Ana RWQCBs require that water quality and watershed protection principles are considered as part of land use planning and development review.

Ventura County General Plan

The Ventura County General Plan provides specific goals and policies related to the inventory and monitoring of water quantity and quality to facilitate effective management of the resources. The Ventura County General Plan has identified 10 specific programs to support achievement of the goals and policies. The programs includes support of the Seawater Intrusion Abatement Project, enforcement of Chapter 70 (Excavation and Grading) of the Uniform Building Code, as incorporated by reference in and amended by the Ventura County Building Code, to ensure that any proposed grading in a waterway or wetland is adequately investigated and that any *development* incorporates appropriate design provisions to protect waterways or wetlands; support the Fox Canyon Groundwater Management Agency Plan for both the Upper and Lower Aquifer Systems; continued coordination with water districts and other appropriate agencies to establish a data base on actual available supply, projected use factors for types of land use and *development*, and threshold limits for *development* within available water resources; Planning Division will continue to promotion of the efficient use of water through the Landscape Design Criteria Program; cooperation between the Public Works Agency and the

Environmental Health Division, to pursue the use of reclaimed water for agricultural irrigation; continued monitoring, inspection and regulation of underground storage tanks; identification of *waste disposal sites* and seek to mitigate impacts to water resources; and consideration of the Board of Supervisors of a Countywide water conservation retrofit program to fund the installation of water conservation fixtures) for businesses and residents located within Ventura County.

City General Plan and Ordinances

In accordance with Sections 653(c) of the California Government Code, all cities are required to have a conservation element as part of their General Plans. The conservation element provides goals and polices related to conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. One of the six required aspects of the open space element is for planning, conservation and management of open space for the preservation of natural resources, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands. In addition, many of the cities have ordinances related to protection, conservation and management of natural water resources consistent with the applicable beneficial uses stipulated in the applicable RWQCB Water Basin Plan.

3.10.2 EXISTING CONDITIONS

Hydrology

This section describes the general water resources of the region, including surface hydrology, watersheds and hydrological characteristics, flood hazards and control, seiche, tsunami, and mudflow. Groundwater and stormwater qualities are discussed in the utilities section. The SCAG region is divided into four hydrologic regions regulated by five RWQCBs that provide oversight of the hydrologic and water quality conditions. The five RWQCBs with jurisdictions on the SCAG region are Los Angeles, Lahontan, Colorado River Basin, San Diego, and Santa Ana. Each major river basin within the SCAG region has a Water Quality Control Plan that designates the beneficial uses for water bodies in the region.

Surface Hydrology

In addition to the Pacific Ocean that borders the western margin, the SCAG region includes a diverse array of surface water resources including rivers, lakes and reservoirs, and coastal waters (**Table 3.10.2-1, *Major Surface Water Resources in the SCAG Region***).

**TABLE 3.10.2-1
MAJOR SURFACE WATER RESOURCES IN THE SCAG REGION**

LOS ANGELES BASIN (REGION 4)
Ventura River Estuary Sespe Creek Lake Casitas
Santa Clara River Estuary Piru Creek Lake Piru
McGrath Lake Ventura River Pyramid Lake
Ormond Beach Wetlands Santa Clara River Castaic Lake
Mugu Lagoon Los Angeles River Bouquet Reservoir
Trancas Lagoon Big Tahunga Canyon Los Angeles Reservoir
Topanga Lagoon San Gabriel River Chatsworth Reservoir
Los Cerritos Wetlands
Sepulveda Reservoir
Ballona Lagoon Hansen Reservoir
Los Angeles River San Gabriel Reservoir
Ballona Wetlands Morris Reservoir
Whittier Narrows Reservoir
Santa Fe Reservoir
LAHONTAN BASIN (REGION 6)
Mojave River Silver Lake
Amargosa River Silverwood Lake
Mojave River Reservoir
Lake Arrowhead
Soda Lake
COLORADO RIVER BASIN (REGION 7)
Colorado River Lake Havasu
Whitewater River Gene Wash Reservoir
Alamo River Copper Basin Reservoir
New River Salton Sea
Lake Cahulla
SANTA ANA (REGION 8)
Hellman Ranch Wetlands Santa Ana River Prado Reservoir
Anaheim Bay San Jacino River Big Bear Lake
Bolsa Chica Wetlands
Lake Perris
Huntington Wetlands Lake Matthews
Santa Ana River Lake Elsinore
Laguna Lakes Vail Lake
San Juan Creek Lake Skinner
Upper Newport Bay Lake Hemet
San Joaquin Marsh
Prado Wetlands
SAN DIEGO BASIN (REGION 9)
Santa Margarita River Vail Lake
Aliso Creek Skinner Reservoir

SOURCE:

U.S. Department of the Interior and U.S. Geological Survey. September 15, 2015. *Water Resources of the United States*. Available at: <http://www.usgs.gov/water/index.html>

Rivers

Because the climate of Southern California is predominantly arid, many of the natural rivers and creeks are intermittent or ephemeral, drying up in the summer or flowing only after periods of precipitation. For example, annual rainfall amounts vary depending on elevation and proximity to the coast. Some waterways such as Ballona Creek and the Los Angeles River, maintain a perennial flow due to agricultural irrigation and urban landscape watering. Major natural streams and rivers in the SCAG region include the Ventura River, Santa Clara River, Los Angeles River, San Gabriel River, Santa Ana River, San Jacinto River, and upstream portions of the Santa Margarita River. The Ventura River is fed by Lake Casitas on the western border of Ventura County and empties out into the ocean. It is the northernmost river system in Southern California, supporting a large number of sensitive aquatic species. Water quality decreases in the lower reaches due to urban and industrial impacts. The Santa Clara River flows through the center of Ventura County and remains in a relatively natural state. Threats to water quality include increasing development in floodplain areas, flood control measures such as channeling, erosion, and loss of habitat. The Los Angeles River is a highly disturbed system due to the flood control features along much of its length. Due to the high urbanization in the area around the Los Angeles River, runoff from industrial and commercial sources as well as illegal dumping contribute to reduce the channel's water quality. The San Gabriel River is similarly altered with concrete flood control embankments and impacted by urban runoff. The Santa Ana River drains the San Bernardino Mountains, cuts through the Santa Ana Mountains, and flows onto the Orange County coastal plain. Recent flood control projects along the river have established reinforced embankments for much of the river's path through urbanized Orange County. The Santa Margarita River begins in Riverside County, draining portions of the San Jacinto Mountains and flowing to the ocean through northern San Diego County. Complete lists of surface water resources within the SCAG region, along with the beneficial uses associated with them, are contained in each of the five Basin Plans.

Lakes and Reservoirs

Since Southern California is a semiarid region, many of its lakes are drinking water reservoirs, created either through damming of rivers, or manually dug and constructed. Reservoirs also serve as flood control for downstream communities. Some of the most significant lakes, including reservoirs, in the SCAG region are Big Bear Lake, Lake Arrowhead, Lake Casitas, Castaic Lake, Pyramid Lake, Lake Elsinore, Diamond Valley Lake, and the Salton Sea. Big Bear Lake is a reservoir in San Bernardino County, in the San Bernardino Mountains. It was created by a granite dam in 1884, which was expanded in 1912, and holds back approximately 73,000 acre-feet of water. The lake has no tributary inflow, and is replenished entirely by snowmelt. It provides water for the community of Big Bear, as well as nearby communities.

Lake Arrowhead is also in San Bernardino County, at the center of an unincorporated community also called Lake Arrowhead. The lake is a man-made reservoir, with a capacity of approximately 48,000 acre-feet. In 1922, the dam at Lake Arrowhead was completed, with the intention of turning the area into a resort for wealthy Angelinos. It is now used for recreation and as a potable water source for the surrounding community. Lake Casitas is in Ventura County, and was formed by the Casitas Dam on the Coyote Creek just before it joins the Ventura River. The dam, completed in 1959, holds back nearly 255,000 acre-feet of water. The water is used for recreation, as well as drinking water and irrigation. Castaic Lake is on the Castaic Creek, and was formed by the completion of the Castaic Dam. The lake is in northwestern Los Angeles County. It is the terminus of the West Branch of the California Aqueduct, and holds over 323,000 acre-feet of water. Much of the water is distributed throughout northern Los

Angeles County, though some is released into Castaic Lagoon, which feeds Castaic Creek. The creek is a tributary of the Santa Clara River. Pyramid Lake is just above Castaic Lake, and water flows from Pyramid into Castaic through a pipeline, generating electricity during the day. At night, when electricity demand and prices are low, water is pumped back up into Pyramid Lake. Pyramid Lake is on Piru Creek, and holds 180,000 acre-feet of water. Lake Elsinore is in the City of Lake Elsinore, in Riverside County. The lake has dried and up and been replenished throughout the last century, it is now managed to maintain a consistent water level, with outflow piped into the Temescal Canyon Wash. Diamond Valley Lake is Southern California's newest and largest reservoir. Located in Riverside County, it was a project of the Metropolitan Water District (MWD) to expand surface storage capacity in the region. A total of three dams were required to create the lake. Completed in 1999, it was full by 2002, holding 800,000 acre-feet of water, effectively doubling MWD's surface water stores in the region. The lake is connected to the existing water infrastructure of the SWP. The lake is situated at approximately 1,500 feet above sea level, well above most of the users of the lake's water; this enables the lake to also provide hydroelectric power, as water flows through the lowest dam. The Salton Sea is California's largest lake, nearly 400 square miles in size. The basin is over 200 feet below sea level, and has flooded and evaporated many times over, when the Colorado overtops its banks during extreme flood years. This cycle of flooding and evaporation has re-created the Sea several times over at least the last thousand years. Its most recent formation occurred in 1905 after an irrigation canal was breached and the Colorado River flowed into the basin for 18 months, creating the current lake. The principal inflow to the Sea is from agricultural drainage, which is high in dissolved salts; approximately 4 million tons of dissolved salts flow into the Sea every year. The evaporation of the Sea's water, plus the addition of highly saline water from agriculture, has created one of the saltiest bodies of water in the world. The Sea has been a highly successful fishery and is a habitat and migratory stopping and breeding area for 380 different bird species; however, the high, and ever-increasing, salinity of the Sea is a continual challenge for the fish and birds that inhabit it. The 2001 agriculture-to-urban water transfer agreement between the Imperial Valley Irrigation District and San Diego will have significant implications for the Salton Sea, and the watershed. The reduction in agricultural water flowing into the Sea will significantly lower water levels, shrinking the overall size of the Sea.

Coastal Waters

Coastal waters in the SCAG region include bays, harbors, estuaries, beaches, and open ocean. Santa Monica Bay dominates a large portion of the Region's open coastal waters. Deep-draft commercial harbors include the Los Angeles/Long Beach Harbor complex and Port Hueneme. Shallower, small-craft harbors, such as Marina del Rey, King Harbor and Ventura Marina, occur at a number of locations.

Important estuaries are represented by coastal lagoons such as Mugu Lagoon and numerous small coastal wetlands such as Ballona Wetlands and Los Cerritos Wetlands. Recreational beaches occur along large stretches of the coastal waters. These coastal waters are impacted by a variety of activities, including:

- Municipal and industrial wastewater discharges
- Cooling water discharges
- Non-point source runoff (urban and agricultural runoff in particular), including leaking septic systems, construction, and recreational activities
- Oil spills
- Aqueduct vessel wastes

- Dredging, increased development, and loss of habitat
- Offshore operations, illegal dumping
- Natural oil seeps

Hydrologic Regions

The Department of Water Resources (DWR) has divided the state into 10 hydrologic regions, corresponding to the State's major water drainage basins. Four of these are, in whole or in part, within the SCAG region: Central Coast (part of Ventura County), South Lahontan (parts of Los Angeles and San Bernardino counties), South Coast (Orange County, along with parts of Los Angeles, Ventura, San Bernardino, and Riverside counties), and Colorado River (parts of Imperial, Riverside, and San Bernardino counties). These four regions are described below.

Central Coast Hydrologic Region

The Central Coast Hydrologic Region is located, as its name implies, along the central coast of California, extending from Southern San Mateo County in the north to Santa Barbara in the south and from the Pacific Ocean in the west to the edge of the Central Valley in the east. It includes all of Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties and parts of San Benito, San Mateo, Santa Clara, and Ventura Counties. The most significant geological features are the Coast Range and the Santa Barbara Coastal Plain. The Coastal Branch California Aqueduct—part of the State Water Project (SWP)—brings approximately 32,000 acre-feet of water annually into Southern California through the Central Coast Region. This hydrologic region currently uses more water resources than it gains throughout the year. Groundwater is the major source of water in the region, which experiences annual reductions in its groundwater storage. The region, therefore, battles the threat of saltwater intrusion into its aquifers, a problem documented as far back as the 1930s.

South Lahontan Hydrologic Region

The South Lahontan Hydrologic Region is located in the southeast portion of California and is characterized by desert, sand dunes, and dry lakes. The northern half of the region includes Mono Lake, Owens Valley, Panamint Valley, Death Valley, and the Amargosa River Valley. The Mojave Desert occupies the southern half of the hydrologic region, and is characterized by many small mountain ranges and valleys with playas, or dry lakes. The southern half falls within the SCAG region in San Bernardino and Los Angeles Counties. The Los Angeles Aqueduct is the region's major water development feature. The initial 223-mile-long aqueduct was completed by the Los Angeles Department of Water and Power (LADWP) and began diverting water from Owens Valley into the City of Los Angeles. The aqueduct was extended 115 miles in 1940 and 137-miles in 1970. The Los Angeles Aqueduct system passes through 12 hydropower plants on its way to Los Angeles. The annual energy generated is more than 1 billion kilowatt-hours (enough to supply the energy demand of approximately 220,000 homes). Five water agencies in the southwest portion of this region have contracts with the SWP for a total of about 220,000 acre-feet of surface water annually. The East Branch of the SWP is used to recharge groundwater in the Mojave River Valley. Mojave Water Agency (MWA) relies predominantly from groundwater. It also receives water as one of the 29 SWP contractors, per their integrated Regional Water Management Plan update (IRWMP). The Antelope Valley East Kern Water Agency (AVEK) provides water to five major municipal agencies and 16 smaller water service agencies. Palmdale Water District (PWD) and Little Rock Irrigation District (LRID) Littlerock Reservoir has 2,700 acre-feet capacity

and provides water to LRID. Water from Littlerock Reservoir is released into PWD's Lake Palmdale (a 42,000 acre-foot lake reservoir). Arrowhead Lake Association Lake Arrowhead, owned by Arrowhead Lake Association is a 48,000 acre-foot reservoir providing recreational opportunities and water to Arrowhead Woods property owners.

South Coast Hydrologic Region

The South Coast Hydrologic Region comprises the southwest portion of the State and is California's most urbanized and populous region. The topography includes a series of nearly flat coastal plains and valleys, broad interior valleys, and several mountains of low and moderate elevation. The region extends from the Santa Barbara–Ventura County line south to San Diego and the U.S. international border with Mexico. Most of this area is within the SCAG region, including portions of Ventura, Orange, Los Angeles, San Bernardino, and Riverside Counties. Several prominent rivers exist within the region including Ventura River, Santa Clara River, Los Angeles River, San Gabriel River, Santa Ana River, San Jacinto Rivers, and Santa Margarita River.

Colorado River Hydrologic Region

The Colorado River Hydrologic Region covers the southeast portion of California and contains 12 percent of the state's land area. The Colorado River, the main tributary of this hydrologic region, forms most of the region's eastern boundary and international boundary with Mexico. The region includes all of Imperial County, the eastern two-thirds of Riverside County, the southeastern one-third of San Bernardino County, and about one-fourth of San Diego County. It has a variety of arid desert terrain that includes many bowl-shaped valleys, broad alluvial fans, sandy washes, and hills and mountains.

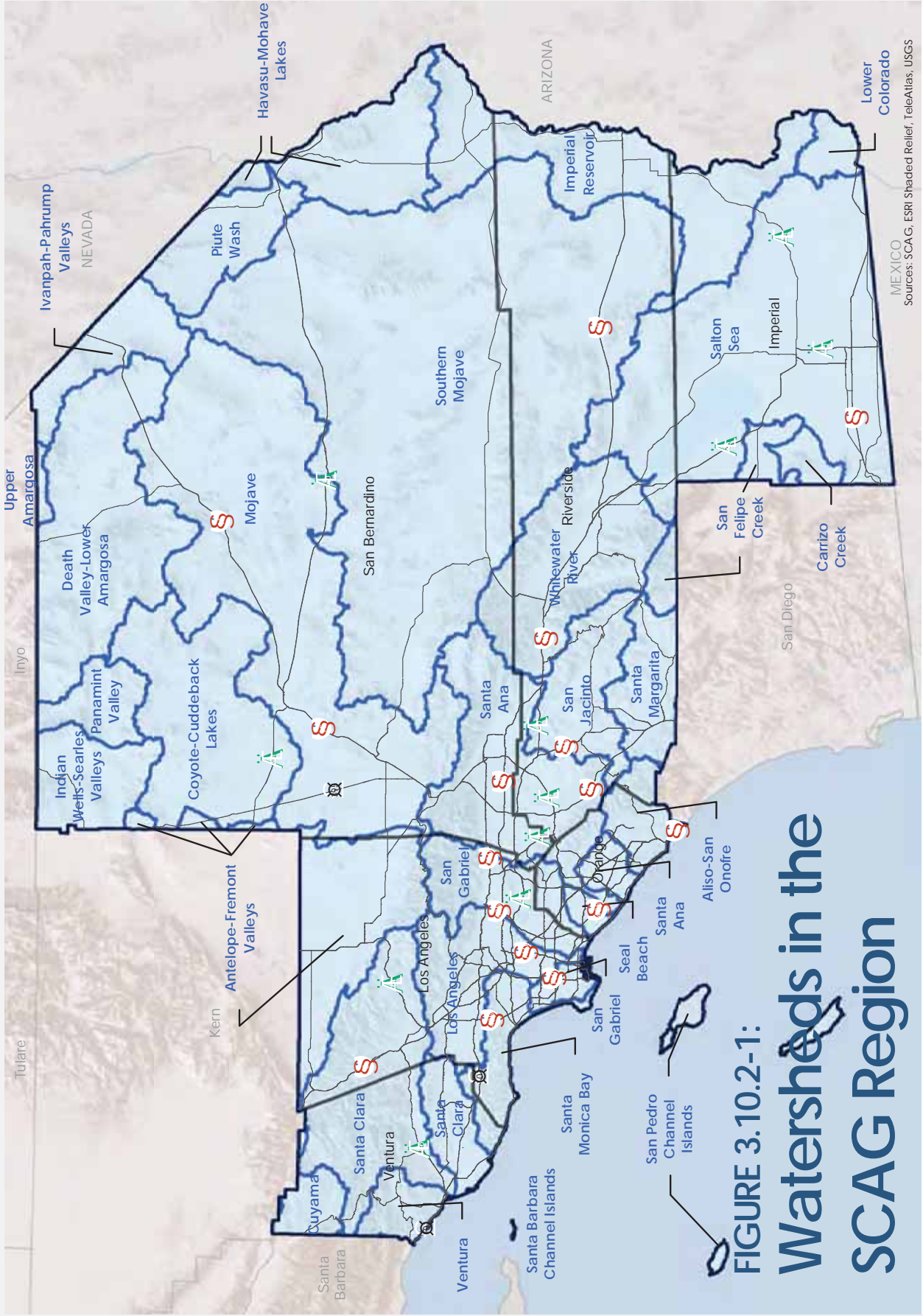
Watersheds

The SCAG region is bounded peripherally by a drainage divide and features leading to bodies of water. The boundary that separates neighboring drainage basins from another is called a watershed boundary. The area that separates one boundary from another is a watershed, an area with land or basin in which all waterways drain to one specific outlet, or body of water, such as a river, lake, ocean, or wetland. Watersheds have topographical divisions such as ridges, hills, or mountains. All precipitation that falls in a given watershed, or basin, eventually drains into the same body of water. The SCAG region has over 30 watersheds as shown on **Figure 3.10.2-1, *Watersheds in the SCAG Region***.

Over 20 of these watersheds are major watersheds within the SCAG region, all of which are outlined and shaped by the various topographic features of the region. Given the physiographic characteristics of the SCAG region, most of the watersheds are located along the Transverse and Peninsular Ranges, and only a small number are in the desert areas (Mojave and Colorado Desert).

Antelope-Fremont Valleys Watershed (HUC 18090206)

The Antelope-Fremont Valley Watershed straddles Kern and Los Angeles County, and is bordered on the southwest by the San Gabriel Mountains, on the northwest by the Tehachapi Mountains, and on the east by a series of hills and buttes that follow the San Bernardino County line. Numerous streams originate in the mountains and foothills surrounding the valley and flow across the valley floor before eventually pooling in the dry lakes adjacent to the county line. It is located in the South Lahontan



MEXICO
Sources: SCAG, ESRI Shaded Relief, TeleAtlas, USGS

Watershed



FIGURE 3.10.2-1:
Watersheds in the SCAG Region

Hydrologic region. The watershed drains a total of 12,000 square miles within Los Angeles County. Three of the major tributaries are Big Rock Creek and Little Rock Creek that run from the San Gabriel Mountains and Oak Creek that runs from the Tehachapi Mountains. The Los Angeles Aqueduct also runs 180 miles through the watershed. Reservoirs include the California Aqueduct, Fairmont Reservoir, and Littlerock Reservoir. Major cities within the Los Angeles County portion of the watershed include Lancaster and Palmdale.

Los Angeles River Watershed (HUC 18070105)

The Los Angeles River watershed is bounded by the Santa Susanna Mountains to the west, the San Gabriel Mountains to the north and east, and the Santa Monica Mountains and Los Angeles coastal plain to the south. The Los Angeles River is born at the confluence of Bell Creek and Calabasas Creek in the San Fernando Valley. It drains eastward from its headwaters to the northern corner of Griffith Park where the channel then turns southward through the rocky bottleneck of Glendale Narrows. After crossing the coastal plain, the river finally drains into San Pedro Bay near Long Beach. The drainage area of Los Angeles Watershed is 834 square miles and the entire watershed falls within the South Coast Hydrologic Region. Major tributaries of the watershed are Burbank Western Channel, Pacoima Wash, Tujunga Wash, and Verdugo Wash in the San Fernando Valley and the Arroyo Seco, Compton Creek, and Rio Hondo south of the Glendale Narrows. There are numerous lakes and reservoirs in the watershed, including Big Tujunga Reservoir, Chatsworth Reservoir, Encino Reservoir, Echo Park Lake, Los Angeles Reservoir, and Silverlake Reservoir. The upper 57 percent of the watershed is covered by forest and open space, while the remaining 43 percent is highly developed with residential and urban use. Major cities within the watershed include Long Beach and Los Angeles.

San Gabriel River Watershed (HUC 18070106)

The San Gabriel Watershed lies mostly in Los Angeles County. It is bounded by the San Gabriel Mountains to the north, Puente-Chino Hills to the southeast, the division of the Los Angeles River from the San Gabriel River to the west, and the Pacific Ocean to the south. From the mouth of San Gabriel Canyon in the city of Azusa, the San Gabriel River flows south across the San Gabriel Valley and passes through Whittier Narrows, a natural gap in the hills that form the southern boundary of the San Gabriel Valley. It continues across the Pacific Coastal Plain, through the cities of Pico Rivera, Downey, Bellflower, and Lakewood to eventually meet the Pacific Ocean. Geology of the San Gabriel Valley creates an unusual flow pattern that keeps the San Gabriel River along the western edge of the watershed for most of its length. Major tributaries are San Jose Creek, San Dimas Creek, and Walnut Creek. The watershed falls within the South Coast Hydrologic Region. The watershed drains 640 square miles. Twenty-six percent of the watershed is developed, leaving the rest as open space. The river system runs through lands in the Angeles National forest, as well as highly urbanized lands in the San Gabriel, Walnut, and Pomona Valleys. Major cities include Covina, Pomona, Whittier, Los Angeles, and Long Beach.

Santa Monica Bay Watershed (HUC 18070104)

The majority of Santa Monica Bay Watershed is in Los Angeles County and contained within the South Coast Hydrologic Region. In the north, the watershed reaches eastward from the Santa Monica Mountains to downtown Los Angeles. From there, it extends south and west across the Los Angeles plain to include the area east of Ballona Creek and north of the Baldwin Hills. South of Ballona Creek the

natural drainage area is a narrow strip of wetlands between Playa del Rey and Palos Verdes. The watershed is comprised of many sub-watersheds that cover broad alluvial valleys, coastal dunes, coastal mountains, and a number of deep and narrow canyons that flow to the Pacific Ocean. The major sub-watersheds include Ballona Creek, Malibu Creek, Topanga Canyon Creek, and Solstice Creek Watersheds. The total drainage area is 414 square miles. Santa Monica Bay Watershed is one of the nation's most highly urbanized watersheds. Major cities within the watershed include Agoura Hills, Calabasas, Malibu, Los Angeles, Culver City, Beverly Hills, Inglewood, Santa Monica, and West Hollywood.

Newport Bay Watershed (HUC 18070204)

The Newport Bay Watershed is sandwiched between the San Joaquin Hills to the north and the Santiago Hills to the south, which force surface flow onto the central, flat Tustin plain. The Pacific Ocean comprises 13.5 miles of the watershed's western border. Coastal foothills accent the alluvial and coastal plains between the two mountain ranges. In total, the watershed drains 150 square miles, which encompasses all water draining to Newport Bay. Peters Canyon Wash, San Diego Creek, and Santa Ana Delhi Channel are the watershed's major tributaries. Newport Bay Watershed falls within the South Coast Hydrologic Region. Land in the Newport Bay Watershed is highly developed. Forty-seven percent of the landscape is urban, 4 percent agriculture, and 49 percent open space. Major cities include Santa Ana, Tustin, Irvine, Costa Mesa, and Newport Beach.

Seal Beach-Westminster Watershed (HUC 1807020)

The Westminster Watershed lies on a flat coastal plain in the northwestern corner of Orange County. Three main tributaries drain a total of 74 square miles in the watershed. The Los Alamitos Channel drains into the San Gabriel River, the Bolsa Chica Channel empties into the Anaheim Bay-Huntington Harbor complex, and the East Garden Grove-Wintersburg Channel drains through Bolsa Bay into Huntington Harbor. The Seal Beach-Westminster Watershed is located in the South Coast Hydrologic Region. The Westminster Watershed is almost entirely urbanized with residential and commercial development. The watershed comprises portions of the cities of Anaheim, Cypress, Fountain Valley, Garden Grove, Huntington Beach, Los Alamitos, Santa Ana, Seal Beach, Stanton, and Westminster.

Aliso-San Onofre Watershed (HUC 18070301)

The Aliso-San Onofre Watershed lies within Orange County, in the South Coast Hydrologic Region. The major waterway is Aliso Creek, which drains to the Pacific Ocean. Aliso Creek is one of three significant waterbodies in the watershed, in addition to Lake Mission Viejo and San Juan Creek. This watershed is highly urbanized, with over 50 percent of the land area classified as urban.

Mojave Watershed (HUC 18090208)

The Mojave Watershed, comprised of high desert, mountains, and valleys, is located entirely within San Bernardino County and within the South Lahontan Hydrologic Region. It drains a total of 1,600 square miles. The San Bernardino, Granite, and Barstol Mountains form the southwestern borders of the watershed. Mountains in this region are the highest and include Butler Peak, which is the highest point with an elevation of 8,500 feet. The San Bernardino Mountains are the headwaters for the Mojave River system which is born of Deep Creek and West Fork, the two perennial tributaries to the Mojave River.

The Mojave River traverses the watershed for 120 miles until its terminus at Soda Lake and Silver Dry Lake. Flow is from the southwest to the northeast across the watershed. Land in the Mojave Watershed is largely recreational areas and rangeland. A small amount of the land is irrigated agricultural land and “rural urban” areas. Major population centers in the watershed include Victorville, Hesperia, Apple Valley, and Adelanto.

Southern Mojave Watershed (HUC 18100100)

The Southern Mojave Watershed lies in San Bernardino and Riverside Counties and within the Colorado River Hydrologic Region. It is bordered by a mountainous region of the Mojave Watershed to the north. The watershed is comprised of mountains, valleys, and dry lakes. A significant geographical feature of the region is the Salton Trough, which contains the Salton Sea and Imperial and Coachella Valleys. The two valleys are separated by the Salton Sea, which covers the lowest area of the depression. Major tributaries include Antelope Creek, Arrastre Creek, Homer Wash, and Pipes Canyon Creek.

Santa Ana River Watershed (HUC 18070203)

The Santa Ana River Watershed includes much of Orange County, the northwestern corner of Riverside County, the southwestern corner of San Bernardino County, and a small portion of Los Angeles County, draining a total of 2,065 square miles. The watershed is located within the South Coast Hydrologic Region. The watershed is bounded on the south by the San Jacinto Watershed, on the east by the Salton Sea and Southern Mojave watersheds, and on the north and west by the Mojave and San Gabriel watersheds. The highest elevations in the watershed occur in the San Bernardino Mountains at San Gorgonio Peak at 11,485 feet and the eastern San Gabriel Mountains at Mt. Baldy at 10,080 feet. Surface waters start in this mountainous zone and flow northeast to southwest. Further downstream, the Santa Ana Mountains and the Chino Hills form a topographic high before the river flows onto the Coastal Plain in Orange County and outlets into the Pacific Ocean in Huntington Beach. Major tributaries to the Santa Ana River include San Timoteo Creek and Santiago Creek. The Santa Ana Watershed is home to the most developed portion of Orange County and much of the built-up portions of Riverside and San Bernardino Counties. Major cities include Santa Ana, Rancho Cucamonga, Corona, and San Bernardino.

San Jacinto Watershed (HUC 18070202)

The San Jacinto River Watershed covers approximately 770 square miles and is located approximately 80 miles southeast of Los Angeles. It extends from the San Jacinto Mountains in the north and east to Lake Elsinore in the west. Most of the watershed (99.75 percent) falls within Riverside County, while the remaining portion extends into an undeveloped portion of Orange County.

Calleguas Creek Watershed (HUC 18070103)

Calleguas Creek and its tributaries are located in southeast Ventura County and a small portion of western Los Angeles County. The watershed falls within the South Coast Hydrologic Region. Calleguas Creek drains an area of approximately 343 square miles from the Santa Susana Pass in the east to Mugu Lagoon in the southwest. The watershed drains from the mountains in the northeast part of the watershed toward the southwest where it flows through the Oxnard Plain before emptying into the Pacific Ocean through Mugu Lagoon. The Santa Susana Mountains, South Mountain, and Oak Ridge

form the northern boundary of the watershed; the southern boundary is formed by the Simi Hills and Santa Monica Mountains. The watershed is characterized by three major sub-watersheds: the Arroyo Simi/Las Posas in the north, Conejo Creek in the south, and Revolon Slough in the west. Major tributaries of Callegua Creek include Arroyo Simi, Arroyo Conejo, and Arroyo Santa Rosa. The watershed includes the cities of Simi Valley, Moorpark, Thousand Oaks, and Camarillo. Most of the agriculture is located in the middle and lower watershed with the major urban areas (Thousand Oaks and Simi Valley) located in the upper watershed. The current land use in the watershed is approximately 26 percent agriculture, 24 percent urban, and 50 percent open space.

Santa Clara River Watershed (HUC 18070102)

Santa Clara River and its tributaries run through Ventura County and the northwestern part of Los Angeles County, and are located in the South Coast Hydrologic Region. The portion of the watershed within Los Angeles County is referred to as Upper Santa Clara and the portion within Ventura County is referred to as Lower Santa Clara. Santa Clara River drains an area of 1,634 square miles from the mountains in northern Los Angeles County to the Pacific Ocean. The watershed drains from Pacifico Mountain in the San Gabriel Mountains westward through the Angeles National Forest System before emptying into the Pacific Ocean near the City of Ventura. Ninety percent of the watershed consists of rugged mountains. The remainder of the watershed consists of valley floor and coastal plains. Land use in the Santa Clara Watershed is 62 percent open space, 29 percent agriculture, and 9 percent urban. Major cities include Acton, Santa Clarita, Fillmore, Santa Paula, Ventura, and Oxnard.

Ventura River Watershed (HUC 18070101)

Ventura River Watershed lies entirely in Ventura County. Rugged mountains comprise the upper basin and give way to flat valleys in the lower downstream areas. Nearly half of the watershed is in Los Padres National Forest. Ventura Watershed drains 223 square miles, from its headwaters in the mountains to its outlet in the Pacific Ocean. The Ventura River bisects the watershed, flowing from north to south. Major tributaries are Matilija Creek, North Fork Matilija Creek, San Antonio Creek, Coyote Creek, and Cañada Larga. Lake Casitas and Matijila Reservoir are two major reservoirs within the watershed. The Ventura River watershed falls within the South Coast Hydrologic Region. Land in Ventura Watershed is largely open space with little urbanization. Eighty-seven percent is open space, 10 percent agriculture, and 3 percent urban. Major communities are Ojai, Oak View, and the western portion of the City of San Buenaventura.

Lower Colorado Watershed (HUC 15030107)

The Lower Colorado Watershed straddles the border between Imperial County in California and Yuma County in Arizona, and extends into the State of Sonora in northern Mexico. The lower Colorado River is heavily dammed for agricultural, municipal, and industrial uses, including the Imperial, Laguna, and Morelos Dams. The Imperial Dam provides water for the All American Canal, which carries over 5 million acre-feet of water into California every year, mostly for agricultural uses.

Salton Sea Watershed (HUC 18100200)

Immediately west of the Lower Colorado Watershed, Salton Sea Watershed extends from just north of the Salton Sea, in Riverside County, to the Mexicali Valley, near the U.S.-Mexico border, in Imperial

County. This watershed makes up the lower part of the Coachella Valley, bordered by mountains to the east and west, and extending south to the Colorado Delta in the Sea of Cortez. The main geographic feature in this watershed is California's largest lake, the Salton Sea, an inland saltwater lake approximately 380 square miles in size. In 2001, the Imperial Valley Irrigation District, the largest recipient of Colorado River water in California, agreed to a plan to transfer up to 200,000 acre-feet of water per year to San Diego for municipal water uses.

Imperial Reservoir Watershed (HUC 15030104)

North of the Lower Colorado Watershed is Imperial Reservoir Watershed, which lies on both sides of the California-Arizona border along the Colorado River. It extends north to Lake Havasu, created by the construction of Parker Dam, which was completed in 1938.

Malibu Creek Watershed

This watershed has changed rapidly in the last 20 years from a predominantly rural area to a steadily developing area that has doubled in population to nearly 80,000 residents. Increased flows (from imported waters needed to support the growing population base) and channelization of several tributaries to Malibu Creek have caused an imbalance in the natural flow regime in the watershed. Pollutants of concern, many of which are discharged from nonpoint sources, include excess nutrients, sediment, and bacteria.

Ballona Creek Watershed

Pollutants from industrial and municipal effluent as well as urban runoff degrade the quality of Ballona Creek. Specific pollutants include high levels of dissolved solids (chlorides, sulfates, heavy metals) and bacteria. Untreated sewage discharged into Ballona Creek during the rainy season causes beach closures along Santa Monica Bay. In addition, high concentrations of DDT in sediments at the mouth of the creek and in Marina Del Rey provide evidence of past discharges that have resulted in long-term water quality problems.

Los Angeles River Watershed

The Los Angeles River is highly modified, having been lined with concrete along most of its length by the USACOE from the 1930s to the 1960s. One seven-mile reach in the narrows area (in the middle portion of the river system), where groundwater rises into the streambed, is mostly unlined along the stream bottom and provides natural habitat for fish and other wildlife in an otherwise concrete conveyance. The upper reaches of the river carry urban runoff and flood flows from the San Fernando Valley. Below the Sepulveda Basin, flows are dominated by tertiary-treated effluent from several municipal wastewater treatment plants. Because the watershed is highly urbanized, urban runoff and illegal dumping are major contributors to impaired water quality in the Los Angeles River and tributaries.

San Gabriel River Watershed

While the upper San Gabriel River and its tributaries remain in a relatively pristine state, intensive recreational use of this area for picnicking, off-road vehicle use, fishing, and hiking threaten water quality and aquatic and riparian habitats. Further problems in the upper San Gabriel River occur as vast

amounts of naturally eroding sediment from the rugged San Gabriel Mountains settle into reservoirs behind flood control dams. Improper sediment sluicing operations from these reservoirs can impact aquatic habitats and groundwater recharge areas. In the San Gabriel Valley, the middle reaches of the river have been extensively modified in order to control flood and debris flows and to recharge ground water. Extensive sand and gravel operations are found along these stretches of the river. The lower San Gabriel River (i.e., those stretches flowing through the Los Angeles Coastal Plain) also has been extensively modified and is lined with concrete from approximately Firestone Boulevard to the estuary. Flow in these lower reaches is dominated by effluent from several municipal wastewater treatment facilities and urban runoff. Beneficial uses have been impaired in these lower reaches of the San Gabriel River, as evidenced by ambient toxicity and bioaccumulation of metals in fish tissue. Other, more generalized surface water problems in the region include poor mineral quality in some areas due to a variety of reasons including geology, agricultural runoff, discharge of highly mineralized ground water, and poor quality of some imported waters. Other problems include:

- Bioaccumulation of toxic compounds in fish and other aquatic life
- Impacts from increased development and recreational uses
- In-stream toxicity from point and nonpoint sources
- Diversion of flows necessary for the propagation of fish and wildlife populations
- Channelization, dredging, and other losses of habitat
- Impacts from transient camps located along creeks and lagoons
- Illegal dumping
- Introduction of non-native plants, which are of little value to the biota and clog the streams
- Impacts from sand and gravel mining operations
- Natural oil seeps
- Eutrophication and the accumulation of toxic pollutants in lakes

Drainages

Surface water resources in the SCAG region include creeks and rivers, lakes and reservoirs, and the inland Salton Sea. Reservoirs serving flood control and water storage functions exist throughout the region. Because the climate of Southern California is predominantly arid, many of the natural rivers and creeks are intermittent or ephemeral, drying up in the summer or flowing only in reaction to precipitation. For example, annual rainfall amounts vary depending on elevation and proximity to the coast. Some waterways such as Ballona Creek and the Los Angeles River maintain a perennial flow due to agricultural irrigation and urban landscape watering. The Colorado River watershed includes seven states on the western slope of the Rocky Mountains, traversing the arid southwest to the Gulf of California in Mexico. The river supplies water to 25 million people in both the U.S. and Mexico and forms the eastern border of the SCAG region. The Salton Sea, the largest inland body of water in California, was formed around 1905 when the Colorado River was diverted from its natural course. At present, the Salton Sea serves as a drainage reservoir for agricultural runoff in the Imperial Valley and Mexico. The Salton Sea is fed by the New River and Alamo River and would dry up entirely without agricultural runoff.

Other major natural surface waters in the SCAG region include the Ventura River, Santa Clara River, Los Angeles River, San Gabriel River, Santa Ana River, San Jacinto River, and upstream portions of the Santa Margarita River. The Ventura River is fed by Lake Casitas on the western border of Ventura County and

empties out into the ocean. It is the northern-most river system in Southern California, supporting a large number of sensitive aquatic species. Water quality decreases in the lower reaches due to urban and industrial impacts. The Santa Clara River flows through the center of Ventura County and remains in a relatively natural state. Threats to water quality include increasing development in floodplain areas, flood control measures such as channeling, erosion, and loss of habitat. The Los Angeles River is a highly disturbed system due to the flood control features along much of its length. Due to the high urbanization in the area around the Los Angeles River, runoff from industrial and commercial sources as well as illegal dumping contribute to reduce the channel's water quality. The San Gabriel River is similarly altered with concrete flood control embankments and impacted by urban runoff. The Santa Ana River drains the San Bernardino Mountains, cuts through the Santa Ana Mountains, and flows onto the Orange County coastal plain. Recent flood control projects along the river have established reinforced embankments for much of the river's path through urbanized Orange County. The Santa Margarita River begins in Riverside County, draining portions of the San Jacinto Mountains and flowing to the ocean through northern San Diego County. Complete lists of surface water resources within the SCAG region along with the beneficial uses associated with them are contained in each of the five Basin Plans prepared by the RWQCBs.

Federally Protected Wetlands and Waterways

Current National Wetlands Inventory maps and USGS blue-line drainage data for the six-county SCAG region were reviewed for potential wetlands and waterways subject to protection under Section 404 of the CWA and coastal areas subject to Section 10 of the Rivers and Harbors Act. Wetlands and waterways potentially subject to the jurisdiction of the USACOE were determined to be present within each of the six counties in the SCAG Region (Table 3.10.2-2, *Federally Protected Wetlands and Waterways Reported in the SCAG Region*). The characterization of "waters of the United States" is at a programmatic level of detail. The ability to discern precise area subject to the jurisdiction of the USACOE pursuant to Section 10 of the Rivers and Harbors Act or Section 404 of the Clean Water Act normally requires to preparation of a jurisdictional delineation, in accordance with the most recent *Wetland Delineation Manual*.

**TABLE 3.10.2-2
FEDERALLY PROTECTED WETLANDS AND WATERWAYS REPORTED IN THE SCAG REGION**

Major River or Lake	Acres	Linear Miles
Imperial County		
Salton Sea	190,391.60	—
Los Angeles County		
Castaic Lake	2,230.82	—
Morris Reservoir	283.42	—
Puddingstone Reservoir	243.77	—
Pyramid Lake	1,177.31	—
San Gabriel Reservoir	524.85	—
Los Angeles River	—	50.73
San Gabriel River	—	59.19
Santa Clara River	—	43.86
Orange County		
Irvine Lake	445.54	—
San Gabriel River	—	0.35

**TABLE 3.10.2-2
FEDERALLY PROTECTED WETLANDS AND WATERWAYS REPORTED IN THE SCAG REGION**

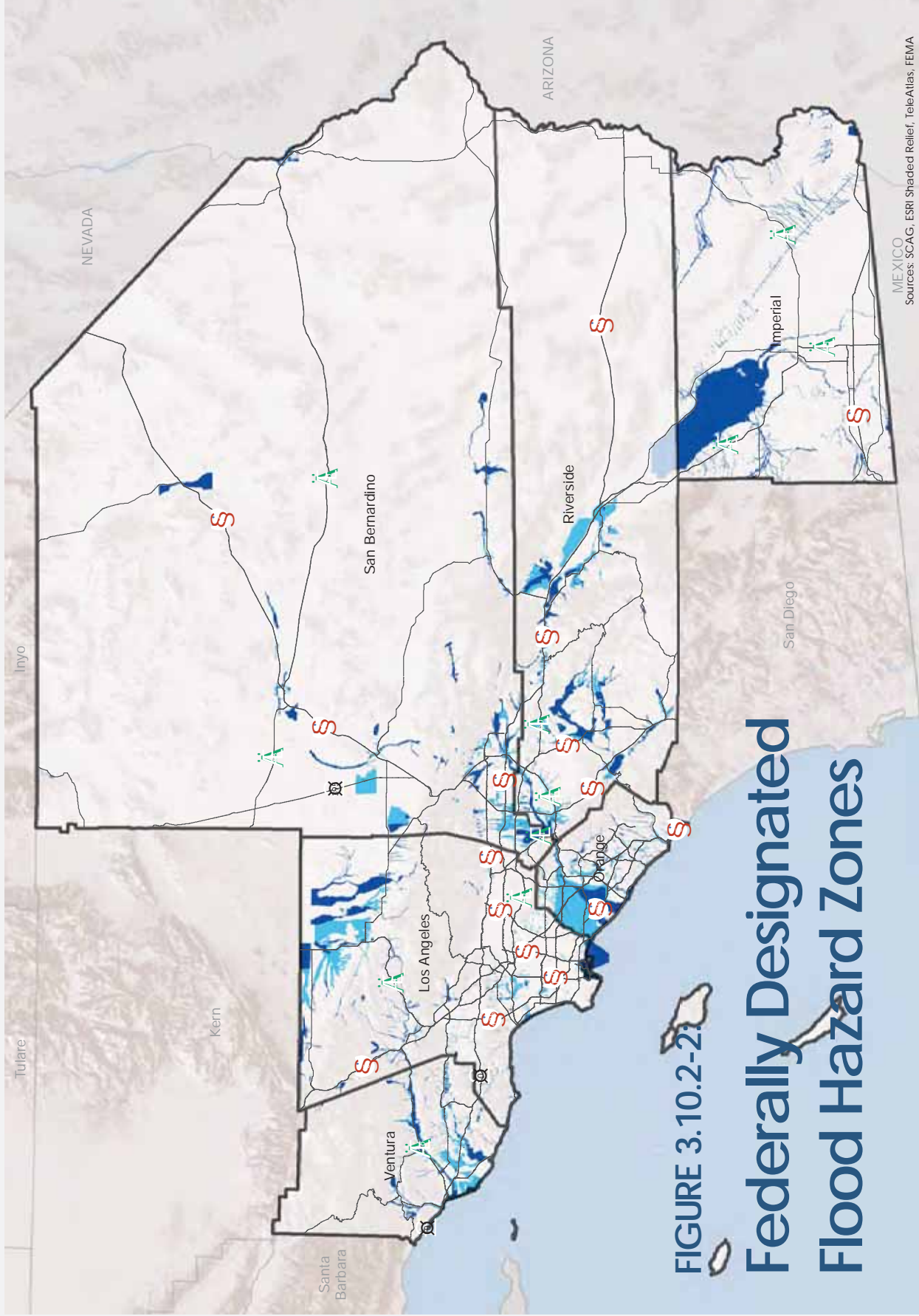
Major River or Lake	Acres	Linear Miles
Santa Ana River	—	27.18
Riverside County		
Diamond Valley Lake	4,057.69	—
Lake Elsinore	3,308.69	—
Lake Matthews	2,666.79	—
Perris Reservoir	1,920.63	—
Salton Sea	42,537.27	—
Skinner Reservoir	790.46	—
Vail Lake	257.23	—
Santa Ana River	—	24.43
Santa Margarita River	—	5.14
San Bernardino County		
Big Bear Lake	2,692.69	—
Lake Arrowhead	735.62	—
Silverwood Lake	905.09	—
Santa Ana River	—	43.86
Ventura County		
Lake Casitas	2,446.81	—
Lake Piru	1,220.91	—
Santa Clara River	—	39.27
TOTAL	258,837.19	294.00

SOURCE:

U.S. Geological Survey, National Hydrology Dataset. Accessed 11 September 2015. Website. Available at: <http://nhd.usgs.gov/data.html>

Floodplains and Flood Hazards

The two major mountain ranges and outlying deserts define over 20 watershed in the SCAG region. Each of these watersheds has associated 100-year floodplains. Of the six counties in the SCAG region, Imperial County has the largest land area designated as being in the 100-year floodplain by the Federal Emergency Management Agency (FEMA) (Table 3.10.2-3, *100-Year Floodplains*). Since the region is so mountainous, development often occurs in the valleys, and newer development extends into the foothills of those mountains (Figure 3.10.2-2, *Federally Designated Flood Hazard Zones*). Floodplains in Southern California are a unique hazard area; although flooding from rain-swollen rivers can occur in valley bottoms, a more common floodplain hazard is debris flow. Debris flows are common in mountain foothill areas, especially after fire and heavy rain events, when wet, heavy soils and rock slide down steep slopes and into valleys below. Areas with a history of such slides can often be identified by sloping, fan-shaped landforms at the base of mountains and hillsides.



MEXICO
Sources: SCAG, ESRI Shaded Relief, TeleAtlas, FEMA

100-year Floodplains
500-year Floodplains

0 5 10 20
Miles

FIGURE 3.10.2-2
Federally Designated
Flood Hazard Zones

**TABLE 3.10.2-3
100-YEAR FLOODPLAINS**

County	Acres
Imperial	303,787.51
Los Angeles	138,985.77
Orange	49,262.42
Riverside	110,900.26
San Bernardino	108,597.36
Ventura	52,845.38
Total	764,378.69

SOURCE:
SCAG GIS analysis and data, 2015.

Flood control channels are typically designed to move large volumes of water from one place to another rapidly, without property damage. A fully improved channel is usually concrete, severely limiting the aquatic habitat beneficial uses. Partially improved channels may only have levees on either side, but other flood control activities (such as channel straightening, vegetation clearing, and weed control using copper or other toxic materials) can reduce or eliminate the aquatic habitat. Storm flows themselves, not necessarily part of flood events, can and do eliminate streamside habitat in parts of the river through sheer scouring force every few years.

Seiche

A seiche is an oscillation of a body of water in an enclosed or semi enclosed basin, such as a reservoir, harbor, lake, or storage tank.

Southern California is a semi-arid region, and many of its lakes are drinking water reservoirs, created either through damming of rivers, or manually dug and constructed. Reservoirs also serve as flood control for downstream communities. Some of the most significant lakes, including reservoirs, in the SCAG region are Big Bear Lake, Lake Arrowhead, Lake Casitas, Castaic Lake, Pyramid Lake, Lake Elsinore, Diamond Valley Lake, and the Salton Sea.

The entire SCAG region is susceptible to impacts from seismic activity including the occurrence of seiches in the fore mentioned lakes and reservoirs.

Tsunami

Tsunamis are ocean waves caused by large earthquakes and landslides that occur near or under the ocean. Tsunami waves are unlike typical ocean waves generated by wind and storms. When tsunamis approach shore, they behave like a very fast moving tide that extends far inland. Inundation by tsunamis can occur along the California coast in the event of a significant earthquake. Relatively local earthquakes and landslides off the California coast pose the greatest threat. Approximately 25,000 acres within the three coastal counties within the SCAG region are susceptible to inundation risk from tsunami (Table 3.10.2-4, *Tsunami Inundation by County* and Figure 3.7.2-6, *Areas Susceptible to Tsunamis*, in Section 3.7, *Geology and Soils*).

**TABLE 3.10.2-4
TSUNAMI INUNDATION BY COUNTY**

County	Sum of Acres
Los Angeles	11,047.33
Orange	9,716.56
Ventura	4,289.76
Total	25,053.64

SOURCE:

California Department of Conservation. Accessed 11 September 2015. Website. Available at:
http://www.conservacion.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Pages/Index.aspx

Mudflow

Strong ground shaking during earthquake events can generate landslides or mudflow and slumps in uplands or coastal regions near the causative fault. Seismically-induced mudflow has typically been found to occur within 75 miles of the epicenter of a magnitude 6.5 earthquake. Seismically-induced mudflow would be most likely to occur in areas that have previously experienced mudflow or slumps, in areas of steep slopes, or in saturated hillside areas. Areas of the SCAG region are susceptible to seismically-induced mudflow because of the abundance of active faults in the region and the existing mudflow hazards. Areas of potential landslides in the SCAG region are shown in **Figure 3.7.2-5 Areas Susceptible to Landslides**, in Section 3.7, *Geology and Soils*.

Water Quality

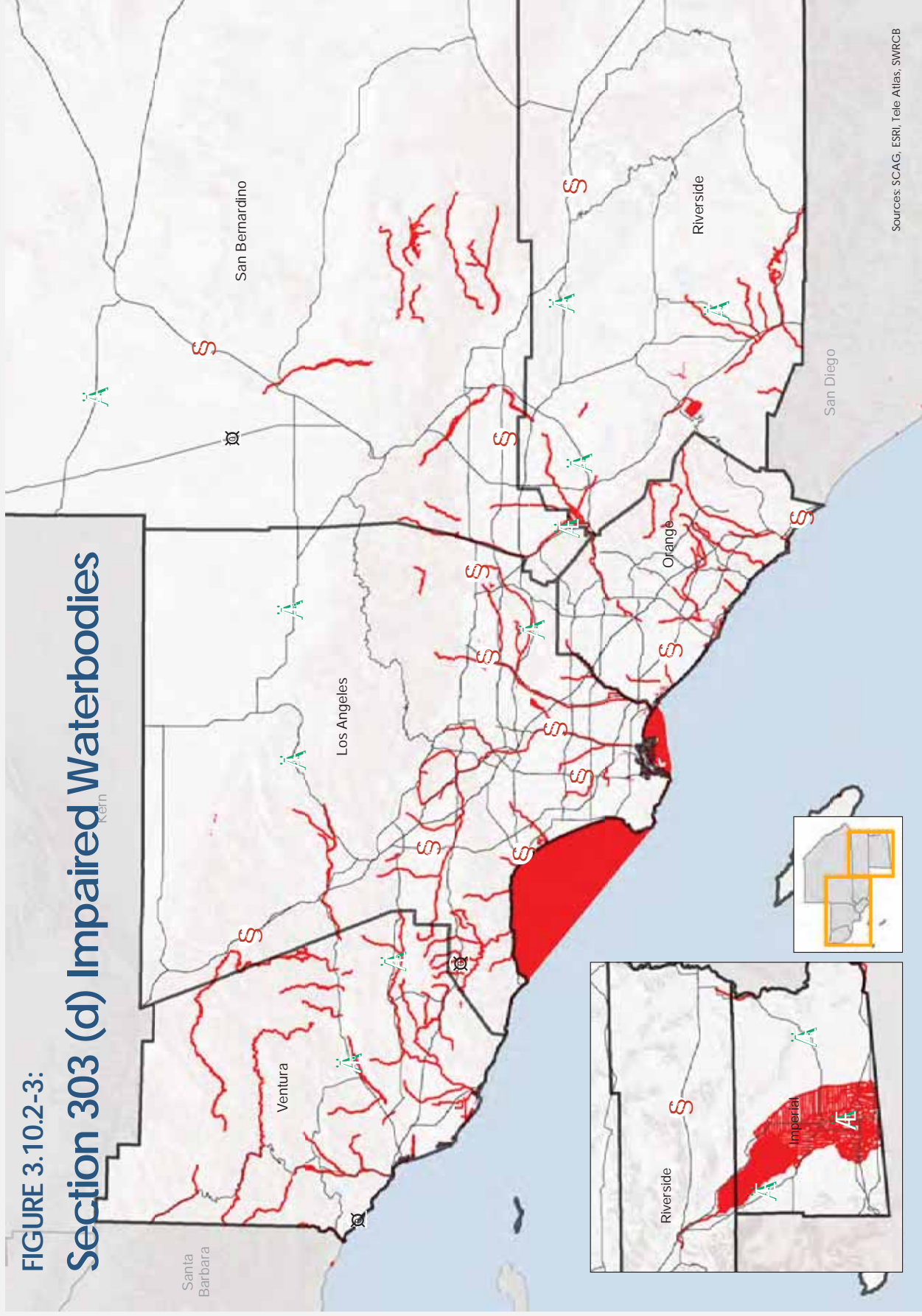
Major surface waters of the SCAG region flow from head waters in pristine mountain areas (largely in two national forests and the Santa Monica Mountains), through urbanized foothill and valley areas, high density residential and industrial coastal areas, and terminate at highly utilized recreational beaches and harbors. Uncontrolled pollutants from nonpoint sources are believed to be the greatest threats to rivers and streams within the SCAG region.

Impaired Water Bodies

There are 230 impaired water bodies in the SCAG region (**Table 3.10.2-5, Impaired Surface Water Bodies in the SCAG Region** and **Figure 3.10.2-3, Section 303(d) Impaired Water Bodies**).

FIGURE 3.10.2-3:

Section 303 (d) Impaired Waterbodies



**TABLE 3.10.2-5
IMPAIRED SURFACE WATER BODIES IN THE SCAG REGION**

Pollutant	Impaired Water Body
Central Coast	
Boron	Cuyama River (above Twitchell Reservoir)
	Rincon Creek
Colorado River Basin	
Chlordane	Alamo River
	Imperial Valley Drains
DDT (Dichlorodiphenyltrichloroethane)	Coachella Valley Storm Water Channel
	Palo Verde Outfall Drain and Lagoon
Selenium	Colorado River (Imperial Reservoir to California-Mexico Border)
Toxaphene	New River (Imperial County)
Lahontan	
Arsenic	Amargosa River (Upper Canyon to Willow Creek confluence)
Fluoride	Mojave River (Mojave Forks Reservoir outlet to Upper Narrows)
	Mojave River (Upper Narrows to Lower Narrows)
Nitrate	Sheep Creek
Total Dissolved Solids	Crab Creek
	Holcomb Creek
Los Angeles	
Algae	Lindero Creek Reach 1
	Lindero Creek Reach 2 (Above Lake)
	Medea Creek Reach 1 (Lake to Confl. with Lindero)
	Medea Creek Reach 2 (Abv Confl. with Lindero)
	Ventura River Estuary
	Ventura River Reach 1 and 2 (Estuary to Weldon Canyon)
Ammonia	Calleguas Creek Reach 2 (estuary to Potrero Rd- was Calleguas Creek Reaches 1 and 2 on 1998 303d list)
	Calleguas Creek Reach 3 (Potrero Road upstream to confluence with Conejo Creek on 1998 303d list)
	Calleguas Creek Reach 6 (was Arroyo Las Posas Reaches 1 and 2 on 1998 303d list)
	Calleguas Creek Reach 7 (was Arroyo Simi Reaches 1 and 2 on 1998 303d list)
	Calleguas Creek Reach 9B (was part of Conejo Creek Reaches 1 and 2 on 1998 303d list)
	Calleguas Creek Reach 10 (Conejo Creek (Hill Canyon)-was part of Conejo Crk Reaches 2 & 3, and lower Conejo Crk/Arroyo Conejo N Fk on 1998 303d list)
	Calleguas Creek Reach 11 (Arroyo Santa Rosa, was part of Conejo Creek Reach 3 on 1998 303d list)
	Calleguas Creek Reach 12 (was Conejo Creek/Arroyo Conejo North Fork on 1998 303d list)
	Calleguas Creek Reach 13 (Conejo Creek South Fork, was Conejo Cr Reach 4 and part of Reach 3 on 1998 303d list)

**TABLE 3.10.2-5
IMPAIRED SURFACE WATER BODIES IN THE SCAG REGION**

Pollutant	Impaired Water Body
	Coyote Creek
	Dominguez Channel (lined portion above Vermont Ave)
	Los Angeles River Reach 1 (Estuary to Carson Street)
	Los Angeles River Reach 2 (Carson to Figueroa Street)
	Los Angeles River Reach 3 (Figueroa St. to Riverside Dr.)
	Los Angeles River Reach 4 (Sepulveda Dr. to Sepulveda Dam)
	Los Angeles River Reach 5 (within Sepulveda Basin)
	San Jose Creek Reach 1 (SG Confluence to Temple St.)
	Santa Clara River Reach 3 (Freeman Diversion to A Street)
	Sepulveda Canyon
	Tujunga Wash (LA River to Hansen Dam)
	Beach Closures	Robert H. Meyer Memorial Beach
Benthic-Macroinvertebrate Bioassessments	Arroyo Seco Reach 1 (LA River to West Holly Ave.)
	Compton Creek
	Las Virgenes Creek
	Malibu Creek
	Triunfo Canyon Creek Reach 2
	Walnut Creek Wash (Drains from Puddingstone Res)
Bis(2ethylhexyl)phthalate (DEHP)	Sawpit Creek
Boron	Calleguas Creek Reach 8 (was Tapo Canyon Reach 1)
	Fox Barranca (tributary to Calleguas Creek Reach 6)
	Santa Clara River Reach 11 (Piru Creek, from confluence with Santa Clara River Reach 4 to gaging station below Santa Felicia Dam)
Cadmium	Ballona Creek Estuary
Cadmium (sediment)	Ballona Creek
ChemA (tissue)	Calleguas Creek Reach 5 (was Beardsley Channel on 1998 303d list)
	Calleguas Creek Reach 9A (was lower part of Conejo Creek Reach 1 on 1998 303d list)
	Duck Pond Agricultural Drains/Mugu Drain/Oxnard Drain No 2
	Rio De Santa Clara/Oxnard Drain No. 3
Chloride	Piru Creek (from gaging station below Santa Felicia Dam to headwaters)
	Santa Clara River Reach 5 (Blue Cut gaging station to West Pier Hwy 99 Bridge) (was named Santa Clara River Reach 7 on 2002 303(d) list)
	Santa Clara River Reach 6 (W Pier Hwy 99 to Bouquet Cyn Rd) (was named Santa Clara River Reach 8 on 2002 303(d) list)
	Sespe Creek (from 500 ft below confluence with Little Sespe Cr to headwaters)
Chlorpyrifos (tissue)	Calleguas Creek Reach 4 (was Revolon Slough Main Branch: Mugu Lagoon to Central Avenue on 1998 303d list)
Coliform Bacteria	Arroyo Seco Reach 2 (West Holly Ave to Devils Gate Dam)
	Bell Creek

**TABLE 3.10.2-5
IMPAIRED SURFACE WATER BODIES IN THE SCAG REGION**

Pollutant	Impaired Water Body
	Big Rock Beach
	Dan Blocker Memorial (Coral) Beach
	Las Flores Beach
	Leo Carillo Beach (South of County Line)
	Long Point Beach
	Los Angeles River Reach 6 (Above Sepulveda Flood Control Basin)
	Malibu Lagoon Beach (Surfrider)
	Palo Comado Creek
	Redondo Beach
	Rio Hondo Reach 1 (Confl. LA River to Snt Ana Fwy)
	Rio Hondo Reach 2 (At Spreading Grounds)
	San Gabriel River Reach 1 (Estuary to Firestone)
	San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam)
	San Jose Creek Reach 2 (Temple to I-10 at White Ave.)
	Santa Clara River Reach 7 (Bouquet Canyon Rd to above Lang Gaging Station) (was named Santa Clara River Reach 9 on 2002 303(d) list)
	Stokes Creek
	Topanga Beach
	Torrance Beach
	Torrance Carson Channel
	Verdugo Wash Reach 1 (LA River to Verdugo Rd.)
Wilmington Drain	
Copper	Aliso Canyon Wash
	Burbank Western Channel
	San Gabriel River Estuary
DDT (Dichlorodiphenyltrichloroethane)	Amarillo Beach
	Bluff Cove Beach
	Cabrillo Beach (Outer)
	Carbon Beach
	Castlerock Beach
	Escondido Beach
	Flat Rock Point Beach Area
	Inspiration Point Beach
	La Costa Beach
	Las Tunas Beach
	Malaga Cove Beach
	Malibu Beach
	Nicholas Canyon Beach
	Paradise Cove Beach

**TABLE 3.10.2-5
IMPAIRED SURFACE WATER BODIES IN THE SCAG REGION**

Pollutant	Impaired Water Body
	Point Dume Beach
	Point Fermin Park Beach
	Portuguese Bend Beach
	Puerco Beach
	Royal Palms Beach
	Sea Level Beach
	Trancas Beach (Broad Beach)
	Ventura Marina Jetties
	Whites Point Beach
	Zuma Beach (Westward Beach)
	DDT (sediment)	Abalone Cove Beach
Fecal Coliform	Canada Larga (Ventura River Watershed)
	Dry Canyon Creek
	McCoy Canyon Creek
Fish Barriers (Fish Passage)	Matilija Creek Reach 1 (Jct. With N. Fork to Reservoir)
	Matilija Creek Reach 2 (Above Reservoir)
Indicator Bacteria	Artesia-Norwalk Drain
	Avalon Beach
	Bull Creek
	Channel Islands Harbor Beach
	Coyote Creek, North Fork
	Dockweiler Beach
	Hermosa Beach
	Hobie Beach (Channel Islands Harbor)
	Long Beach City Beach
	Lunada Bay Beach
	Manhattan Beach
	Marina del Rey Harbor Beach
	Ormond Beach
	Peninsula Beach
	Point Vicente Beach
	Promenade Park Beach
	Puente Creek
	Resort Point Beach
	Rincon Beach
	San Antonio Creek (Tributary to Ventura River Reach 4)
San Buenaventura Beach	
San Gabriel River Reach 3 (Whittier Narrows to Ramona)	
Santa Monica Beach	

**TABLE 3.10.2-5
IMPAIRED SURFACE WATER BODIES IN THE SCAG REGION**

Pollutant	Impaired Water Body
	Santa Monica Canyon
	Surfers Point at Seaside
	Venice Beach
	Ventura River Reach 3 (Weldon Canyon to Confl. w/ Coyote Cr)
	Will Rogers Beach
Invasive Species	Solstice Canyon Creek
Lead	Monrovia Canyon Creek
	Topanga Canyon Creek
	Triunfo Canyon Creek Reach 1
Nitrate and Nitrite	Brown Barranca/Long Canyon
	Mint Canyon Creek Reach 1 (Confl to Rowler Cyn)
	Torrey Canyon Creek
	Wheeler Canyon/Todd Barranca
Pathogens	Palo Verde Shoreline Park Beach
Pumping	Ventura River Reach 4 (Coyote Creek to Camino Cielo Rd)
Sulfates	Hopper Creek
	Pole Creek (trib to Santa Clara River Reach 3)
Toxicity	Santa Clara River Reach 1 (Estuary to Hwy 101 Bridge)
Trash	San Gabriel River, East Fork
	Verdugo Wash Reach 2 (Above Verdugo Road)
San Diego	
Benzo[b]fluoranthene	English Canyon
Cadmium	Prima Deshecha Creek
Chloride	Oso Creek (at Mission Viejo Golf Course)
Chlorpyrifos	Long Canyon Creek (tributary to Murrieta Creek)
	Murrieta Creek
	Redhawk Channel
	Santa Gertrudis Creek
	Temecula Creek
	Warm Springs Creek (Riverside County)
	Long Canyon Creek (tributary to Murrieta Creek)
Murrieta Creek	
DDE (Dichlorodiphenyldichloroethylene)	San Juan Creek
Diazinon	Arroyo Trabuco Creek
Enterococcus	Pacific Ocean Shoreline, Aliso HSA, at Aliso Beach - middle
	Pacific Ocean Shoreline, Aliso HSA, at Aliso Creek mouth
	Pacific Ocean Shoreline, Lower San Juan HSA, at North Beach Creek
	Pacific Ocean Shoreline, Lower San Juan HSA, at South Doheny State Park

**TABLE 3.10.2-5
IMPAIRED SURFACE WATER BODIES IN THE SCAG REGION**

Pollutant	Impaired Water Body
	Campground
	Pacific Ocean Shoreline, San Clemente HA, at San Clemente City Beach at Pier
	Pacific Ocean Shoreline, San Clemente HA, at South Capistrano County Beach
Indicator Bacteria	Aliso Creek
	Pacific Ocean Shoreline, Dana Point HSA, at Aliso Beach at West Street
Iron	De Luz Creek
Phosphorus	Santa Margarita River (Upper)
	Segunda Deshecha Creek
Sediment Toxicity	Laguna Canyon Channel
Selenium	Moro Canyon Creek
	Oso Creek (lower)
Total Coliform	Pacific Ocean Shoreline, Dana Point HSA, at Salt Creek outlet at Monarch Beach
	Pacific Ocean Shoreline, Laguna Beach HSA, at Main Beach
Santa Ana	
	Bolsa Chica Channel
Ammonia (Unionized)	Borrego Creek (from Irvine Blvd to San Diego Creek Reach 2)
	East Garden Grove Wintersburg Channel
	Serrano Creek
Cadmium	Cucamonga Creek Reach 1 (Valley Reach)
	Rathbone (Rathbun) Creek
	Santa Ana River Reach 6
Chemical oxygen demand (COD)	Chino Creek Reach 1B (Mill Creek confl to start of concrete lined channel)
Coliform Bacteria	Chino Creek Reach 2 (Beginning of concrete channel to confl w San Antonio Creek)
Copper	Bolsa Chica State Beach
	Santa Ana River, Reach 3
DDT (Dichlorodiphenyltrichloroethane)	Balboa Beach
	Peters Canyon Channel
Enterococcus	Newport Slough
	Seal Beach
Fecal Coliform	Buck Gully Creek
	Los Trancos Creek (Crystal Cove Creek)
	San Diego Creek Reach 1
Indicator Bacteria	Goldenstar Creek
	Morning Canyon Creek
	San Diego Creek Reach 2

**TABLE 3.10.2-5
IMPAIRED SURFACE WATER BODIES IN THE SCAG REGION**

Pollutant	Impaired Water Body
	Santa Ana Delhi Channel
	Santa Ana River, Reach 2
	Temescal Creek, Reach 6 (Elsinore Groundwater sub basin boundary to Lake Elsinore Outlet)
Nutrients	Chino Creek Reach 1A (Santa Ana River R5 confl to just downstream of confl with Mill Creek)
	Grout Creek
	Mill Creek (Prado Area)
	Summit Creek
Pathogens	Knickerbocker Creek
	Lytle Creek
	Mill Creek Reach 1
	Mill Creek Reach 2
	Mountain Home Creek
	Mountain Home Creek, East Fork
	Santa Ana River, Reach 4
PCBs (Polychlorinated biphenyls)	Huntington Beach State Park
pH	Cucamonga Creek Reach 2 (Mountain Reach)
	San Antonio Creek
	Temescal Creek, Reach 1
Salinity/TDS/Chlorides	Santiago Creek, Reach 4

SOURCE:

State Water Resources Control Board. Accessed 11 September 2015. 2010 303(d) List of Impaired Waterbodies. Available at: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml

Special Pollutant Concerns

Point and Non-Point Source Pollution

Portions of the Los Angeles River in Los Angeles County and the Santa Ana River in Orange County have been lined with concrete for flood control purposes. One of the effects of these projects has been to reduce the natural recharge of groundwater basins. A second has been to make these rivers conveyance systems that concentrate and transfer urban pollutants and waste to the ocean. With regard to the rivers themselves, the State’s Water Quality Assessment Report estimated in 1992 that approximately two-thirds of California’s water bodies were threatened or impaired by non-point sources of pollution. Point source pollution refers to contaminants that enter a watershed, usually through a pipe. The location of the end of the pipe is documented and the flow out of that pipe is subject to a discharge permits issued by an RWQCB. Examples of point source pollution are discharges from sewage treatment plants and industrial facilities. Because point sources are much easier to regulate than non-point sources, they were the initial focus of the 1972 CWA. Regulation of point sources since then has dramatically improved the water quality of many rivers and streams throughout the country. In contrast

to point source pollution, non-point source pollution, also known as “pollution runoff,” is diffuse. Non-point pollution comes from everywhere in a community and is significantly influenced by land uses. A driveway or the road in front of a house may be a source of pollution if spilled oil, leaves, pet waste or other contaminants leave the site and runoff into a storm drain. Non-point source pollution is now considered one of the major water quality problems in the United States.

Runoff Pollutants

The problem of non-point source pollution is especially acute in urbanized areas where a combination of impermeable surfaces, landscape irrigation, highway runoff and illicit dumping increase the pollutant loads in stormwater. The SWRCB has identified the following pollutants found in urban runoff as being a particular concern.

- *Sediment:* Excessive sediment loads in streams can interfere with photosynthesis, aquatic life respiration, growth, and reproduction.
- *Nutrients:* Nitrogen and phosphorus can result in eutrophication of receiving waters (excessive or accelerated growth of vegetation or algae), reducing oxygen levels available for other species.
- *Bacteria and viruses:* Pathogens introduced to receiving waters from animal excrement in the watershed and by septic systems can restrict water contact activities.
- *Oxygen demanding substances:* Substances such as lawn clippings, animal excrement and litter can reduce dissolved oxygen levels as they decompose.
- *Oil and grease:* Hydrocarbons from automobiles are toxic to some aquatic life.
- *Metals:* Lead, zinc, cadmium and copper are heavy metals commonly found in stormwater. Other metals introduced by automobiles include chromium, iron, nickel and manganese. These metals can enter waterways through storm drains along with sediment, or as atmospheric deposition.
- *Toxic pollutants:* Pesticides, phenols and polynuclear aromatic hydrocarbons (PAHs) are toxic organic chemicals found in stormwater.
- *Floatables:* Trash in waterways increases metals and toxic pollutant loads in addition to undesirable aesthetic impacts.

Salinity

The general quality of groundwater in the SCAG region tends to be degraded as a result of land uses and water management practices. Fertilizers and pesticides typically used on agricultural lands infiltrate and degrade groundwater. Septic systems and leaking underground storage tanks can also impact groundwater. Overpumping can result in saltwater intrusion from the ocean, further degrading groundwater quality. In addition, wastewater discharges in inland regions can result in salt buildup from fertilizer and dairy waste.

To address the salinity problem, an increasing number of water agencies are working with other water, groundwater and wastewater agencies, state and local government agencies, and interested associations on researching and developing salinity management goals and action plans. Examples include the recently adopted Malibu Valley Groundwater Basin Salt and Nutrient Management Plan and the Central and West Coast Groundwater Basin Salt and Nutrient Management Plan. Strategies

currently in use include blending low and high salinity water and the desalination of brackish water based on guidance from the Regional and SWRCBH's Recycled Water Policy.

Perchlorate

Ammonium perchlorate is a primary ingredient of solid rocket propellant and is used in the manufacture of some types of munitions and fireworks. Ammonium perchlorate and other perchlorate salts are readily soluble in water, dissociating into the perchlorate ion that is highly mobile in groundwater. Small amounts of perchlorate have been found in the Colorado River with higher concentrations in a number of groundwater basins in Southern California. The primary human health concern related to perchlorate is its effects on the thyroid. While perchlorate cannot be removed using conventional water treatment, nanofiltration and reverse osmosis do work effectively, but at very high cost. Irvine Ranch Water District is using a fluidized bed biological treatment and is reinjecting the treated water back into the ground. A number of companies have developed an ion exchange process that removes perchlorate but creates hazardous waste brine. Nonetheless, a number of sites in Southern California have successfully installed ion exchange systems. Thus, while effective treatment options are available, the overriding consideration in decisions about whether to recover perchlorate contaminated groundwater is the cost-effectiveness of available technologies.

Total Organic Carbon (TOC) and Bromide

When source water containing high levels of TOC and bromide is treated with disinfectants such as chlorine or ozone, disinfection byproducts (DBPs) form. Studies have shown a link between certain cancers and DBP exposure. In addition, some studies have shown an association between reproductive and developmental effects and chlorinated water. In December 1998, the U.S. EPA adopted more stringent regulations for DBPs, especially in old industrial sites and Gateway Cities Corridor where historic use of disinfectants is having residual effects. Existing levels of TOCs and bromide in water supplies present challenges to agencies receiving water from the SWP to monitor and maintain safe drinking water supplies. A primary objective of the CALFED Bay-Delta process is protection and improvement of the water quality of the SWP to ensure future drinking water regulations. Although exact future drinking water standards are unknown, significant source water protection of SWP water supplies will almost certainly be a necessary component of meeting these requirements cost-effectively.

Methyl Tertiary Butyl Ether and Tertiary Butanol (MTBE)

The use of MTBE (and other oxygenates) in gasoline was mandated to achieve reductions in air pollution, including emissions of benzene, a known human carcinogen. However, this reduction in air pollution has been achieved at the expense of creating a serious groundwater and surface water problem. MTBE is very soluble in water and moves quickly into the groundwater. It is introduced into surface water bodies from the motor exhausts of recreational watercraft. MTBE is also resistant to chemical and microbial degradation in water, making treatment more difficult than the treatment of other gasoline components. As stated in the 2010 Regional Urban Water Management Plan (RUWMP) developed by the Southern California Municipal Water District, "Perchlorate interferes with the thyroid gland's ability to produce hormones required for normal growth and development." MTBE presents a significant problem for local groundwater basins. Leaking underground storage tanks and poor fuel-handling practices at local gas stations may provide a large source for MTBE. One gallon of MTBE alone (11 percent MTBE by volume) is enough to contaminate about 16.5 million gallons of water at 5 µg/L.³⁶

Such contamination has caused some water agencies to close wells. The City of Santa Monica, for example, lost about 50 percent of its production wells as a result of MTBE contamination during the 1990s. A combination of advanced oxidation processes followed by granular activated carbon has been found to be effective in reducing the levels of MTBE contaminants by 80 to 90 percent. This may make it possible for local water agencies to treat their groundwater sources to comply with water quality standards. The cost of such treatment, however, could cause some agencies to increase imports as a means of avoiding this cost.

Arsenic

Arsenic, a naturally occurring substance in drinking water, has been identified as a risk factor for lung and urinary bladder cancer. A number of Southern California water sources have been identified as containing arsenic concentrations exceeding the current federal standard of 10 µg/L. Monitoring results submitted to the California Department of Health Services in 2001–2003 showed that the affected areas included the counties of San Bernardino (61 sources), Los Angeles (50 sources), Riverside (24 sources) and Orange (four sources). It appears likely that current treatment standards will increase cost but not necessarily decrease local water supplies. However, if treatment cost increases are sufficient, some water agencies in Southern California may choose to increase their use of imported water to avoid this additional cost.

Radon

Radon, a naturally occurring substance in groundwater, has not been a significant problem for most water agencies with the SCAG region. Where radon is a problem, air-stripping through aeration is the cost effective treatment option. However, stripping results in outgassing of radon into the air. Currently, the U.S. EPA has determined that the risk posed by this outgassing is less than that posed by radon in the water.

Uranium

A 10.5-million-ton pile of uranium mine tailings at Moab, Utah, lies 600 feet from the Colorado River. Rainwater has been seeping through the pile and contaminating the local groundwater, causing a flow of contaminants into the river. It also has the potential to wash millions of tons of material containing uranium into the Colorado River as a result of a flood or other natural disaster. Operations and maintenance activities at the site include intercepting some of the contaminated groundwater before it discharges into the river. The interim action became fully active in September 2003 and is currently being evaluated. As of 2010, 1,408,000 gallons of contaminated water had been collected and evaporated. At the recommendation of the National Research Council, the Department of Energy (DOE) conducted a study to evaluate remediation actions and released an environmental impact statement in July 2005. The DOE has agreed to move the tailings, but remediating the site will require Congressional appropriations, and maintaining support for a cleanup will require close coordination and cooperation with other Colorado River users.

Land Use and Water Quality

Buildings, roads, sidewalks, parking lots, and other impervious surfaces define the urban landscape. But impervious surfaces also alter the natural hydrology and prevent the infiltration of water into the

ground. Impervious surfaces change the flow of stormwater over the landscape. In underdeveloped areas, vegetation holds down soil, slows the flow of stormwater over land, and filters out some pollutants by both slowing the flow of the water and trapping some pollutants in the root system. Additionally, some stormwater filters through the soil, replenishing underground aquifers. $36\mu\text{g/L}$ is a unit of weight equal to one-millionth (10^{-6}) of a gram. As land is converted to other uses such as commercial developments, many of these natural processes are eliminated as vegetation is cleared and soil is paved over. As more impervious surface coverage is added to the landscape, more stormwater flows faster off the land. The greater volume of stormwater increases the possibility of flooding, and the high flow rates of stormwater do not allow for pollutants to settle out, meaning that more pollution gets concentrated in the stormwater runoff. Research on urban stream protection has found that stream degradation occurs at relatively low levels of imperviousness—in the range of 10 to 20 percent. Wetlands suffer impairment when impervious surface coverage surpasses 10 percent. Fish habitat, spawning, and diversity suffer when imperviousness is greater than 10 to 12 percent. Wetland plants and amphibian populations diminish when impervious surfaces are greater than 10 percent. Generally, the higher the percentage of impervious surface, the greater the degradation in stream water quality. Based on this research, streams can be considered stressed in watersheds when the impervious coverage exceeds 10 to 15 percent. The link between impervious surfaces and degraded water quality points to the need for careful comparisons between dispersed and compact development strategies. On a regional or watershed level, greater overall water quality protection is achieved through more concentrated or clustered development. Concentrated development protects the watershed by leaving a larger percentage of it in its natural condition.

Waste Discharge Requirements

If the operation or discharges from a property or business affects California's surface, coastal, or groundwater, it would normally be required to obtain a permit to discharge waste from the appropriate RWQCB. Discharges of pollutants into surface waters require a federal NPDES permit application with the appropriate Regional Board. For other types of discharges, such as those affecting groundwater or in a diffused manner (e.g., erosion from soil disturbance or waste discharges to land) a Report of Waste Discharge must be filed with the appropriate RWQCB in order to obtain Waste Discharge Requirements (WDRs).

For specific situations, the RWQCB may waive the requirement to obtain a WDR for discharges to land or may determine that a proposed discharge can be permitted more effectively through enrollment in a general NPDES permit or general WDR.

The RWQCBs in the SCAG region have identified a typical list of activities that affect water, but the list is by no means inclusive of all situations:

- Discharge of process wastewater not discharging to a sewer (factories, cooling water, etc.)
- Confined Animal facilities (dairies, feedlots, etc.)
- Waste containments (landfills, waste ponds, etc.)
- Construction sites
- Boatyards and shipyards
- Discharges of pumped groundwater and cleanups (underground tank cleanups, dewatering, spills)

- Material handling areas draining to storm drains
- Sewage treatment facilities
- Filling of wetlands
- Dredging, filling, and disposal of dredge wastes
- Commercial activities not discharging to a sewer (e.g., factory waste water, storm drain)
- Waste discharges to land

3.10.3 THRESHOLDS OF SIGNIFICANCE

Based on CEQA Appendix G and as appropriate for the 2016 RTP/SCS, the Plan would have a significant impact related to water resources if it would:

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site.
- Substantially create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or providing substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area as mapped on a federal flood hazard boundary or flood insurance rate map or other flood hazard delineation map.
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Have potential for inundation by seiche, tsunami, or mudflow.

Methodology

This section identifies the potential impacts of the Plan on hydrology and water quality. The water quality analysis evaluates the regional-scale and cumulative impacts of the transportation projects and land use strategies included in the 2016 RTP/SCS and the associated growth on water quality. The analysis includes a programmatic-level assessment of the expected urbanized land use and the associated impervious surfaces. Subsequent, project-specific water quality assessments will be conducted by implementing agencies to determine site-specific water quality impacts for individual transportation projects, as projects in the 2016 RTP/SCS are implemented.

The methodology for determining the significance of the impacts on water quality, water supply, and wastewater compares the future Plan conditions to the existing setting, as required in *CEQA Guidelines* § 15126.2(a).

Long-term, regional-scale, cumulative impacts of the 2016 RTP/SCS on water quality were evaluated based on relative estimates of vacant land consumption based on the long-term regional growth forecast for 2040. Impacts to water supply were assessed by comparing the existing water supplies to the expected water demand in 2040 with the Plan. Likewise, the PEIR analyzes impacts to wastewater services by comparing existing capacity of wastewater systems to the expected demand in future Plan conditions.

The 2016 RTP/SCS includes coordinated regional strategies for transportation investments and land use strategies that are aimed to increase mobility, promote sustainability and improve economy. The Regional Travel Demand Model (RTDM) used for this analysis captures pass-through traffic that does not have an origin or destination in the region, but does impact the region, so that too is included in the project analysis. Although development is anticipated to occur within the region even without the 2016 RTP/SCS, this Plan includes regional land use strategies that could influence growth, including distribution patterns, throughout the region.

To assess potential impacts to water resources, Geographic Information Systems (GIS) were used to assess transportation projects in the 2016 RTP/SCS as well as anticipated development patterns in relation to existing water resources. Additional data relating to water resources compiled within the GIS format included surface hydrology, 100-year flood plains, impaired water bodies identified by the SWRCB, and regional groundwater basins. The assessment of impacts also includes relative estimates of vacant land consumption based on the long-term regional growth forecast for 2040. Impacts to water supply were assessed by comparing the existing water supplies to the expected water demand in 2040 with the Plan.

3.10.4 IMPACT ANALYSIS

IMPACT HYD-1: Potential to violate any water quality standards or waste discharge requirements.

Significant Impact

The 2016 RTP/SCS would result in significant impacts to water quality standards and waste discharge requirements. Construction and operation of the transportation projects and land use strategies included in the 2016 RTP/SCS have the potential to violate water quality requirement pursuant to Sections 401 and 404 of the Federal CWA and specific TMDLs adopted by the RWQCBs in the SCAG region, constituting a significant impact. The Plan has the potential to increase impervious surface areas which in turn will increase urban runoff, resulting in the transport of greater quantities of contaminants to receiving waters that may currently be impaired (Table 3.10.2-5). Construction activities related to transportation projects included in the Plan could increase pollutant loads carried by storm water runoff (See Table 3.10.4-1, *Pollutants Associated with Transportation*). In addition, many of the pollutants in urban runoff are attributable to landscape irrigation, highway runoff, and illicit dumping. Highway runoff is a component of urban runoff contributing oil and grease, sediment, nutrients, heavy metals, and toxic substances.

**TABLE 3.10.4-1
POLLUTANTS ASSOCIATED WITH TRANSPORTATION**

Pollutant	Source
Asbestos	Clutch plates, brake linings
Cadmium	Tire wear and insecticides
Copper	Thrust-bearing, bushing, brake linings, and fungicides and insecticides
Chromium	Pavement materials, metal plating, rocker arms, crankshafts, rings, and brake linings
Cyanide	Anti-caking compound in de-icing salt
Lead	Leaded gasoline, motor oil, transmission babbit metal bearings, tire wear
Iron	Auto-body rust, steel highway structures, moving engine parts
Manganese	Moving engine parts
Nickel	Diesel fuel and gasoline, pavement material, lubricating oil, metal plating, bushing wear, and brake linings
Nitrogen and Phosphorus	Motor oil additives, fertilizers
Sulphates	Roadway beds, fuel, and de-icing salt
Zinc	Motor oil and tires
Grease and Hydrocarbons	Spills and leaks of oil and n-parafin lubricants, antifreeze, hydraulic fluids
Rubber	Tire wear
Sediment	Pavement wear, construction and maintenance activities

SOURCE:

U.S. Environmental Protection Agency, Office of Water. 1995. *Controlling Nonpoint Source Runoff Pollution from Roads, Highways, and Bridges*. EPA-841-F-95-008a.

The SWRCB has developed trash, metal, and bacteria TMDLs for many of the watersheds in the region, including Dominguez Channel, Santa Monica Bay, Los Angeles River, Santa Clara River, Ventura River, Malibu Creek, Calleguas Creek, and Ballona Creek. The TMDLs provide a numerical threshold for each pollutant within each watershed to be used for regulating both point and non-point source discharges and is implemented through the NPDES permit process. Future methods for quantifying highway runoff will assist regulators with applying appropriate management practices in areas where highway runoff impacts impaired water bodies. The inclusion of runoff control measures in the design of future roadway projects will improve water quality and result in impacts to the environment.

Transportation projects and urban development encouraged by land use strategies included in the proposed 2016 RTP/SCS would result in increased impervious surfaces. Much of the development that's being envisioned by the 2016 RTP/SCS would be located in urban areas where few pervious surfaces exist and pollution of urban waterways is a serious problem. The growth projection associated with the proposed Plan would substantially increase the amount of urbanized land or densify existing urbanized areas in the SCAG region. Pollutant loading in surface and groundwater correlates closely with land use patterns. Suspended sediments, oxygen demanding substances, and oil and grease would constitute a substantial part of these pollutant loads. Total nitrogen and total phosphorous would increase less than these other pollutants, but would have the potential for influencing algal growth, reducing dissolved oxygen, and affecting aquatic species abundance and composition. Increased impervious surfaces would add storm water runoff volumes and peak flow rates.

Anticipated population growth reflected in the Plan's growth projections would substantially increase urbanization in some areas such as the high quality transit areas (HQTAs) of the SCAG region. With the proposed 2016 RTP/SCS, pollutant loading in surface and groundwater correlates closely with land use patterns. Suspended sediments, oxygen demanding substances, and oil and grease would constitute a substantial part of these pollutant loads. Total nitrogen and total phosphorous would increase less than these other pollutants, but would have the potential for influencing algal growth, reducing dissolved oxygen, and affecting aquatic species abundance and composition. Additional impervious surfaces would increase the potential for pollutants to enter impaired receiving waters. Therefore, there is a significant impact to water quality standards and waste discharge requirements, requiring the consideration of mitigation measures.

IMPACT HYD-2: Potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).

Significant Impact

The 2016 RTP/SCS would result in significant impacts in regards to groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted). The anticipated regional population growth of 3.8 million people by 2040 reflected in the 2016 RTP/SCS, would result in net increase in water demand in the SCAG region that would have the potential to substantially deplete groundwater supplies. Additionally, higher-density, infill development patterns to accommodate such growth as encouraged by the Plan, would potentially interfere with groundwater recharge due to an increase in impervious surfaces, such that there would be a net deficit in aquifer volume or a lowering of local groundwater level. Groundwater represents most of the SCAG region's fresh water supply, making up approximately 34 percent of total water use, depending on precipitation levels. The hydrologic regions vary in their dependence on groundwater for urban and agricultural uses. The DWR estimates that the State has a groundwater overdraft of approximately 1 to 2 maf in average years.

The transportation projects included in the 2016 RTP/SCS would likely include projects that involve installation of additional impervious surfaces. With the implementation of transportation projects included in the 2016 RTP/SCS, approximately 8,000 new lane miles resulting in a total of approximately 78,802 lane miles (PM peak network) in 2040 would be added to the region.⁶ These additions would include new facilities, additional right-of-way on existing transportation facilities and/or extending roads to accommodate bike lanes on existing transportation facilities. Rail projects involving construction of new rail lines, new stations, and upgrades to existing stations are not included in this calculation. Where

⁶ Southern California Association of Governments. December 2015. *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy: Highways & Arterials Appendix*. Los Angeles, CA.

these transportation projects involve installation of additional impervious surfaces they would potentially have adverse impacts on groundwater infiltration.

Under natural conditions, vegetation intercepts and retains rainfall before infiltration or runoff occurs. Without hard-surfaced land areas, this hydrology cycle favors groundwater recharge. With a roadway or other hard surface this infiltration dynamic is significantly impeded. The magnitude of this effect is reported by studies indicating that the volume of storm water washed off one-acre of roadway is about sixteen times greater than that of a comparably sized meadow.⁷

The increase in impervious surfaces due to additional lane miles, in addition to urban development associated with the population growth in 2040 would increase runoff and potentially affect groundwater recharge rates. Therefore, there is a significant impact to substantially deplete groundwater supplies and interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, requiring the consideration of mitigation measures.

IMPACT HYD-3: Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site.

Significant Impact

The 2016 RTP/SCS would result in significant impacts to existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site. Transportation projects identified in the Plan would occur within watersheds that have impaired water bodies. Many of the impaired water bodies are located near a freeway, transit, or rail project included in the 2016 RTP/SCS. Several projects may impact water bodies by placing fill material within a stream channel. For example, several of the lane widening projects and new transportation facilities could cross existing creeks or be expanded into wetland areas. These potential intrusions would be subject to permitting by the USACOE and a RWQCB pursuant to Sections 404 and 401 of the CWA.

Construction and earth-moving activities from transportation projects and property development projects can be a major source of sediment loading in local waterways. There is significant potential for unprotected soil to erode as a result of stormwater runoff construction activity associated with the proposed Plan. Prior to commencement of construction activities, a project applicant must submit a SWPPP to the SWRCB that identifies the best management practices (BMPs) that will be used in the planned project construction. The applicant must receive approval of the SWPPP and submit a Notice of Intent prior to initiating construction. Each individual transportation project in the 2016 RTP/SCS and development projects discussed in the Plan, is expected to adopt BMPs appropriate to local conditions and to the proposed construction techniques that will reduce stormwater runoff. There is still a potentially significant impact to substantially alter the existing drainage pattern of the site or area,

⁷ Scheuler, T.R. 1994. The Importance of Imperviousness. *Watershed Protection Techniques* 1(3): 100-111.

including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site, requiring the consideration of mitigation measures.

IMPACT HYD-4: Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site.

Significant Impact

The 2016 RTP/SCS would have significant impact to existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site.

Several transportation projects included in the 2016 RTP/SCS may impact water bodies by placing fill material within a stream channel due to construction activities such as lane widening projects, bridge, tunnel, and new transportation facilities projects that could cross existing creeks, water crossings, rivers or be expanded into wetland areas. Additionally construction activities associated with transportation projects can be a major source of sediment loading and hydrocarbon contamination in local waterways. Unprotected soil easily erodes with rainwater. In addition, fueling procedures and maintenance of heavy equipment on construction sites can spill diesel and oil and grease. As a result, there is a significant impact to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, and substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site, requiring the consideration of mitigation measures.

IMPACT HYD-5: Potential to substantially create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or providing substantial additional sources of polluted runoff.

Significant Impact

The 2016 RTP/SCS would result in significant impacts to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or providing substantial additional sources of polluted runoff. The Plan also includes land use strategies that may increase impervious surfaces, which in turn will increase urban runoff, resulting in the transport of greater volumes of polluted water into existing or planned stormwater drainage systems. Storm water runoff is influenced by rainfall intensity, ground surface permeability, watershed size and shape, and physical barriers. The introduction of impermeable surfaces greatly reduces natural infiltration, allowing for a greater volume of runoff.

As stated previously, paved surfaces and drainage conduits can accelerate the velocity of runoff, concentrating peak flows in downstream areas faster than under natural conditions. Significant increases to runoff and peak flow can overwhelm drainage systems and alter flood elevations in downstream locations. Increased runoff velocity can promote scouring of existing drainage facilities, reducing system reliability and safety (see Table 3.10.4-1).

In addition, this increase has the potential to create or contribute runoff flows that would exceed the capacity of existing or planned storm water drainage systems. In addition, placing new structures within an existing floodplain can impede flood waters, altering the flood risks both upstream and downstream. As a result, there is a significant impact to substantially create and contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems and providing substantial additional sources of polluted runoff, requiring mitigation measures.

IMPACT HYD-6: Potential to otherwise substantially degrade water quality.

Significant Impact

See Impact HYD-1.

The 2016 RTP/SCS would result in significant impacts to water quality. As described above, the Plan's transportation projects and anticipated new growth in urbanized areas would increase impervious areas. The runoff from these new impervious areas would contribute to local water impairments by degrading the water quality of the receiving waters, both in the short-term (during project construction) and in the long-term (during the project's operation). There is a significant impact to otherwise substantially degrade water quality, requiring the consideration of mitigation measures.

IMPACT HYD-7: Potential to place housing within a 100-year flood hazard area as mapped on a federal flood hazard boundary or flood insurance rate map or other flood hazard delineation map.

No Impact

The 2016 RTP/SCS's forecasted land use pattern encourages the trend of new higher-density housing and commercial development in the region's HQTAs. The HQTAs are generally located in areas that are subject to Flood Management Plans and major flood control infrastructure has been constructed to constrain the 100-year flood in to flood control systems. Flood-prone areas in Imperial County are managed pursuant to a FMP that includes a future-oriented approach to planning in flood risk areas. It is a pre-disaster planning approach that is required by FEMA for the County to continue to participate in the National Flood Insurance Program (NFIP). When the community chooses to join the NFIP, it must adopt and enforce minimum floodplain management standards for participation. The floodplain management requirements within the Special Flood Hazard Area (SFHA) are designed to prevent new developments from increasing the flood threat and to protect new and existing buildings from anticipated flood events. When a community chooses to join the NFIP, it must require permits for all development in the SFHA and ensure that construction materials and methods used will minimize future flood damage.⁸ The Los Angeles Flood Control District includes the vast majority of drainage infrastructure within incorporated and unincorporated areas in every watershed in the County, including 500 miles of open channel, 2,800 miles of underground storm drain, and an estimated 120,000 catch basins.⁹ The County of Orange maintains 350 miles of concrete, rock

⁸ Imperial County. April 2007. *Imperial County Flood Management Plan*.

⁹ County of Los Angeles Department of Public Works. Accessed 18 November 2015. "100 Years 1915-2015." Available at: <http://dpw.lacounty.gov/lacfd/>

lined and earthen flood control facilities.¹⁰ Flood control facilities are designed to handle water flow from storm drains and other runoff and "channel" the water into the bay or ocean. The Riverside County Flood Control District owns and operates over 600 miles of channels, storm drains, and levees along with 74 dams and detention basins that reduce flood risk throughout the District.¹¹ Similarly, the San Bernardino County Flood Control District has developed a very extensive system of facilities, including dams, conservation basins, channels, and storm drains to intercept and convey flood flows through and away from the major developed areas of the County.¹² The Ventura County Flood Control District provides for the control and conservation of flood and storm waters and for the protection of watercourses, watersheds, public highways, life and property in the district from damage or destruction from these waters.¹³

The flood control districts in the SCAG Region participated in the NFIP which is based on a mutual agreement between the Federal Government and communities. Participating communities agree to regulate floodplain development according to specified criteria and standards. Specifically, communities must adopt and enforce minimum floodplain management regulations so that development, including buildings, is undertaken in ways that reduce exposure to flooding.

The RTP/SCS encourages development in HQTAs and other land use patterns of development in areas that are generally located in areas afforded flood protection by flood control facilities and are subject to specific land use planning regulations pursuant to the NFIP; therefore, the Plan would not be expected to result in development of housing in a 100-year flood hazard; therefore, there would be no impact, and the consideration of mitigation measures is not required.

Impact HYD-8: Potential to place within a 100-year flood hazard area structures that would impede or redirect flood flows.

Significant Impact

The 2016 RTP/SCS would have a potential to result in significant impact in regards to placing structures in a 100-year flood hazard area that would impede or redirect flood flows. Natural desert conditions promote runoff that can cause flash flooding. In those areas of the SCAG region where soils have naturally low permeability and are subject to quick saturation, high rain volumes remain on the surface as runoff. When impervious surfaces such as highways are placed within these areas of an existing flood plain, the public is exposed to the hazards of flash flooding. **Figure 3.10.2-2** identifies federally designated flood hazard zones in the SCAG region. Many of the transportation projects included in the 2016 RTP/SCS would pass through these floodplain areas as currently delineated. The highway and arterial projects included in the 2016 RTP/SCS generally include widening existing highways, constructing new interchanges, new highway segments, new rail lines, and the High Speed Rail projects.

¹⁰ OC Public Works, Flood Control. Accessed 18 November 2015. "Channels" and "Dams and Basin Maintenance." Available at : <http://occom.ocpublicworks.com/sections/flood>

¹¹ Riverside County Flood Control and Water Conservation District. Accessed 18 November 2015. Available at: <http://www.floodcontrol.co.riverside.ca.us/>

¹² San Bernardino County Flood Control District. Accessed 18 November 2015. "Flood Control District." Available at : <http://www.sbcounty.gov/dpw/floodcontrol/>

¹³ County of Ventura Public Works Agency, Watershed Protection District. Accessed 18 November 2015. "Protecting Life, Property, Watercourses, and Watersheds." Available at: <http://pwa.ventura.org/watershed-protection-district/watershed-protection-district>

Placing new structures within an existing floodplain can impede flood waters, altering the flood risks both upstream and downstream. The flooding risks associated with transportation projects and development located in flood zones can be modified with appropriate design and alignment considerations. The additional urbanized acreage expected by 2040 could increase stormwater runoff, and could be located in areas with the potential for alluvial fan flooding or other flood hazards. Several HQTAs are included in areas that are also flood hazard zones, in particular these areas are located along the coasts of Orange, Los Angeles and Ventura Counties (see Figure 3.10.2-2). Although habitable structures would not be expected to be developed in the 100-year flood hazard area, there exist the potential for transportation project to cross such areas, constituting a significant impact due to the potential to impede or redirect flood flows, requiring the consideration of mitigation measures.

IMPACT HYD-9: Potential to expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Significant Impact

The 2016 RTP/SCS would result in significant impacts in regards to exposing people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. The flooding risks associated with transportation projects and urban development included in the 2016 RTP/SCS are located downstream of dams and retention basins or afforded protection by levee system, that may be subject to failure as a result seismic ground-shaking or other natural or anthropogenic actions that compromise the stability of such structures. The additional urban and more compact development, as well as possible expansion of existing urban areas in areas that are potentially subject to flooding as a result of failure of a levee or dam could create a potential to expose people or structures to a significant risk of loss, injury, or death involving flooding. Several HQTAs are included areas that are subject to inundation from tsunamis. In particular, these areas are located along the coasts of Orange, Los Angeles and Ventura Counties. Levee or dam failure could occur at Big Bear Lake, Lake Arrowhead, Lake Casistas, Castaic Lake, Pyramid Lake, Lake Elsinore, Diamond Valley Lake, and the Salton Sea. Hence, there is a potentially significant impact to exposing people and structures to a significant risk of loss, injury, and death involving flooding, including flooding as a result of the failure of a levee or dam, requiring the consideration of mitigation measures.

IMPACT HYD-10: Potential for inundation by seiche, tsunami, or mudflow.

Significant Impact

The proposed 2016 RTP/SCS would result in significant impact in regards to potential risk of inundation by seiche, tsunami, or mudflow. The entire SCAG region is susceptible to impacts from seismic activity including the occurrence of seiches in Big Bear Lake, Lake Arrowhead, Lake Casistas, Castaic Lake, Pyramid Lake, Lake Elsinore, Diamond Valley Lake, and the Salton Sea. Development of transportation projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, in addition to regional land use strategies included in the 2016 RTP/SCS that encourage compact development within the SCAG region, constituting a significant impact. Potentially significant impacts to property and public safety could occur due to subsidence, slope failure, and the presence of expansive soils. Subsidence has historically

occurred within the SCAG region due to groundwater overdraft and petroleum extraction. Table 3.7.4-1 shows the number of acres within each County where 2016 RTP/SCS transportation projects and strategies are affected by liquefaction and earthquake-induced landslides. Figure 3.7.4-1 shows the location of the 2016 RTP/SCS transportation projects and potential development patterns encouraged by land use strategies, in relation to these areas. As such, there is a potentially significant impact for inundation by seiche, tsunami, and mudflow, requiring the consideration of mitigation measures.

3.10.5 CUMULATIVE IMPACTS

IMPACT HYD-1: Potential to violate any water quality standards or waste discharge requirements.

Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute incrementally in the SCAG region to impacts on water quality standards because transportation projects that are with jurisdiction and implementing have the potential to violate water quality requirement pursuant to Sections 401 and 404 of the Federal CWA and specific TMDLs adopted by the RWQCBs in the SCAG region, constituting a significant impact. The Plan has the potential to increase impervious surface areas which in turn will increase urban runoff, resulting in the transport of greater quantities of contaminants to receiving waters that may currently be impaired

IMPACT HYD-2: Potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).

Significant Cumulative Impact

The 2016 RTP/SCS would also be expected to contribute incrementally in the SCAG region to impacts depleting groundwater supplies. The anticipated regional population growth of 3.8 million people by 2040 reflected in the 2016 RTP/SCS, would result in net increase in water demand in the SCAG region that would have the potential to substantially deplete groundwater supplies. Additionally, higher-density, infill development patterns to accommodate such growth as encouraged by the Plan, would potentially interfere with groundwater recharge due to an increase in impervious surfaces, such that there would be a net deficit in aquifer volume or a lowering of local groundwater level.

IMPACT HYD-3: Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site.

Significant Cumulative Impact

The 2016 RTP/SCS would also be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts on the alteration of drainage patterns, thus requiring the consideration of mitigation measures. Several projects may impact water bodies by placing fill material within a stream channel. For example, several of the lane widening projects and new transportation facilities could cross existing creeks or be expanded into wetland areas.

IMPACT HYD-4: Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site.

Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts on the alteration of drainage patterns, thus requiring the consideration of mitigation measures. Several projects may impact water bodies by placing fill material within a stream channel. For example, several of the lane widening projects and new transportation facilities could cross existing creeks or be expanded into wetland areas.

IMPACT HYD-5: Potential to substantially create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or providing substantial additional sources of polluted runoff.

Significant Impact

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts on contributing to runoff water that would exceed the capacity of existing or planned stormwater drainage systems. Paved surfaces and drainage conduits can accelerate the velocity of runoff, concentrating peak flows in downstream areas faster than under natural conditions. Significant increases to runoff and peak flow can overwhelm drainage systems and alter flood elevations in downstream locations. Increased runoff velocity can promote scouring of existing drainage facilities, reducing system reliability and safety

IMPACT HYD-6: Potential to otherwise substantially degrade water quality.

Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts to degrading water quality. The Plan's transportation projects and anticipated new growth in urbanized areas would increase impervious areas. The runoff from these

new impervious areas would contribute to local water impairments by degrading the water quality of the receiving waters, both in the short-term (during project construction) and in the long-term (during the project's operation). There is a significant impact to otherwise substantially degrade water quality, requiring the consideration of mitigation measures.

IMPACT HYD-7: Potential to place housing within a 100-year flood hazard area as mapped on a federal flood hazard boundary or flood insurance rate map or other flood hazard delineation map.

No Cumulative Impact

The 2016 RTP/SCS would not be expected to contribute incrementally with related projects in the SCAG region by placing housing within a 100-year flood hazard area. The 2016 RTP/SCS's forecasted land use pattern encourages the trend of new higher-density housing and commercial development in the region's HQTAs. The HQTAs are generally located in areas that are subject to Flood Management Plans, and major flood control infrastructure has been constructed to constrain the 100-year flood in to flood control systems

Impact HYD-8: Potential to place within a 100-year flood hazard area structures that would impede or redirect flood flows.

Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts to placing structures that would impede or redirect flood flows within a 100-year flood hazard area. Many of the transportation projects included in the 2016 RTP/SCS would pass through these floodplain areas as currently delineated.

IMPACT HYD-9: Potential to expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts to placing structures within a 100-year flood hazard. Several HQTAs are included areas that are subject to inundation from tsunamis, in particular these areas on located along the coasts of Orange, Los Angeles and Ventura Counties.

IMPACT HYD-10: Potential for inundation by seiche, tsunami, or mudflow.

Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts to potential inundation by seiche, tsunami, or mudflow. The entire SCAG region is susceptible to impacts from seismic activity including the occurrence of seiches in Big Bear Lake, Lake Arrowhead, Lake Casistas, Castaic Lake, Pyramid Lake, Lake Elsinore, Diamond Valley Lake, and the Salton Sea

In sum, cumulatively, the proposed Plan would impact water quality, groundwater recharge, flood hazards, and water supply. To reduce land consumption, the proposed Plan includes land use strategies that encourage compact development targeted in HQTAs and existing suburban town centers and walkable, mixed-use communities. The implementation of transportation projects and land use strategies included in the proposed Plan, would result in greater demands on water supply. This increase in water consumption would pull additional water from imported sources, thereby limiting water available for other parts of the State. Mitigation measures would reduce cumulative impacts related to water resources outside the region. However, water resources impacts outside the region would remain cumulatively considerable.

3.10.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to hydrology and water quality are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the proposed 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT HYD-1: Potential to violate any water quality standards or waste discharge requirements.

SCAG Mitigation Measures

MM-HYD-1(a): SCAG shall continue to work with local jurisdictions and water quality agencies, and other means, to encourage regional-scale planning for improved water quality management and pollution prevention. Future impacts to water quality shall be avoided to the extent practical and feasible through cooperative planning, information sharing, and comprehensive pollution control measure development within the SCAG region. This cooperative planning shall occur as part of current and existing coordination, an integral part of SCAG's ongoing regional planning efforts.

Project-Level Mitigation Measures

MM-HYD-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the potential impacts on water quality on related waste discharge requirements that are within the jurisdiction and authority of the Regional Water Quality Control Boards and other regulatory agencies. Where the Lead Agency has identified that

a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with all applicable laws, regulations, and health and safety standards set forth by regulatory agencies responsible for regulating and enforcing water quality and waste discharge requirements in a manner that conforms with applicable water quality standards and/or waste discharge requirements, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Complete, and have approved, a Stormwater Pollution Prevention Plan (SWPPP) prior to initiation of construction.
- Implement Best Management Practices to reduce the peak stormwater runoff from the project site to the maximum extent practicable.
- Comply with the Caltrans storm water discharge permit as applicable; and identify and implement Best Management Practices to manage site erosion, wash water runoff, and spill control.
- Complete, and have approved, a Standard Urban Stormwater Management Plan, prior to occupancy of residential or commercial structures.
- Ensure adequate capacity of the surrounding stormwater system to support stormwater runoff from new or rehabilitated structures or buildings.
- Prior to construction within an area subject to Section 404 of the Clean Water Act, obtain all required permit approvals and certifications for construction within the vicinity of a watercourse:
 - U.S. Army Corps of Engineers (Corps): Section 404. Permit approval from the Corps should be obtained for the placement of dredge or fill material in Waters of the U.S., if any, within the interior of the project site, pursuant to Section 404 of the federal Clean Water Act.
 - Regional Water Quality Control Board (RWQCB): Section 401 Water Quality Certification. Certification that the project will not violate state water quality standards is required before the Corps can issue a 404 permit, above.
 - California Department of Fish and Wildlife (CDFW): Section 1602 Lake and Streambed Alteration Agreement. Work that will alter the bed or bank of a stream requires authorization from CDFW.
- Where feasible, restore or expand riparian areas such that there is no net loss of impervious surface as a result of the project.
- Install structural water quality control features, such as drainage channels, detention basins, oil and grease traps, filter systems, and vegetated buffers to prevent pollution of adjacent water resources by polluted runoff where required by applicable urban storm water runoff discharge permits, on new facilities.
- Provide structural storm water runoff treatment consistent with the applicable urban storm water runoff permit. Where Caltrans is the operator, the statewide permit applies.
- Provide operational best management practices for street cleaning, litter control, and catch basin cleaning are implemented to prevent water quality degradation in compliance with applicable storm water runoff discharge permits; and ensure treatment controls are in place as early as possible, such as during the acquisition process for rights-of-way, not just later during the facilities design and construction phase.
- Comply with applicable municipal separate storm sewer system discharge permits as well as Caltrans' storm water discharge permit including long-term sediment control and

drainage of roadway runoff

- Incorporate as appropriate treatment and control features such as detention basins, infiltration strips, and porous paving, other features to control surface runoff and facilitate groundwater recharge into the design of new transportation projects early on in the process to ensure that adequate acreage and elevation contours are provided during the right-of-way acquisition process.
- Design projects to maintain volume of runoff, where any downstream receiving water body has not been designed and maintained to accommodate the increase in flow velocity, rate, and volume without impacting the water's beneficial uses. Pre-project flow velocities, rates, and volumes must not be exceeded. This applies not only to increases in storm water runoff from the project site, but also to hydrologic changes induced by flood plain encroachment. Projects should not cause or contribute to conditions that degrade the physical integrity or ecological function of any downstream receiving waters.
- Provide culverts and facilities that do not increase the flow velocity, rate, or volume and/or acquiring sufficient storm drain easements that accommodate an appropriately vegetated earthen drainage channel.
- Upgrade stormwater drainage facilities to accommodate any increased runoff volumes. These upgrades may include the construction of detention basins or structures that will delay peak flows and reduce flow velocities, including expansion and restoration of wetlands and riparian buffer areas. System designs shall be completed to eliminate increases in peak flow rates from current levels.
- Encourage Low Impact Development (LID) and incorporation of natural spaces that reduce, treat, infiltrate and manage stormwater runoff flows in all new developments, where practical and feasible.

IMPACT HYD-2: Potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).

SCAG Mitigation Measures

MM-HYD-2(a): SCAG shall build from existing efforts including those at the sub-regional and local level and shall continue to work with local jurisdictions and water agencies, to encourage regional-scale planning for improved stormwater management and groundwater recharge, including consideration of alternative recharge technologies and practices. Future adverse impacts may be avoided through cooperative planning, information sharing, and comprehensive implementation efforts within the SCAG region.

Project-Level Mitigation Measures

MM-HYD-2(b): Consistent with the provisions of the Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the potential impacts to groundwater resources that are within the jurisdiction and authority of the State Water Resources Control Board, Regional Water Quality Control Boards, Water Districts, and other groundwater management agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with applicable laws, regulations, and health and safety standards set forth by federal, state, regional, and local authorities that regulate groundwater management, consistent with the provisions of the Groundwater Management Act and implementing regulations, including recharge in a manner that conforms with federal, state, regional, and local standards for sustainable management of groundwater basins, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- For projects requiring continual dewatering facilities, implement monitoring systems and long-term administrative procedures to ensure proper water management that prevents degrading of surface water and minimizes, to the greatest extent possible, adverse impacts on groundwater for the life of the project. Construction designs shall comply with appropriate building codes and standard practices including the Uniform Building Code.
- Maximize, where practical and feasible, permeable surface area in existing urbanized areas to protect water quality, reduce flooding, allow for groundwater recharge, and preserve wildlife habitat. Minimize to the greatest extent possible, new impervious surfaces, including the use of in-lieu fees and off-site mitigation.
- Avoid designs that require continual dewatering where feasible.
- Avoid construction and siting on groundwater recharge areas, to prevent conversion of those areas to impervious surface.
- Reduce hardscape to the extent feasible to facilitate groundwater recharge as appropriate.

IMPACT HYD-3: Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site.

SCAG Mitigation Measures

MM-HYD-3(a): SCAG shall build from existing efforts including those at the sub-regional and local level and shall continue to work with local jurisdictions to encourage regional-scale planning for maintaining and/or improving existing drainage patterns. Future adverse impacts may be avoided through cooperative planning, information sharing, and comprehensive implementation efforts within the SCAG region.

Project-Level Mitigation Measures

MM-HYD-1(b).

IMPACT HYD-4: Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?

SCAG Mitigation Measures

MM-HYD-3(a)

Project-Level Mitigation Measures

MM-HYD-1(b).

IMPACT HYD-5: Potential to substantially create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or providing substantial additional sources of polluted runoff.

SCAG Mitigation Measures

MM-HYD-2(a) and MM-HYD-3(a)

Project-Level Mitigation Measures

MM-HYD-1(b)

IMPACT HYD-6: Potential to otherwise substantially degrade water quality.

SCAG Mitigation Measures

MM-HYD-3(a).

Project-Level Mitigation Measures

MM-HYD-1(b).

IMPACT HYD-8: Potential to place within a 100-year flood hazard area structures that would impede or redirect flood flows.

SCAG Mitigation Measures

MM-HYD-8(a): SCAG shall continue to work with local jurisdictions and water quality agencies to encourage flood protection and prevent development in flood hazard areas that do not have appropriate protections. This shall be accomplished through cooperation and information sharing regarding specific alignments and rights-of-way planning for RTP projects, and regional program development as part of SCAG's ongoing regional planning efforts. These include but are not limited to web-based planning tools and sustainability programs for local government such as CA LOTS, and other GIS tools and data services. Such services would consist of an inventory of areas located near a 100-year flood hazard zone and hazard areas that would potentially be affected by a failure of a levee or dam; and or inundation by seiche, tsunami, or mudflow.

Project-Level Mitigation Measures

MM-HYD-8(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the potential impacts of locating structures that would impede or redirect flood flows in a 100-year flood hazard area that are within the jurisdiction and authority of the Flood Control District, County Public Works Departments, local agencies, regulatory agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with all federal, state, and local floodplain regulations, consistent with the provisions of the National Flood Insurance Program, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Comply with Executive Order 11988 on Floodplain Management, which requires avoidance of incompatible floodplain development, restoration and preservation of the natural and beneficial floodplain values, and maintenance of consistency with the standards and criteria of the National Flood Insurance Program.
- Ensure that all roadbeds for new highway and rail facilities be elevated at least one foot above the 100-year base flood elevation. Since alluvial fan flooding is not often identified on FEMA flood maps, the risk of alluvial fan flooding should be evaluated and projects should be sited to avoid alluvial fan flooding. Delineation of floodplains and alluvial fan boundaries should attempt to account for future hydrologic changes caused by global climate change.

IMPACT HYD-9: Potential to expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

SCAG Mitigation Measures

MM-HYD-8(a)

Project-Level Mitigation Measures

MM-HYD-8(b)

IMPACT HYD-10: Potential for inundation by seiche, tsunami, or mudflow.

SCAG Mitigation Measures

MM-HYD-8(a)

Project-Level Mitigation Measures

MM-HYD-8(b).

3.10.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT HYD-1: Potential to violate any water quality standards or waste discharge requirements.

Implementation of Mitigation Measures MM-HYD-1(a) and MM-HYD-1(b) would reduce the potential the direct, indirect, and cumulative impacts to water quality to below the level of significance.

IMPACT HYD-2: Potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).

Implementation of Mitigation Measures MM-HYD-2(a) and MM-HYD-2(b) would reduce the potential impacts to groundwater; however, due to the anticipated net increase in consumptive use of water in the SCAG region, the potential for direct, indirect, and cumulative impacts on groundwater resources and groundwater recharge would remain significant and unavoidable.

IMPACT HYD-3: Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site.

Implementation of Mitigation Measures MM-HYD-3(a) and MM-HYD-1(b) would reduce the potential direct, indirect, and cumulative impacts to a less than significant level as they are regulations required by law, prior to construction.

IMPACT HYD-4: Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site.

Implementation of Mitigation Measures MM-HYD-4(a) and MM-HYD-1(b) would reduce the potential impacts to flooding; however, due to the regional scale of the proposed Plan, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT HYD-5: Potential to substantially create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or providing substantial additional sources of polluted runoff.

Implementation of Mitigation Measures MM-HYD-5(a) and MM-HYD-5(b) would reduce the potential impacts; however, due to the regional scale of the proposed Plan, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT HYD-6: Potential to otherwise substantially degrade water quality.

Implementation of Mitigation Measures MM-HYD-3(a) and MM-HYD-6(b) would reduce the potential impacts; however, due to the regional scale of the proposed Plan, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT HYD-8: Potential to place within a 100-year flood hazard area structures that would impede or redirect flood flows.

Implementation of Mitigation Measures MM-HYD-8(a) and MM-HYD-8(b) would reduce the potential impacts; however, due to the regional scale of the proposed Plan, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT HYD-9: Potential to expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Implementation of Mitigation Measures MM-HYD-9(a) and MM-HYD-9(b) would reduce the potential impacts; however, due to the regional scale of the proposed Plan, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT HYD-10: Potential for inundation by seiche, tsunami, or mudflow.

Implementation of Mitigation Measures MM-HYD-10(a) and MM-HYD-10(b) would reduce the potential impacts; however, due to the regional scale of the proposed Plan, the direct, indirect, and cumulative impacts would remain significant and unavoidable.

3.11 LAND USE AND PLANNING

This section of the Program Environmental Impact Report (PEIR) describes land use and planning in the SCAG region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Plan,” or “Project”) on land use and planning, identifies mitigation measures for the impacts, and evaluates the residual impacts. Land use and planning were evaluated in accordance with Appendix G the 2015 State California Environmental Quality Act (CEQA) Guidelines. Land use and planning within the SCAG region were evaluated at the programmatic level of detail, in relation to the General Plans of the six counties and the 191 cities within the SCAG region; the Management Plans for the four National Forest in the SCAG region, Angeles National Forest, San Bernardino National Forest, Los Padres National Forest, and Cleveland National Forest; a review of U.S. Fish and Wildlife Service and California Department of Fish and Wildlife data for Habitat Conservation Plans (HCPs) and Natural Community Conservation Plan (NCCPs); a review of related literature and data germane to the SCAG region including state parks; as well as a review of SCAG’s 2012 RTP/SCS.¹

The SCAG region serves as the nation’s gateway for global trade.² The SCAG region is composed of six counties—Imperial, Orange, Los Angeles, Riverside, San Bernardino, and Ventura—and totals approximately 38,000 square miles in area (almost 25 million acres). The region stretches from the state borders with Nevada and Arizona to the Pacific Ocean and from the southernmost edge of the Central Valley to the Mexican border. The region includes the county with the largest area in the nation, San Bernardino County, as well as the county with the highest population in the nation, Los Angeles County. The SCAG region includes the second largest city in the nation, Los Angeles, and six additional cities that rank in the top 100 by population: Long Beach (36), Anaheim (56), Santa Ana (57), Riverside (59), Irvine (82), and San Bernardino (100). In addition to its numerous and diverse urban centers that serve as home for the approximately 19 million people, the vast area includes millions of acres of open space and recreational land as well as large amounts of farmland.³

Definitions

Community Plan: A community plan addresses specific geographic areas of a jurisdiction, and contains detailed land use designations and community-specific policy recommendations. Community plans build upon the more general policies established in the General Plan with policy recommendations that apply at the community and neighborhood level. This structure allows Community plans to provide the level of information, policy framework, and community-specific detail that is needed in order to review and assess proposed public and private development projects.

Habitat Conservation Plans (HCP): An HCP is defined by the U.S. Fish and Wildlife Service (USFWS) as a

¹ Southern California Association of Governments. April 2012. *Final Program Environmental Report: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*. Available at: <http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

² Choi, Simon. Accessed 11 September 2015. *SCAG’s New Population Projection and Migration: What Are the Big Changes?* 26th USC-SCAG Annual Demographic Workshop, California Science Center. Available at: <https://www.scag.ca.gov/calendar/Documents/demo26/Panel1-SimonChoi.pdf>

³ *City Mayor Statistics: The Largest Cities in the United States Ranked 1 to 100*. Accessed 11 September 2015. Available at: http://www.citymayors.com/gratis/uscities_100.html

planning document that is normally required as part of an application for an incidental take permit for rare, threatened, or endangered species pursuant to Section 10(1) of the Federal Endangered Species Act. HCPs describe the anticipated effects of the proposed taking, how the impacts will be minimized and mitigated, and how the HCP is to be funded.

Land Use Designation: A land use classification with associated land use or management policies. Land use designations are applied to specific areas through the county land use planning processes and culminate in the adoption of a land use element to the General Plan. Some land use designations have been established through legislation (e.g., National Forest), while other designations such as Significant Ecological Areas have been established through policy or planning processes.

Master Plan A master plan is an evolving, long-term planning document that establishes the framework and key elements of a site or planning area reflecting a clean vision created and adopted in a process involving substantial public participation. A master plan provides form an organization for the community's aspirations for a project or planning area, and defines a realistic plan for implementation, including subsequent approvals by agencies.

Land Use Element: The land use element is one of seven mandatory elements of the General Plan required pursuant to General Land Use Law in California.

Ordinance: A law set forth by a governmental authority; a municipal regulation.

Natural Community Conservation Plan: An NCCP is defined by the Natural Community Conservation Planning Act of 1991, a plan prepared pursuant to a planning agreement entered into in accordance with the provisions of the Act. The plan is required to identify and provide for those measures necessary to conserve and manage natural biological diversity within the plan area while allowing compatible and appropriate economic development, growth, and other human uses.

Specific Plan: A specific plan is a tool for the systematic implementation of the general plan. It effectively establishes a link between implementing policies of the general plan and the individual development proposals in a defined area. A specific plan may be as general as setting forth broad policy concepts, or as detailed as providing direction to every facet of development from the type, location and intensity of uses to the design and capacity of infrastructure; from the resources used to finance public improvements to the design guidelines of a subdivision.

Zoning Designation: The regulation of the use of real property by local government, which restricts a particular territory to residential, commercial, industrial, or other uses. The local governing body considers the character of the property as well as its fitness for particular uses. It must enact the regulations in accordance with a well-considered and comprehensive plan intended to avoid arbitrary exercise of government power. A comprehensive plan is a general design to control the use of properties in the entire municipality, or at least in a large portion of it. Individual pieces of property should not be singled out for special treatment. For example, one or two lots may not be placed in a separate zone and subjected to restrictions that do not apply to similar adjoining lands.

3.11.1 REGULATORY FRAMEWORK

Federal

Wilderness Act of 1964

The objective of the Wilderness Act of 1964 (Public Law 88-577), dated September 3, 1964, is the protection and preservation of wilderness areas and the establishment of the National Wilderness Preservation System. Under the Wilderness Act, the Secretaries of Agriculture and Interior, and their various land management agencies, shall be responsible for the preservation of the wilderness character of designated wilderness areas under the Act.

Section 4(f) of the U.S. Department of Transportation Act

Section 4(f) refers to the original section within the U.S. Department of Transportation Act of 1966 (49 U.S. Code [USC] § 303 and 23 USC § 138) that provided for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development. The law, now codified in 49 USC §303 and 23 USC §138, applies only to the U.S. Department of Transportation (U.S. DOT) and is implemented by the FHWA and the Federal Transit Administration through the regulation 23 Code of Federal Regulations (CFR) 774. Section 4(f) only applies if the project has a federal nexus (i.e., requires a federal permit or receives federal funds).

Federal Coastal Zone Management Act

The Federal Coastal Zone Management Act (CZMA; 16 USC 1451–1464, Chapter 33; Public Law 92-583, October 27, 1972; 86 Stat. 1280), administered by the National Oceanic and Atmospheric Administration (NOAA), provides for the management of the nation’s coastal resources, including the Great Lakes. The goal is to “preserve, protect, develop, and where possible, to restore or enhance the resources of the nation’s coastal zone.” The CZMA outlines three national programs, the National Coastal Zone Management Program, the National Estuarine Research Reserve System, and the Coastal and Estuarine Land Conservation Program (CELCP). The National Coastal Zone Management Program aims to balance competing land and water issues through state and territorial coastal management programs, the reserves serve as field laboratories that provide a greater understanding of estuaries and how humans impact them, and CELCP provides matching funds to state and local governments to purchase threatened coastal and estuarine lands or obtain conservation easements.

Endangered Species Act of 1973

The federal ESA (16 USC 1531–1544, 87 Stat. 884) was established by Congress in order to “provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved [and] to provide a program for the conservation of such ... species.” HCPs, established under Section 10(a)(1)(B) of the ESA, are planning documents that provide for partnerships with non-federal parties to conserve the ecosystems upon which listed (and candidate) species depend, ultimately contributing to their recovery. The USFWS requires HCPs as part of an application for an incidental take permit. HCPs describe the anticipated effects of the proposed taking, how those impacts will be minimized or mitigated, and how the HCP is to be funded.

The federal ESA and designates critical habitat for endangered species. The USFWS also manages the National Wildlife Refuges in the SCAG region. These include the Salton Sea National Wildlife Refuge (in Imperial County) and Hopper Mountain National Wildlife Refuge (in Ventura County).

The NPS manages national parks and wilderness areas. Two national parks and one wilderness area are located in the SCAG region: Joshua Tree National Park, a portion of Death Valley National Park, and the Santa Monica Mountains National Recreation Area.

HCPs may be prepared on a project level when projects will require the acquisition of an Incidental Take Permit. Regional HCPs may also be prepared in an effort to protect threatened and endangered species during the land use planning process.

Federal Land Policy and Management Act (FLPMA) of 1976, as Amended

The FLPMA (Public Law 94-579) governs how public lands administered by the Bureau of Land Management (BLM) are managed. FLPMA provides guiding principles for BLM land management including multiple use, sustained yield, and environmental protection. The intent of FLPMA is to ensure that the BLM manages public lands so that they are utilized in the combination that will best meet the present and future needs of the American people for renewable and non-renewable natural resources.

FLPMA addresses topics such as land use planning, land acquisition, fees and payments, administration of federal land, range management, and right-of-ways on federal land. FLPMA has specific objectives and time frames in which to accomplish these objectives, giving it more authority and eliminating the uncertainty surrounding the BLM's role in wilderness designation and management.

Federal Highway Administration (FHWA) National Scenic Byways Program

The FHWA National Scenic Byways Program, which was established in Title 23, Section 162 of the United States Code under the Intermodal Transportation Efficiency Act of 1991, is a grassroots collaborative effort that designates selected highways as "All American Road" (a roadway that is a destination unto itself), America's Byways or "National Scenic Byway" (a roadway that possesses outstanding qualities that exemplify regional characteristics).⁴

United States Bureau of Land Management (BLM) Scenic Areas and Back Country Byways

The BLM designates some of its holdings as Scenic Areas and some roadways in remote areas as Back Country Byways. The BLM Back Country Byways Program was established in 1989 and is a component of the National Scenic Byways Program.⁵ The counties of San Bernardino, Riverside, and Imperial in the SCAG region include land with such BLM designations.

⁴ U.S. Department of Transportation, Federal Highway Administration. Accessed 11 May 2015. *National Scenic Byways Legislation*. Available at: http://www.fhwa.dot.gov/hep/scenic_byways/us_code.cfm#program

⁵ U.S. Department of the Interior Bureau of Land Management. Updated 30 January 2015. *BLM Byways Program*. Available at: http://www.blm.gov/wo/st/en/prog/Recreation/recreation_national/byways.html

United States Forest Service (USFS) National Scenic Byways Program

The USFS also has a National Scenic Byways Program, independent from the BLM program, which was established in 1995 under the Intermodal Transportation Efficiency Act of 1991 to indicate roadways of scenic importance that pass through national forests.⁶ The SCAG region includes Forest Service Scenic Byways in the counties of San Bernardino, Ventura, Los Angeles, and Riverside.

State

California Coastal Act of 1976

The California Coastal Act constitutes the California Coastal Management Program for the purposes of the Federal Coastal Zone Management Act (California Coastal Act of 1976, Public Resources Code [PRC] §30000 et seq.). The act established the California Coastal Commission (CCC), identified a designated California Coastal Zone, and established the CCC's responsibility to include the preparation and ongoing oversight of a Coastal Plan for the protection and management of the Coastal Zone. Each local jurisdictional authority (city or county) with lands within the coastal zone is required to develop, and comply with, a coastal management plan. The Coastal Act requires that any person or public agency proposing development within the Coastal Zone obtain a Coastal Development Permit (CDP) from either the CCC or the city or county having the jurisdictional authority to issue a CDP. New school construction in portions of the Central and South Los Angeles Unified School District (LAUSD) areas could require a CDP. Any construction within the Coastal Zone must conform to the requirements of the California Coastal Act generally, and Chapter 3, Section 6 (Development) specifically. On or near the shoreline, coastal-dependent developments have priority over those uses not dependent on a coastal location (PRC §30255). To comply with the Coastal Zone Management Act, localities develop Local Coastal Plans (LCPs).⁷

Natural Community Conservation Planning Act of 1991, as Amended

The Natural Community Conservation Planning Act of 1991, as amended in 2003 (California Fish and Game Code Section 2800-2835) established the Natural Community Conservation Planning program for the protection and perpetuation of the state's biological diversity. The CDFW established the program in order to conserve natural communities at the ecosystem level while accommodating compatible land use. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The CDFW provides support, direction, and guidance to participants in order to ensure that NCCPs are consistent with the state ESA.

⁶ U.S. Forest Service. Accessed 11 May 2015. *National Forest Scenic Byways*. Available at: <http://www.fs.fed.us/recreation/programs/tourism/TourUS.pdf>

⁷ California Coastal Commission. Laws, Regulations, and Legislative Information. Accessed 23 November 2014. Available at: <http://www.coastal.ca.gov/ccatc.html>.

Cortese-Knox-Hertzberg Local Government Reorganization Act of 2005

In California, the establishment and revision of local government boundaries is governed by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2005 (Government Code 56133). The Act was a comprehensive revision of the Cortese-Knox Local Government Reorganization Act of 1985, which was itself a consolidation of three major laws governing boundary changes. The three laws that governed changes in the boundaries and organization of cities and special districts prior to 1986 were:

The Knox-Nisbet Act of 1963, which established local agency formation commissions (LAFCOs) with regulatory authority over local agency boundary changes. The District Reorganization Act of 1965 (DRA), which combined separate laws governing special district boundaries into a single law. The Municipal Organization Act of 1977 (MORGA), which consolidated various laws on city incorporation and annexation into one law.

These three laws contained many parallel and duplicative provisions. However, similar procedures varied slightly from one law to another, and the procedures necessary for one type of boundary change were found in different sections of the three laws. Although at the time of its passage MORGA was the most current revision of city annexation statutes, many cities in the state were still required to use DRA so that areas being annexed could be simultaneously detached from special districts. All three laws contained application and hearing procedures for LAFCOs, but there were inconsistencies among them. This made city and district boundary changes unnecessarily confusing and complicated for local agencies and LAFCOs, as well as for residents and property owners.⁸ LAFCO jurisdiction does not extend to redevelopment agencies, community facilities or Mello-Roos districts, school or college districts, county boundaries, bridge and highway districts, transit or rapid transit districts, improvement districts, or flood or conservation districts.

Sustainable Communities and Climate Protection Act of 2008

The Sustainable Communities Act of 2008 (Senate Bill [SB] 375, Chapter 728, Statutes of 2008) provides a means for achieving greenhouse gas (GHG) emissions goals through the reduction in greenhouse gas emissions of cars and light duty trucks. SB 375 built on the foundation of the California Global Warming Solutions Act of 2006, also known as Assembly Bill (AB) 32, signed into law by Governor Arnold Schwarzenegger. AB 32 focused on reducing GHG emissions in California and requires the California Air Resources Board (CARB) to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. SB 375 seeks to coordinate land use decisions made at the local (city and county) level with regional transportation planning. By coordinating these efforts, it is envisioned that vehicle congestion and travel can be reduced resulting in a corresponding reduction in emissions. SB 375 directed CARB to set regional targets to reduce emissions and regional plans are required to identify in their regional transportation plan/sustainable communities strategy how they will meet these targets.

⁸ California State Assembly Committee and Local Government. November 2011. Website. Available at: http://calafco.org/docs/CKH/2011_CKH_Guide.pdf

SB 375 has three major components:

- Using the regional transportation planning process to achieve reductions in emissions consistent with AB 32's goals.
- Offering California Environmental Quality Act (CEQA) incentives to encourage projects that are consistent with a regional plan that achieves emissions reductions.
- Coordinating the Regional Housing Needs Allocation Assessment (RHNA) process with the regional transportation process while maintaining local authority over land use decisions.

An SCS is a required component of the RTP. The SCS is an emissions reduction strategy for the region which, in combination with transportation policies and programs, strives to reduce emissions and, if feasible, helps meet CARB's targets for the region. An alternative planning strategy (APS) must be prepared if the SCS is unable to reduce emissions and achieve the emissions reduction targets established by CARB.

Certain transportation planning and programming activities must be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plan) are not required to be consistent with either the RTP or SCS. CARB set the following reduction targets for SCAG: reduce per capita emissions 8 percent below 2005 levels by 2020 and 13 percent below 2005 levels by 2035.

Enhanced Infrastructure Financing Districts

Enacted on September 29, 2014, the new state law, Enhanced Infrastructure Financing Districts (SB 628; Chapter 2.99 [commencing with Section 53398.50] to Part 1 of Division 2 of Title 5 of the Government Code) allows the legislative body of a city or a county, defined to include a city and county, to establish an infrastructure financing district, adopt an infrastructure financing plan, and issue bonds to finance public facilities upon approval by two-thirds of a jurisdiction's voters. Additionally, a city or county is authorized to issue bonds upon approval by 55 percent of the voters, for which only the district is liable; to finance public capital facilities or other specified projects of communitywide significance, including, but not limited to, brownfield restoration and other environmental mitigation; the development of projects on a former military base; the repayment of the transfer of funds to a military base reuse authority; the acquisition, construction, or rehabilitation of housing for persons of low and moderate income for rent or purchase; the acquisition, construction, or repair of industrial structures for private use; transit priority projects; and projects to implement a sustainable communities strategy. The bill would also authorize an enhanced infrastructure financing district to utilize any powers under the Polanco Redevelopment Act.

Local

County and City General Plans, Community Plans, Specific Plans, and Master Plans

The most comprehensive land use planning for the SCAG region is provided by city and county general plans, which local governments are required by state law to prepare as a guide for future development per requirements of state planning and zoning law (Government Code Sections 65000 et seq.). General plans contain goals and policies concerning topics that are mandated by state law or that the jurisdiction

has chosen to include. Required topics are land use, circulation, housing, conservation, open space, noise, and safety. Other topics that local governments frequently choose to address include public facilities, parks and recreation, community design, and growth management, among others. City and county general plans must be consistent with each other. County general plans must cover areas not included by city general plans (i.e., unincorporated areas).

Community Plans, Specific Plans, and Master Plans

A city or county may also provide land use planning by developing community or specific plans for smaller, more specific areas within their jurisdiction. These more localized plans provide for focused guidance for developing a specific area, with development standards tailored to the area, as well as systematic implementation of the general plan. Counties, cities, and private developers may also choose to partner in the development of a master plan that shows an overall development concept that includes urban design, landscaping, infrastructure, service provision, circulation, present and future land use and built form. It consists of three dimensional images, texts, diagrams, statistics, reports, maps and aerial photos that describe how a specific location will be developed. It provides a structured approach and creates a clear framework for developing an area.

Zoning

City and county zoning codes are the set of detailed requirements that implement the general plan policies at the level of the individual parcel. The zoning code presents standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction. Since 1971, state law has required the city or county zoning code to be consistent with the jurisdiction's general plan.

3.11.2 EXISTING CONDITIONS

The SCAG region stretches from the state borders with Nevada and Arizona to the Pacific Ocean and from the southernmost edge of the Central Valley to the Mexican border. The region includes the county with the largest area in the nation, San Bernardino County, as well as the county with the highest population in the nation, Los Angeles County (**Figure 3.11.2-1, *SCAG Region***). This vast area includes millions of acres of open space and recreational lands as well as large amounts of farmland and rangeland and a population of approximately 19 million people.⁹ The SCAG region is composed of a complex patterns of land uses including residential, commercial/office, industrial, institutional, agricultural, and open space land uses (**Figure 3.11.2-2, *Existing Land Uses***). The four largest cities, which provide housing and employment for over half of the population in the SCAG region, are located in the coastal basins that are favored by moderate climate: Los Angeles, Long Beach, Santa Ana, and Anaheim.

While the SCAG region houses nearly half of the state's population, of the 24,616,833 acres, or 38,464 square miles, nearly 15,897,824 acres (65 percent) are in public ownership, primarily federal (**Figure 3.11.2-3, *Public and Private Land Ownership***).

As a whole, vacant lands account for more than 20 million of the 25 million acres in the SCAG region. Vacant lands include areas that have not been developed with man-made structures and contain no

⁹ SCAG projections for 2020 indicate a population total of 19,390,870.

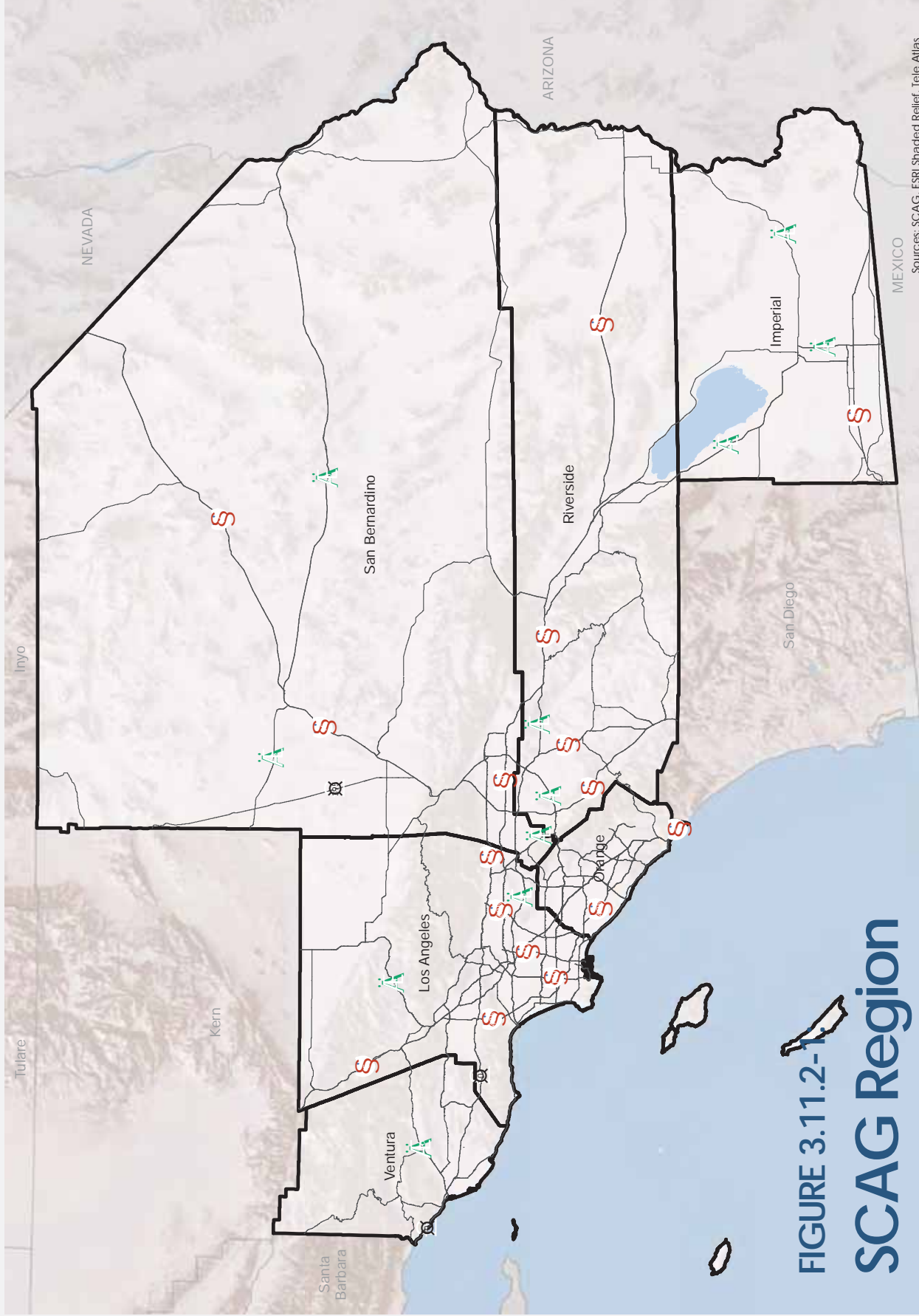
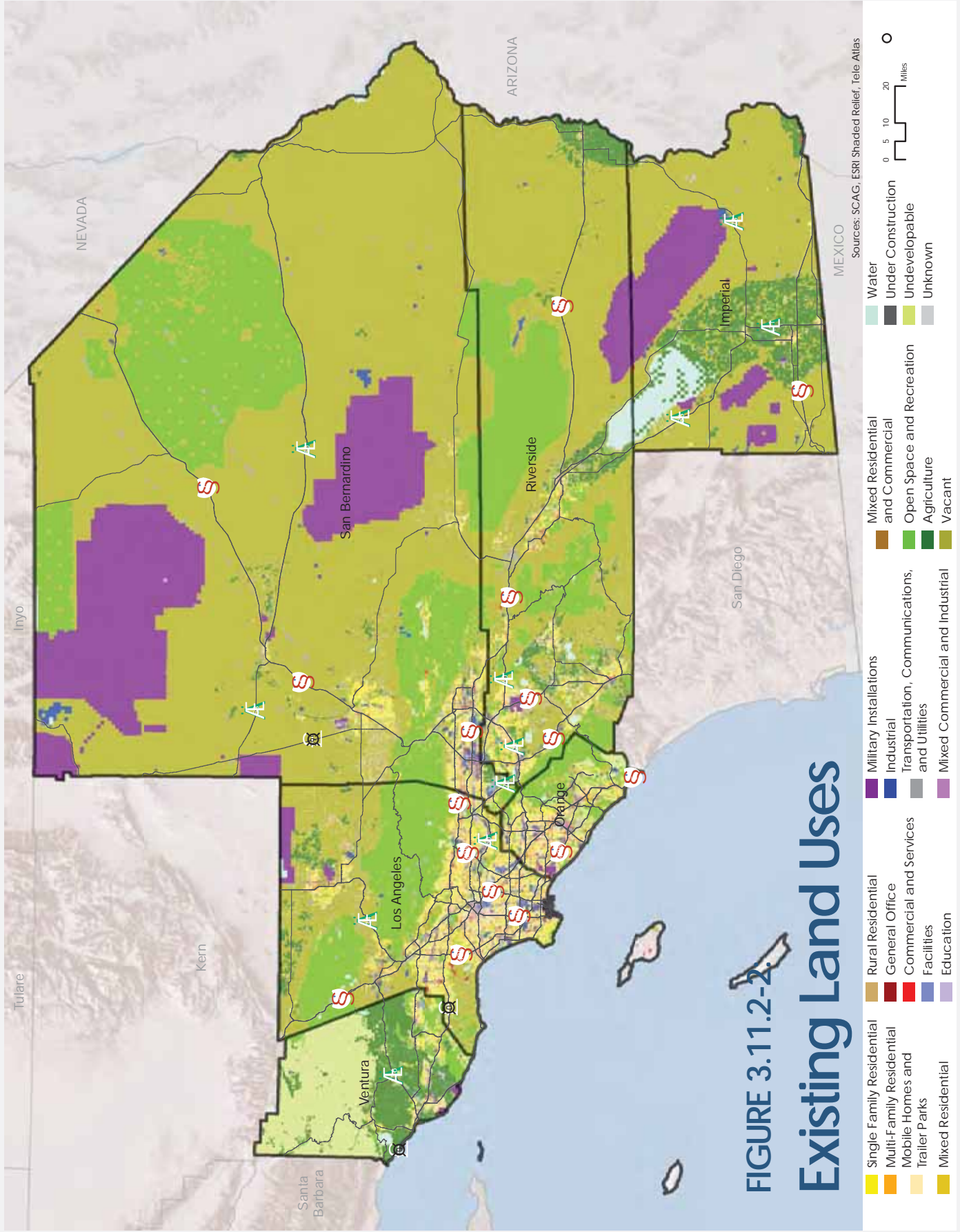


FIGURE 3.11.2-1
SCAG Region



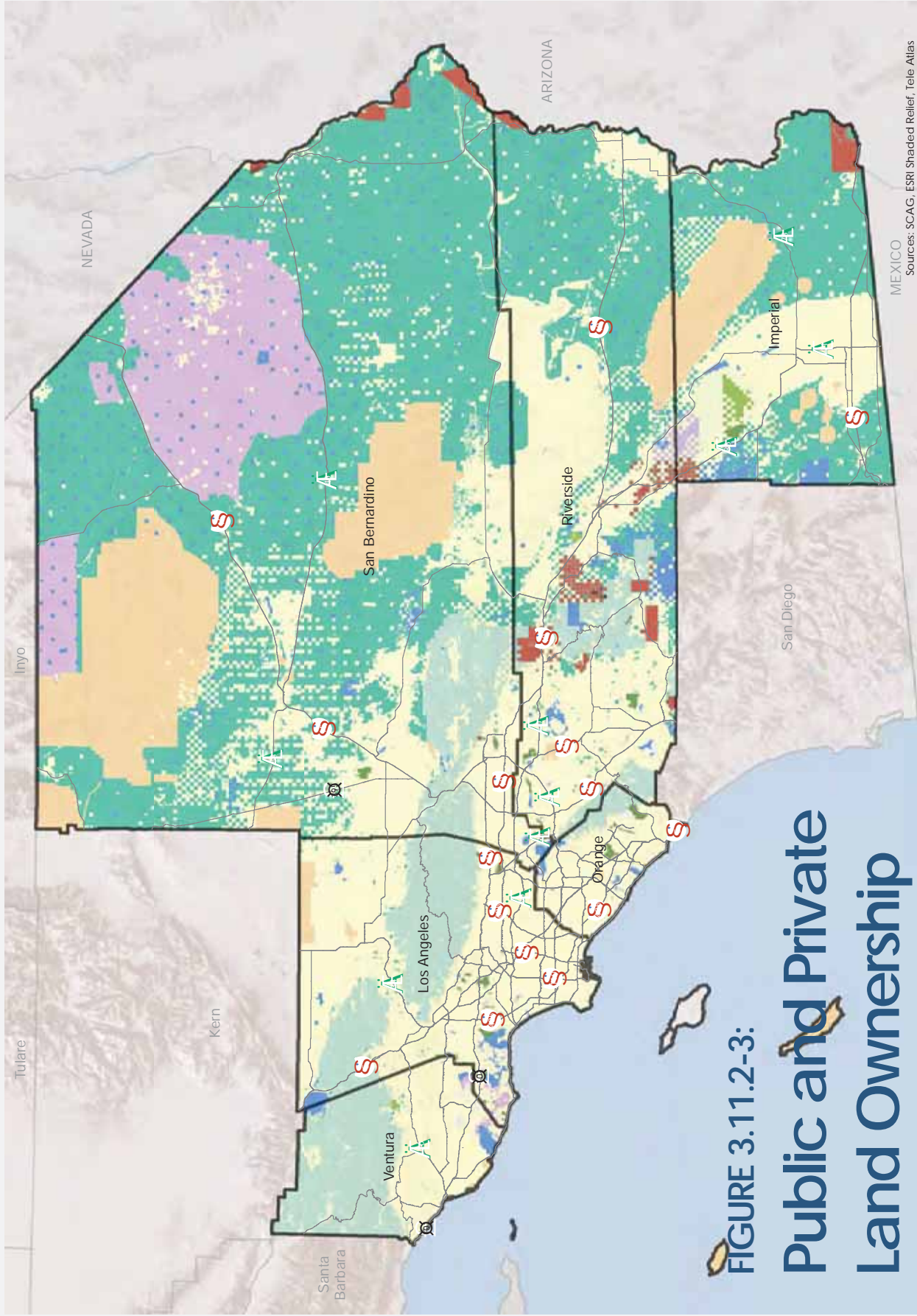


FIGURE 3.11.2-3:
Public and Private
Land Ownership

agricultural uses or water bodies. Generally, these areas are open, and contain natural or disturbed natural vegetation. Rangeland is included in this category. Undeveloped areas of parks are also included. Most vacant land is in an undeveloped state, containing native or non-native vegetation such as grasses, herbaceous plants, shrubs, and trees. Vacant lands outside of urban areas may also provide habitat for biological resources. No or few structures or improvements are present. Rangeland may be open land or fenced over large areas. Rangeland vegetation may be no different than open vacant land, or may contain grassland for grazing livestock. Additionally, vacant lands include abandoned orchards and vineyards, beaches, and vacant land with limited improvements. Vacant lands with limited improvements include areas where streets have been laid in a subdivision pattern, but no further building or improvements have occurred over time. Lastly, vacant lands include open undeveloped land within urban areas that are not associated with a particular facility. Typically these areas are vacant lots. They normally contain no structures but may have such improvements as curbs and sidewalks. The land may be in a graded condition showing little or no vegetation, or may be in a successional vegetated state, with numerous shrubs and grasses, in a nonuniform, unkempt condition. Examples of vacant lands in the SCAG include but are not limited to the region's national forests, state parks, national parks and monuments, lands administered by the BLM, other public lands, and various private holdings. Some examples of the larger areas of vacant land in the SCAG region include the Los Padres National Forest, Angeles National Forest, Cleveland National Forest, San Bernardino National Forest, Joshua Tree National Park, Death Valley National Park, the East Mojave Preserve, and Anza Borrego Desert State Park. Military lands are included in a separate category and include, but are not limited to, Barstow Marine Corps Logistics Base, Edwards Air Force Base, El Centro Naval Air Facility, Fort Irwin, Los Angeles Air Force Base, March Air Reserve Base, Naval Warfare Assessment Station Corona, Naval Weapons Station Seal Beach, Point Mugu Naval Air Weapons Station, Twentynine Palms Marine Corps Combat Center, and Chocolate Mountains Aerial Gunnery Range. With limited exceptions, the military lands are not open to the public.

Farmlands and certain ranch operations account for more than 1 million acres; this excludes large areas of rangelands that are encompassed in the "vacant undifferentiated" category. Approximately 2.1 million acres in the region are developed, including approximately 100,000 acres used for transportation facilities.

Established Communities

As of December 2014, the SCAG region consists of six counties, 191 cities, and 16 tribal reservations (Figure 3.11.2-4, *Established Communities*). The population in the unincorporated territories of the counties and the member cities ranges widely by area, by the newest and oldest based on the date of incorporation, and by 2015 population for each county (Table 3.11.2-1, *Summary of Established Communities in the SCAG Region*).

**TABLE 3.11.2-1
SUMMARY OF ESTABLISHED COMMUNITIES IN THE SCAG REGION**

	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura
Total county square miles	39	1,436	520	894	872	194
Total 2015 county population	180,672	10,041,797	3,113,991	2,279,967	2,085,669	842,967
Oldest city date of incorporation	City of Imperial – 1904	Los Angeles – 1850	Anaheim – 1876	Riverside – 1883	San Bernardino – 1869	San Buenaventura – 1866
Newest city date of incorporation	City of Westmorland – 1934	Malibu – 1991	Aliso Viejo – 2001	Jurupa Valley – 2011	Yucca Valley – 1991	Moorpark – 1983
Largest city by population	El Centro – 44,847	Los Angeles – 3,957,022	Anaheim – 351,433	Riverside – 317,307	San Bernardino – 213,933	Oxnard – 197,899
Smallest city by population	Westmorland – 2,333	Vernon – 123	Villa Park – 5,960	Indian Wells – 5,195	Needles – 4,940	Ojai – 7,461
Largest city by square Miles	El Centro – 11	Los Angeles – 469	Irvine – 66	Palm Springs – 94	Hesperia – 73	Thousand Oaks – 55
Smallest city by square miles	Westmorland – 0.59	Hawaii Gardens – 0.95	La Palma – 1.83	Canyon Lake – 4	Grand Terrace – 4	Filmore – 3

SOURCE:

Southern California Association of Governments. Accessed 25 August 2015. Community profiles for Ventura, Los Angeles, San Bernardino, Orange, Riverside, and Imperial Counties. Available at: <https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>
California Department of Finance. Accessed 25 August 2015. Website. Available at: <http://www.dof.ca.gov/Research/demographic/reports/estimates/e-1/view.php>

Counties

The SCAG region is composed of six counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. Much of the development in San Bernardino and Riverside Counties has been on unincorporated county land. Areas that were rural in the late 20th century have become increasingly suburban in the early twenty-first century. Riverside County adopted the county general plan that strives to create a high-quality, balanced, and sustainable environment for the citizens of Riverside County and to make Riverside County’s communities great places to live, work, and play. Ventura County and cities within the county have developed policies seeking to maintain a balance of protecting agricultural land while providing jobs and housing within a heavily used transportation network. The approach has been to provide urban growth boundaries as a way of channeling development and preserving farmland. These plans and initiatives affect how land is used in the future. Development in Los Angeles, Ventura, and Orange, and Imperial Counties has continued as a result of population growth pressures.

Cities

There are 191 cities in the six-county area, including Los Angeles, which is the second largest city in the nation and the largest city in California, and Long Beach, which is among the 50 largest cities in the nation and the seventh largest city in California. Urban centers in the SCAG region exist in the form of clusters, linked by freeways and commercial corridors interspersed with identifiable activity centers (**Figure 3.11.2-4**). Most existing urban development is found along the coastal plains of Los Angeles, Orange, and Ventura Counties, as well as in adjoining valleys that extend inland from the coastal areas. Urban development also has moved into the inland valleys such as the Antelope, San Bernardino, Yucca, Moreno, Hemet–San Jacinto, Coachella, and Imperial Valleys.

Downtown Los Angeles is the largest urbanized center within the SCAG region. Other urbanized areas in Los Angeles County include Long Beach, Burbank, Glendale, Pasadena, and Pomona. Office-core centers have emerged in Woodland Hills, Universal City, Westwood, around Los Angeles International Airport (LAX), and Century City. In the other five counties within the SCAG region, urban centers exist in the cities of Riverside, San Bernardino, Santa Ana, Anaheim, Irvine, Oxnard, and Ventura. Development centers in desert areas include the Lancaster-Palmdale corridor in the Antelope Valley (Los Angeles County); the Hesperia-Victorville corridor in Yucca Valley (San Bernardino County); and the Palm Springs–Palm Desert–Indio corridor in the Coachella Valley (Riverside County). El Centro is the county seat and focal point of activity in Imperial County. There is also substantial activity occurring in Imperial County at the three ports of entry along the border with Mexico.

LAND USE PLANNING

The U.S. Environmental Protection Agency (EPA) advocates the important role that land use planning plays in both mitigating greenhouse gases (GHGs) and adapting to a changing climate. Many of the key strategies for coping with climate change are linked to land use planning:

- Growth of vehicle-related GHG emissions are influenced by transportation infrastructure.
- Compact development protects ecologically valuable open space and requires less energy and materials to build and operate.
- Reducing GHG emissions from deforestation requires policies to protect woodlands and other valuable carbon sinks.
- Land use planning is critical in enabling communities to adapt to sea level rise, more frequent extreme weather conditions, and other climate-related hazards.¹⁰

“Smart growth” is a term that covers a range of development and conservation strategies that help protect the natural environment and make communities more attractive, economically stronger, and more socially diverse. Land use planning is an essential part of any smart growth strategy, and it is especially important when efforts to mitigate GHG emissions and adapt to climate change are needed.

¹⁰ U.S. Environmental Protection Agency. Accessed 11 September 2015. *State and Local Climate and Energy Program: Land use and climate change*. Available at: <http://www.epa.gov/statelocalclimate/local/topics/land.html>

SCAG Roles and Responsibilities

In addition to the federal designation as an MPO, SCAG is designated under California state law as the Multicounty Designated Transportation Planning Agency and Council of Governments (COG) for the six-county region. Founded in 1965, SCAG is a Joint Powers Authority, established as a voluntary association of local governments and agencies.

SCAG serves as the regional forum for cooperative decision making by local government elected officials and its primary responsibilities in fulfillment of federal and state requirements include the development of the RTP/SCS, required by SB 375; the Federal Transportation Improvement Program (FTIP); the annual Overall Work Program; and transportation-related portions of local air quality management plans. SCAG's other major functions include determining the regional transportation plans and programs are in conformity with state air quality plans; periodic preparation of an RHNA; and intergovernmental review of regionally significant projects.

Regional Cooperation and Subregions

SCAG places great importance on local input in the regional planning process. SCAG seeks feedback from local elected officials and their staff through 15 subregional organizations that have been recognized by the Regional Council as partners in the regional policy planning process. The subregional organizations represent various parts of the SCAG region that have identified themselves as having common interests and concerns. The subregions vary according to geographical size, number of local member jurisdictions, staffing, decision-making structure, and legal status.

SCAG provides opportunities to participate in regional planning through collaboration and participation in regional programs and dialogs. Standing committees at SCAG include the Executive/Administration Committee, the Transportation Committee, the Community, Economic & Human Development Committee, the Energy & Environmental Committee, and Legislative/Communication & Membership Committee. In addition to the standing committees, there are various subcommittees, technical advisory committees, working groups, and task forces that report to the standing committees, while other groups are established on an ad hoc basis to assist with specific projects or address specific regional policy. The Regional Council is SCAG's governing body. It consists of 86 elected officials, representing cities, counties, county transportation commissions, transportation corridor agencies, tribal governments, and air districts in the region. The Regional Council has general authority to conduct the affairs of SCAG and directs the actions of the agency throughout the year. Additionally, the Regional Council implements the policy direction provided at the annual General Assembly of the membership, acts upon policy recommendations from SCAG's standing policy committees and external agencies, and appoints subcommittees to study specific programs or issues.

County and City General Plans

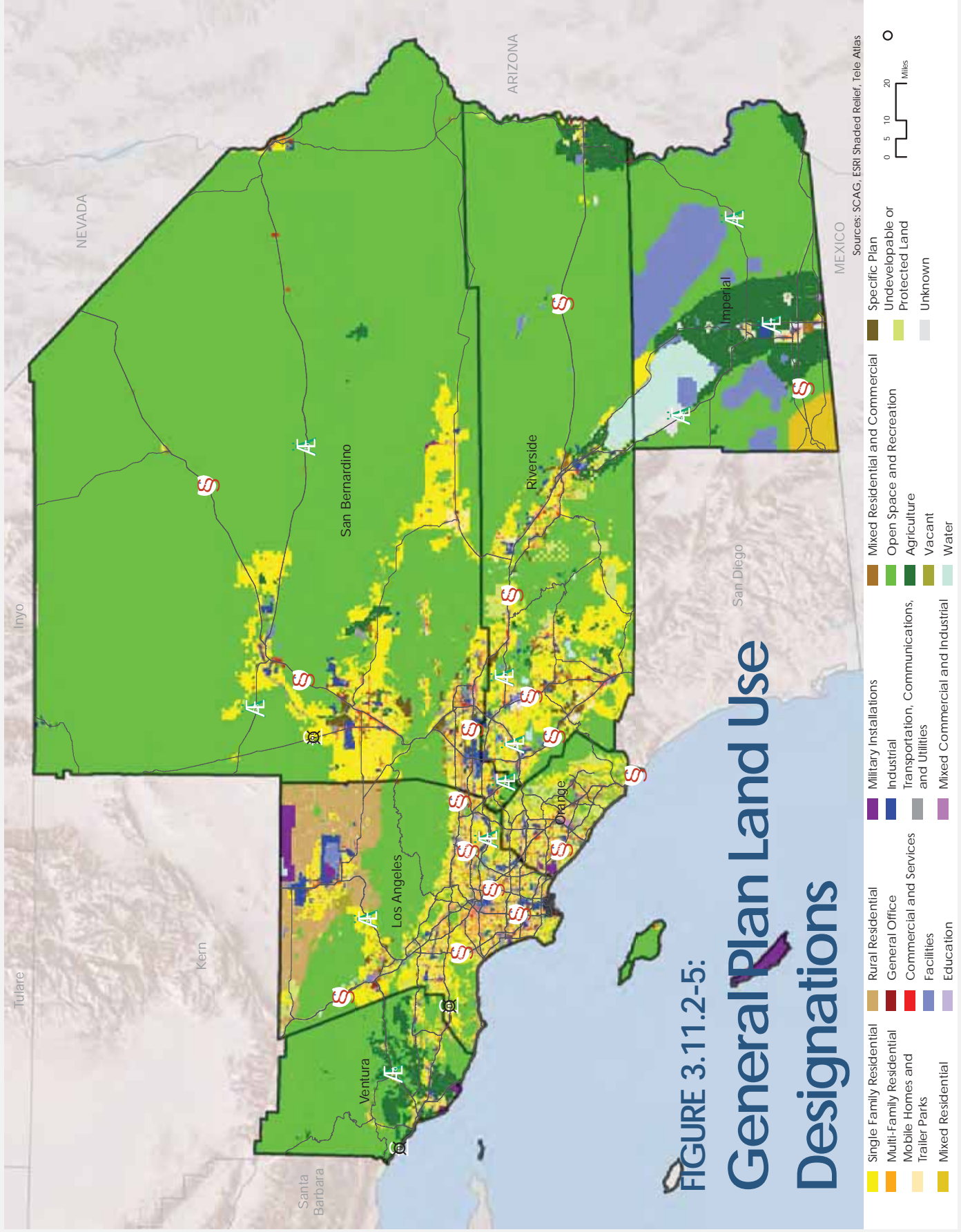
Comprehensive land use planning for the SCAG region is provided by county and city general plans, which local governments are required by state law to prepare as a guide for future development (**Figure 3.11.2-4**). General plans contain goals and policies concerning topics that are mandated by state law or that the jurisdiction has chosen to include. Required topics are land use, circulation, housing, conservation, open space, noise, and safety. Other topics that local governments frequently choose to address include sustainability, public facilities, parks and recreation, community design, and growth

management, among others. City and county general plans must be consistent with each other. Cities and counties implement their general plans through zoning ordinances. Zoning ordinances provide a much greater level of detail including the general plan land use designations and such information as permitted uses, yard setbacks, and uses that would require a conditional use permit (**Figure 3.11.2-5, General Plan Land Use Designations**, shows the combined land use designations for the six SCAG member counties and 191 cities in the SCAG region).

The land use elements of the county and city general plans within the SCAG region generally classify lands in to 20 land use categories (**Table 3.11.2-2, SCAG Region General Land Use Categories**).

**TABLE 3.11.2-2
SCAG REGION GENERAL LAND USE CATEGORIES**

General Land Use Category	Land Use Category
Residential	Single Family Residential
	Multi-Family Residential
	Mobile Homes and Trailer Parks
	Mixed Residential
	Rural Residential
Specific Plan	Specific Plan
Mixed Residential and Commercial	Mixed Residential and Commercial
Commercial	General Office
	Commercial and Services
Mixed Commercial and Industrial	Mixed Commercial and Industrial
Industrial	Industrial
Infrastructure and Institutional Land Uses	Facilities
	Education
	Military Installations
	Transportation, Communications, and Utilities
Open Space, Agriculture, and Vacant Land Uses	Open Space and Recreation
	Agriculture
	Vacant
	Water
	Undevelopable or Protected Land
SOURCE: Southern California Association of Governments. March 2012. <i>Program Environmental Impact Report for the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy</i> . State Clearinghouse # 2011051018. Section 3.8. Land Use and Agriculture.	



Residential Land Uses

The residential pattern of the SCAG region is largely shaped by topography. Most residents live in southern parts of Ventura, Los Angeles, and San Bernardino Counties, with the urban form limited by national forests and mountains. In Orange County, residents live near the coast and west of the Cleveland National Forest. Residents also have moved inland to the high desert in northern Los Angeles and San Bernardino Counties and the low desert in the Coachella and Imperial Valleys.

The majority of medium- and high-density housing in the region is found in the urban core of the region, in Downtown Los Angeles, East Los Angeles, and the “West Side” of Los Angeles. Large cities, such as Long Beach, Santa Ana, Glendale, Oxnard, and Pasadena, also have concentrations of high-density development in their downtown areas. Several beach communities, such as the Cities of Santa Monica, Manhattan Beach, Hermosa Beach, Redondo Beach, Huntington Beach, and Newport Beach, have high density close to the ocean.

Surrounding suburbs are predominantly low-density housing tracts. Low-density housing expands west into Ventura County, east through southeast Los Angeles County, throughout much of Orange County, and through the western Inland Empire. The resort communities and cities of the Coachella Valley in Riverside County also are built primarily on a low-density scale.

The developing land on the urban fringe, such as the Antelope Valley of Los Angeles County and the Victorville-Hesperia area, Lucerne Valley, and Yucca Valley of San Bernardino County, also are primarily low-density residential. The Imperial Valley in Imperial County is primarily an agricultural region with a growing, yet still regionally small, population that lives in primarily low-density developments. The SCAG region also contains mixed residential and commercial land uses.

Commercial Land Uses

Across the region, commercial development typically follows transportation corridors. Office development generally locates at the terminals of major transportation features, particularly airports and train stations, or at the intersection of major freeways. Downtown Los Angeles is the historical center of jobs in the region. Los Angeles International Airport (LAX) and John Wayne Airport have considerable office clusters around them. Office buildings tend to cluster around major intersections, including areas such as the “El Toro Y” (intersection of the I-5 and the I-405) and the “Orange Crush” (intersection of I-5, SR-22, and SR-57) in Orange County. The SCAG region also contains some mixed commercial and industrial land uses (Figure 3.11.2-6, *Commercial Land Uses in the SCAG Region*).

Infrastructure and Institutional Land Uses

Institutional land uses, which include large government and private operations, such as military bases, airports, and universities, encompass a considerable footprint in the region. Military operations consume a substantial quantity of land. The 10 active duty military facilities in the SCAG region are listed below:

- El Centro Naval Air Facility
- Los Angeles Air Force Base
- Joint Forces Training Base, Los Alamitos

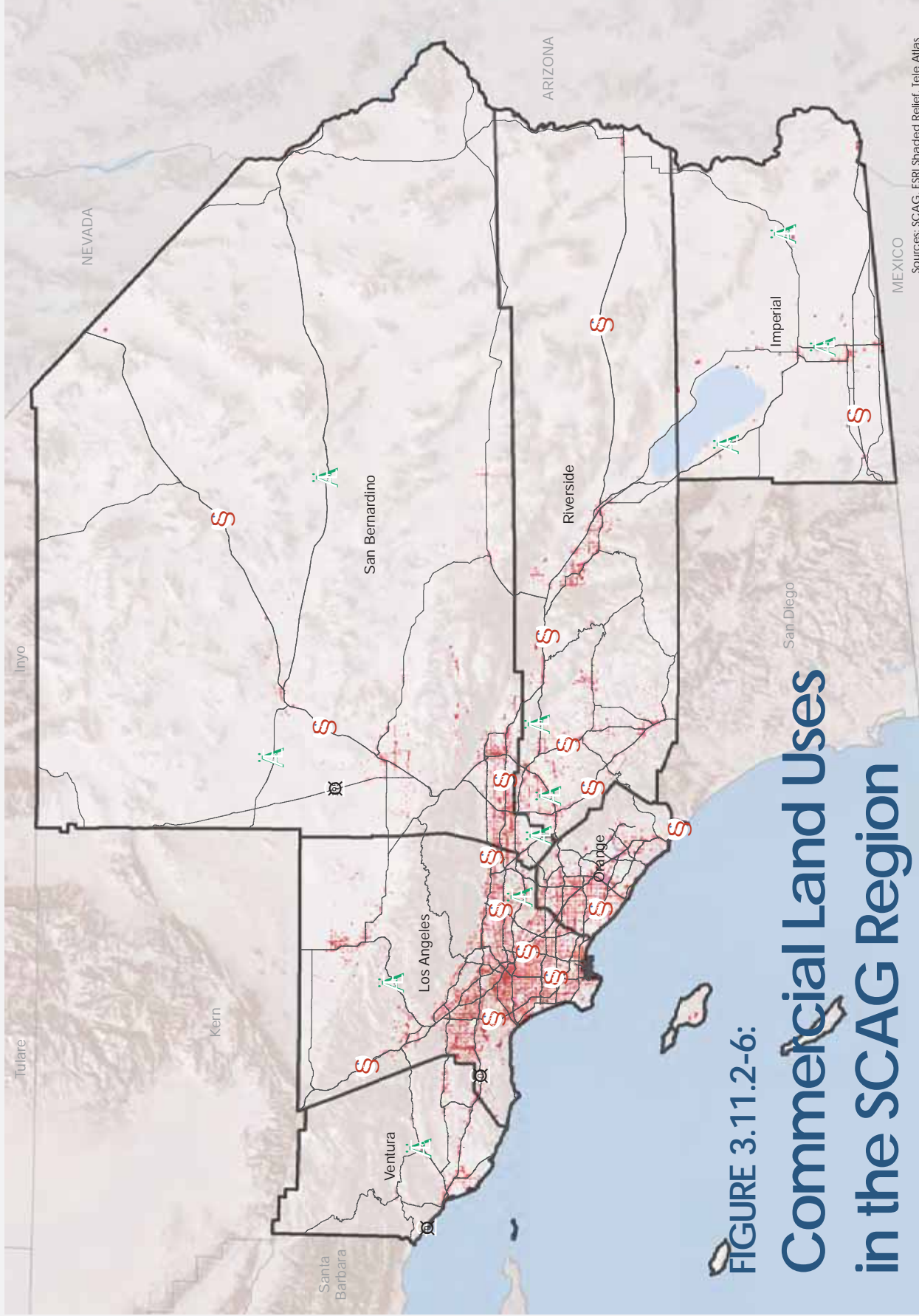


FIGURE 3.11.2-6:
Commercial Land Uses
in the SCAG Region

- General Office
- Commercial and Services
- Mixed Commercial and Industrial
- Mixed Residential and Commercial
- Mixed Residential and Commercial



Sources: SCAG, ESRI Shaded Relief, Tele Atlas

- Naval Weapons Station, Seal Beach
- Naval Warfare Assessment Station, Corona
- March Air Reserve Base
- Barstow Marine Corps Logistics Base
- Fort Irwin
- Twentynine Palms Marine Corps Combat Center
- Naval Base Ventura County

In addition, land controlled by Edwards Air Force Base, based in Kern County, extends into Los Angeles and San Bernardino Counties. The Chocolate Mountains Aerial Gunnery Range in Imperial and Riverside Counties is also an institutional use that is off-limits to the public.

A substantial quantity of land is dedicated to airports in Los Angeles County. In the Antelope Valley, a large portion of land is dedicated to airport uses at Palmdale Airport. LAX is another major institutional land use. Bob Hope Airport and Long Beach Airport are the other commercial airports in Los Angeles County. Airports in other parts of the region include Ontario International Airport, Southern California Logistics Airport, and San Bernardino International Airport in San Bernardino County, Palm Springs International Airport and March Inland Port in Riverside County, John Wayne Airport in Orange County, and numerous general aviation airports scattered across the SCAG region.

University and college campuses are located in every county of the SCAG region. The largest are universities in the University of California system (Irvine, Los Angeles, and Riverside) and the California State University system (Channel Islands, Dominguez Hills, Fullerton, Long Beach, Los Angeles, Northridge, San Bernardino, and San Diego-Imperial Valley Campus). California Polytechnic University at Pomona and the University of Southern California are the other large universities in the region. There are numerous smaller universities and colleges in the region, both public and private, as well as an extensive community college system that spans the SCAG region.

Industrial Land Uses

The focal points of industrial activity in the region are the Ports of Los Angeles and Long Beach. Put together, these adjacent ports handle approximately 37 percent of the volume imported into the country and container trade at these two ports increased by nearly 61 percent between 2000 and 2011.¹¹ The industrial activity spreads north from the ports along the Alameda Corridor to Downtown Los Angeles and extends east through the City of Industry and the City of Commerce toward San Bernardino County.

Many manufacturing industries, distribution centers, and warehouses have established businesses in Riverside and San Bernardino Counties. This activity has made the Inland Empire a distribution center for the region, state, and nation. Adding to the goods coming by highway and rail through San Bernardino County are goods coming to the county by air through several airports that cater to air cargo, primarily Ontario International Airport. Industrial uses tend to cluster around cargo-handling airports to take advantage of transportation options.

¹¹ U.S. Department of Transportation, Bureau of Transportation Statistics. January 2014. *Freight Facts and Figures 2013*. Available at: <http://aapa.files.cms-plus.com/Statistics/Freight%20Facts%20and%20Figures%202013.pdf>

Significant air cargo and associated industrial land uses also are located around LAX. A third port in the region, located in Port Hueneme in Ventura County, is also surrounded with industrial activity. Along the Mexican border, the three ports of entry in Imperial County have large amounts of commerce going back and forth between the two countries.

Extraction activities in the region focus on oil and minerals. Ventura County has extensive extraction activities in the far southwestern part of the county and along Route 126. These activities extend into Los Angeles County to the area around the City of Santa Clarita. Oil wells and oil refineries remain across southern Los Angeles County. Oil drilling and refining also takes place in Orange County, near Huntington Beach and Newport Beach. Significant mining operations take place in the eastern portion of Imperial County. Wind energy generation facilities are located in the San Geronio Pass between Banning and Palm Springs.

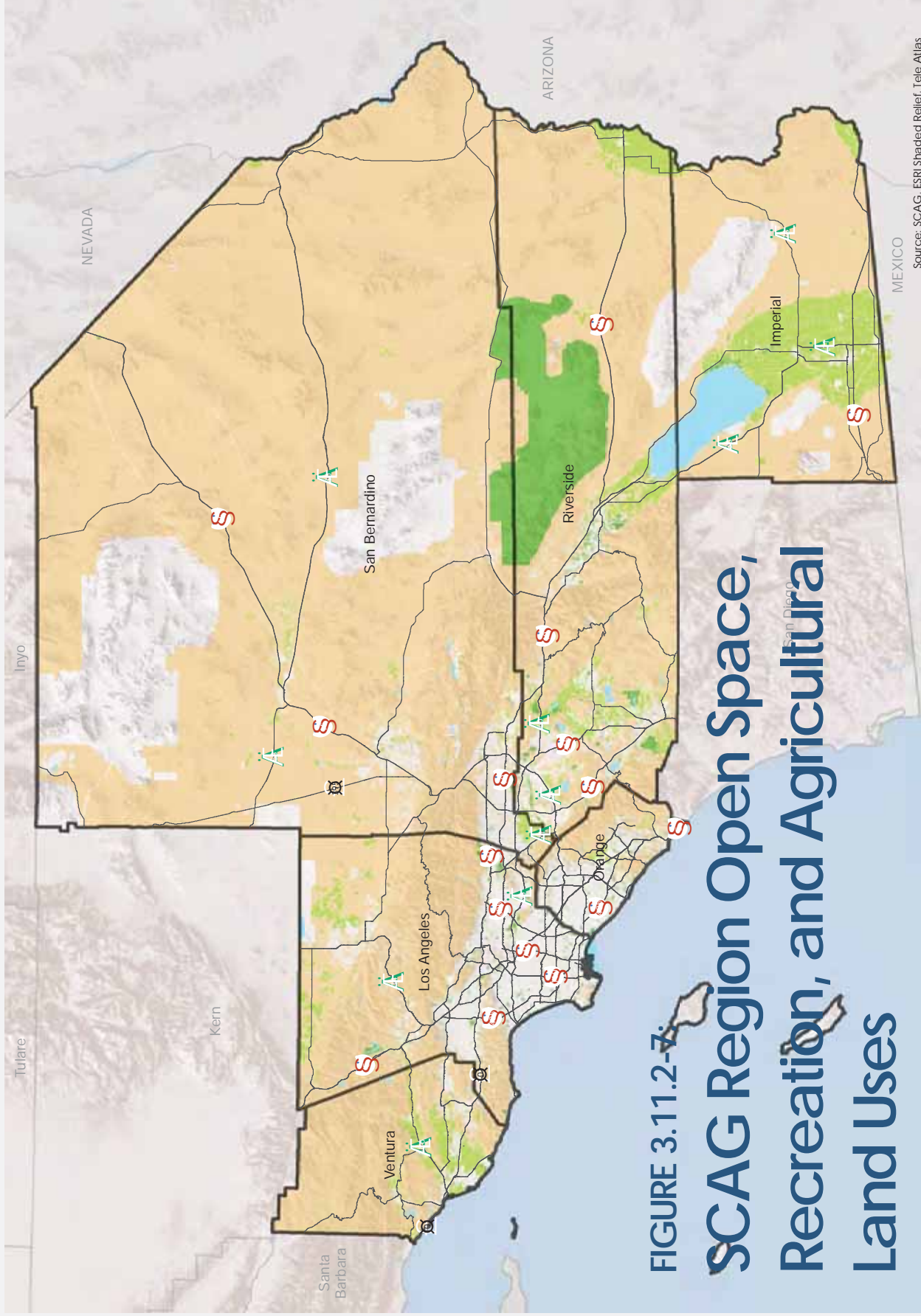
Open Space, Agriculture, Vacant, Land Uses

There are vast areas of open space, recreation, and agricultural land uses throughout the SCAG region (**Figure 3.11.2-7, SCAG Region Open Space, Recreation, and Agricultural Land Uses**). Open spaces vary in size and location and generally include but are not limited to public parks, recreational facilities, national forests, national parks, national monuments, military reservations, and other areas planned for such uses. Some open spaces are comprised of lands that have been acquired by public agencies or private institutions for long-term management as open space. Other open space is comprised of land designated for passive and active recreation. In addition, there are vast areas in the SCAG region that, although designated for land uses other than open space or recreation, were undeveloped in 2015 at the time of preparation of the 2016 RTP/SCS and this PEIR. Undeveloped lands are considered in the 2016 RTP/SCS as “natural lands” and include “biologically diverse landscapes such as forested and mountainous areas, shrub lands, deserts and other ecosystems which contain habitat that supports wildlife and vegetation.” Generally, the RTP/SCS consideration of natural lands excludes areas used for agriculture, rangeland, seasonal grazing, or other working lands where native plant communities are no longer extant due to anthropogenic activities. Agriculture is normally included in open space, although it may range from open grasslands and rangelands used for livestock grazing to areas supporting row and tree crops. In yet other instances, lands may be designated or zoned as open space but still allow for development of a single-family home. Lands evaluated as “natural lands” in the 2016 RTP/SCS are generally evaluated as habitat in **Section 3.4, Biological Resources**.

Farmlands and rangelands are agricultural lands that are part of the region’s open landscape and entail various types and degrees of modifications to natural lands. Also discussed in **Section 3.2, Agriculture and Forestry Resources**, farmlands include irrigated and nonirrigated crop production. Rangelands include any expanse of natural land that is not fertilized, irrigated, or cultivated and is predominately used for grazing by livestock and wildlife.

The distribution of farmlands and rangelands in the SCAG region and vicinity is based primarily on data provided by the California Department of Conservation (CDC). It also provides a summary of existing plans and programs in the region to conserve agricultural lands, plus a summary of growth management plans in other states that include provisions for conserving agricultural lands.

Based on 2012 data from the CDC verified by SCAG, and SCAG member jurisdictions, there are approximately 2,626,907 acres of agricultural lands in the SCAG region consisting of 1,481,607 million



**FIGURE 3.11.2-7:
SCAG Region Open Space,
Recreation, and Agricultural
Land Uses**

acres of grazing land and 1,145,300 million acres of farmland including Farmland of Statewide Importance, Prime Farmland, Unique Farmland, and Farmland of Local Importance as identified by the CDC and SCAG. Additionally, these acreages also include farmlands of 10 acres or less.

There is substantially more farmland than rangeland in Ventura, Riverside, and Imperial Counties and the reverse in Los Angeles, Orange, and San Bernardino Counties. By comparison, Kern County has more farmland than the six SCAG counties combined and also has more total acres of rangeland.

Historically, development patterns in the region have been tied as much to the conversion of agricultural lands as to the consumption of natural lands for urban uses. A key issue in the region today is whether the high rate of farmland conversion in recent years can be slowed to prevent irreversible losses. An estimated 230,000 acres of farmland and grazing land were converted to nonagricultural uses and/or applied for development entitlements between 1996 and 2004.¹² If this trend continues unabated, the existing inventory of agricultural lands could be reduced by 700,000 acres before 2030.

Tribal Lands

Approximately 266,110 acres, or 416 square miles, of the SCAG region consist of tribal lands from 16 different tribal affiliations (Table 3.11.2-3, *Tribal Lands within the SCAG Region*, lists the name, county, and acreage of tribal lands within the SCAG region; and Figure 3.11.2-8, *Tribal Lands in SCAG Region*, shows where tribal lands are located within the SCAG region). Indian Trust Assets (ITAs) include land, natural resources, money, or other assets held by the federal government in trust or that are restricted against alienation for Indian tribes or individuals. The Department of Interior Order No. 3175 requires all its bureaus and offices to explicitly address anticipated effects on ITAs in planning, decision, and operation documents. The Bureau of Indian Affairs (BIA) develops inventories of ITAs for all Indian tribes. Tribes must conduct soil and range inventories, land evaluations and range utilization; collect data about soil productivity, erosion, stability problems, and other physical land factors for program development, conservation planning, and water rights claims settlements. In addition, tribes are required to develop land management plans.¹³ Sixteen tribal lands and their respective governments are in the SCAG region, including the Agua Caliente Band of Cahuilla Indians, Augustine Band of Mission Indians, Cabazon Band of Mission Indians, Cahuilla Band of Mission Indians, Chemehuevi Reservation, Colorado River Reservation, Fort Mojave Indian Tribe, Fort Yuma Reservation, Morongo Band of Mission Indians, Pechanga Band of Luiseno Indians, Ramona Band of Mission Indians, San Manuel Band of Mission Indians, Santa Rosa Band of Mission Indians, Soboba Band of Luiseno Indians, Torres-Martinez Desert Cahuilla Indians, and Twentynine Palms Band of Mission Indians.

¹² SCAG Sustainability Program. Accessed 8 May 2015. Available at: <http://sustain.scag.ca.gov/Lists/Details/DispForm.aspx?ID=43>

¹³ Bureau of Indian Affairs, Branch of Agriculture and Rangeland Development. Accessed 30 June 2015. Website. Available at: <http://www.bia.gov/WhoWeAre/BIA/OTS/NaturalResources/AgrRngeDev/index.htm>.

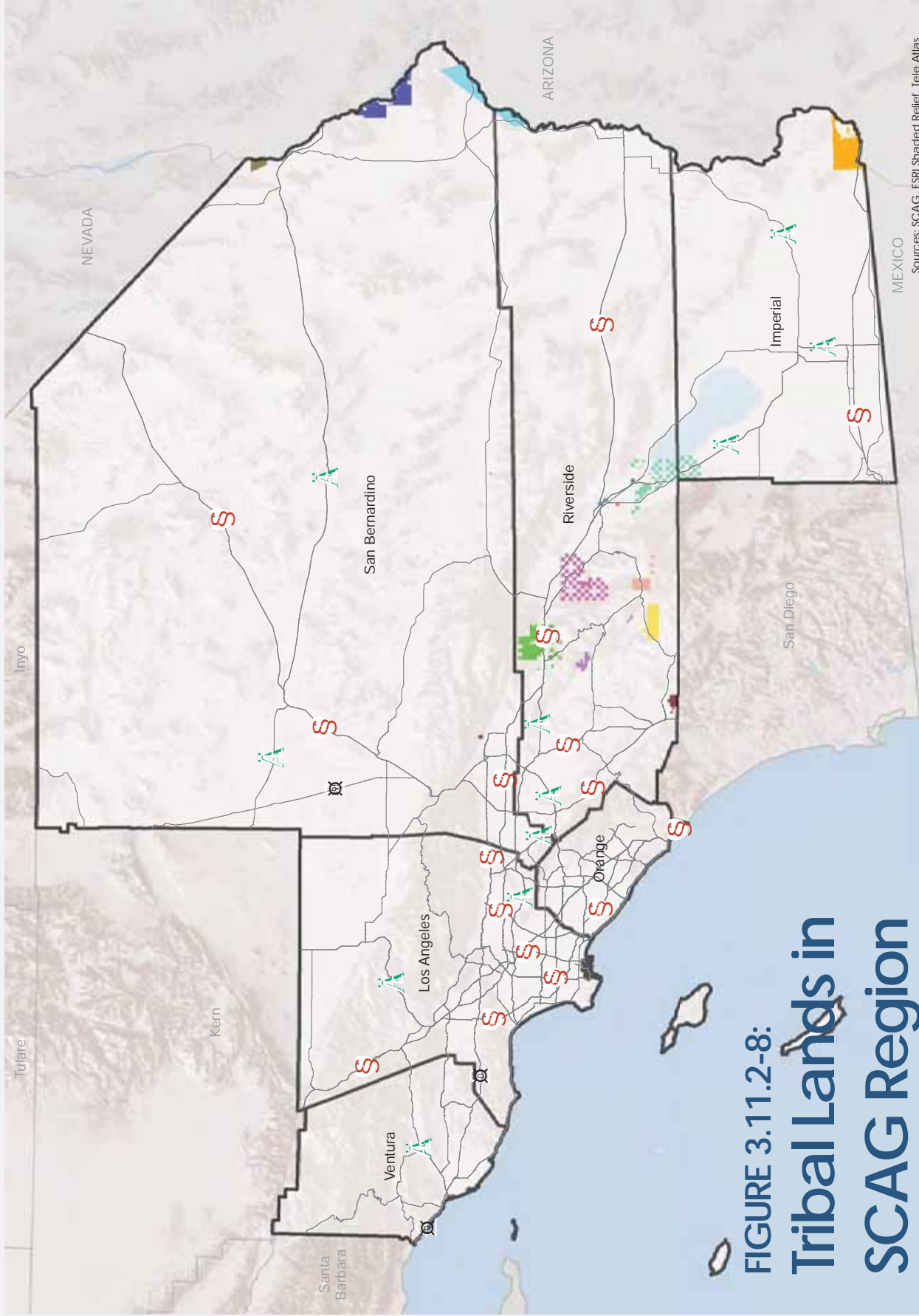


FIGURE 3.11.2-8:
Tribal Lands in
SCAG Region

- Agua Caliente
- Augustine
- Cabazon
- Cahulla
- Chemehuevi
- Cocopah
- Colorado River
- Fort Mojave
- Morongo
- Pechanga
- Quechan
- Ramona
- San Manuel
- Santa Rosa
- Soboba
- Torres-Martinez
- Twenty-Nine Palms



Sources: SCAG, ESRI Shaded Relief, Tele Atlas

**TABLE 3.11.2-3
TRIBAL LANDS WITHIN THE SCAG REGION**

Name	County	Acres
Agua Caliente	Riverside	31,521
Augustine	Riverside	645
Cabazon	Riverside	1,936
Cahuilla	Riverside	18,485
Chemehuevi	San Bernardino	30,823
Colorado River	Riverside	19,409
Colorado River	San Bernardino	28,598
Fort Mojave	San Bernardino	6,193
Fort Yuma	Imperial	42,737
Morongo	Riverside	31,439
Pechanga	Riverside	4,454
Ramona	Riverside	548
San Manuel	San Bernardino	673
Santa Rosa	Riverside	10,916
Soboba	Riverside	5,818
Torres-Martinez	Imperial	10,243
Torres-Martinez	Riverside	21,286
Twenty-Nine Palms	Riverside	227
Twenty-Nine Palms	San Bernardino	161

SOURCE:

Southern California Association of Governments. June 2011. *Tribal Reservations in the SCAG Region*. Available at: <http://www.scag.ca.gov/Documents/scagTribalRegions.pdf>

Coastal Programs

The Coastal Program in the SCAG region consists of approximately 350,956 acres, or 548 square miles, and includes the islands off of the Southern California coast. The Coastal Program affects Ventura, Los Angeles, and Orange Counties in addition to 28 incorporated cities (**Table 3.11.2-4, *Cities in the SCAG Region with Coastal Zone Jurisdiction*; Figure 3.11.2-9, *SCAG Region Coastal Zone Jurisdiction***). Each local jurisdictional authority (city or county) with lands within the coastal zone is required to develop, and comply with, a coastal management plan. The Coastal Act requires that any person or public agency proposing development within the Coastal Zone obtain a CDP from either the CCC or the city or county having the jurisdictional authority to issue a CDP. To comply with the Coastal Zone Management Act, localities develop Local Coastal Plans (LCPs).¹⁴

¹⁴ California Coastal Commission. Accessed 23 November 2014. *Laws, regulations, and legislative information*. Available at: <http://www.coastal.ca.gov/ccatc.html>

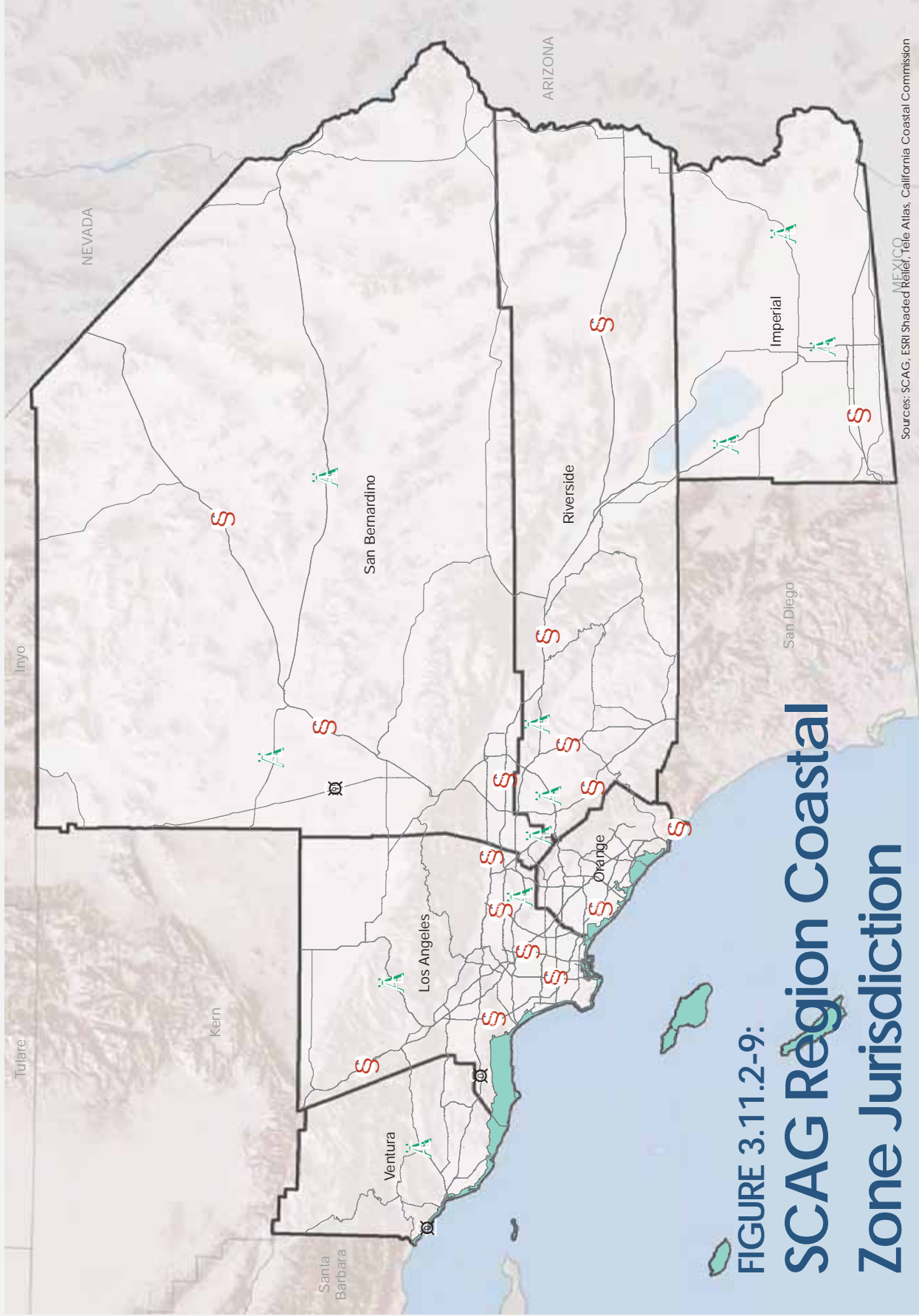
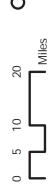


FIGURE 3.11.2-9:
SCAG Region Coastal
Zone Jurisdiction

Coastal Zone

Sources: SCAG, ESRI Shaded Relief, Tele Atlas, California Coastal Commission



**TABLE 3.11.2-4
CITIES IN THE SCAG REGION WITH COASTAL ZONE JURISDICTION**

Name	County
Calabasas	Los Angeles
El Segundo	Los Angeles
Hermosa Beach	Los Angeles
Long Beach	Los Angeles
Los Angeles	Los Angeles
Malibu	Los Angeles
Manhattan Beach	Los Angeles
Palos Verdes Estates	Los Angeles
Rancho Palos Verdes	Los Angeles
Redondo Beach	Los Angeles
Santa Monica	Los Angeles
Torrance	Los Angeles
Aliso Viejo	Orange
Costa Mesa	Orange
Dana Point	Orange
Huntington Beach	Orange
Irvine	Orange
Laguna Beach	Orange
Laguna Niguel	Orange
Newport Beach	Orange
San Clemente	Orange
San Juan Capistrano	Orange
Seal Beach	Orange
Westminster	Orange
Oxnard	Ventura
Port Hueneme	Ventura
Ventura	Ventura

SOURCE:

California Coastal Commission. Accessed 19 July 2015. Statewide map of CCA regions. Available at:
http://www.coastal.ca.gov/nps/Web/cca_statemap.htm

Regional Habitat Conservation Plans and Multi-Species Habitat Conservation Plans

There are 13 HCPs and NCCPs within the SCAG region (see Table 3.4.2-12, *HCPs and NCCPs Relevant to the SCAG Region*, in Section 3.4, *Biological Resources*). Of the nearly 23 million acres of land classified as “open space” within the SCAG region, approximately 20,560,501.94 acres are afforded long-term protection and conservation under the terms of an HCP or NCCP.

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is part of a comprehensive planning effort to address species conservation, land use, and transportation. This rapidly growing area of California is expected to increase in population from 1.5 to 3 million by 2020. The integration of thoughtful conservation planning with urban development and transportation is providing a more efficient, streamlined, cost-effective way of planning for the future. Approximately \$2.2 billion has been spent on 25 large transportation projects within the Western Riverside County MSHCP. Through the streamlined permitting process, it is estimated that federal and state agencies, and other non-federal landowners saved between \$126 and \$278 million on these important infrastructure projects.

Lower Colorado River MSHCP

On April 4, 2005, the Secretary of the Interior and representatives from agencies within Arizona, California, and Nevada implemented the Lower Colorado River Multi-Species Conservation Program (LCR MSCP). The LCR MSCP was created to balance the use of the Colorado River water resources with the conservation of native species and their habitats. The program area extends over 400 miles of the lower Colorado River from Lake Mead to the southernmost border with Mexico. The HCP calls for the creation of over 8,100 acres of habitat for fish and wildlife species and the production of over 1.2 million native fish to augment existing populations. The Bureau of Reclamation is the implementing agency for the LCR MSCP.¹⁵

Orange County Southern Subregion HCP

The Orange County Southern Subregion HCP was approved in 2007 for a 75-year permit. This HCP is a program that established a permanent habitat reserve and perpetual land management program. This regional HCP covers large tracts of land in the County of Orange and the family-held Rancho Mission Viejo. Benefits provided by this HCP include the creation of a subregion habitat reserve program including conservation of coastal California gnatcatcher habitat.

Orange County Central-Coastal HCP/NCCP

In the 18 years since the Orange County Central-Coastal HCP/NCCP was completed, numerous regional HCPs have been approved or are in development throughout California. The NCCP program has also expanded to address a broad range of important natural habitats throughout the state.

Coachella Valley MSHCP

The Coachella Valley MSHCP was adopted in 2008 and preserves over 240,000 acres of natural habitat in the Coachella Valley. This MSHCP protects 27 sensitive plant and animal species. This plan is managed by the Coachella Valley Conservation Commission.

¹⁵ Lower Colorado River Multi-Species Conservation Program. 2015. Website. Available at: <http://www.lcrmscp.gov/index.html>

Desert Renewable Energy Conservation Plan (DRECP)

The DRECP was undertaken due to statewide and national concerns regarding habitat fragmentation and loss of habitat for listed and candidate species. The DRECP is currently in the process of being prepared as a joint federal and state effort involving the BLM, USFWS, the California Energy Commission, and the California Department of Fish and Wildlife (CDFW). The CEQA Notice of Preparation was released on July 28, 2011. The draft EIR was released on September 26, 2014. The DRECP is a proposed multispecies HCP intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California, while also facilitating the timely permitting of renewable energy projects to help meet the state's goal of providing at least 33 percent of electricity generation through renewable energy by 2020, and the federal government's goal of increasing renewable energy generation on public land. As planned, the approved DRECP and associated permits would provide renewable energy developers and entities undertaking DRECP conservation efforts with authorization for the incidental take of certain endangered, threatened, and special-status plant and animal species for covered activities (as defined in the DRECP). Such authorizations would be granted by agencies that are formal participants in the DRECP.¹⁶

California Desert Conservation Area Plan

The California Desert Conservation Area Plan is used to manage BLM-controlled areas. The BLM also implements biological resource management policies through its designation of Areas of Critical Environmental Concern.

West Mojave Plan

The West Mojave Plan is an amendment to the Bureau of Land Management's (BLM) California Desert Conservation Area Plan. The West Mojave Plan also has a proposed HCP component that, if and when finalized, would provide a program for complying with the federal ESA on private lands within the West Mojave Plan area. Together, the West Mojave Plan and the proposed HCP component would cover over 9 million acres north of the Los Angeles metropolitan area with a purpose of creating a comprehensive strategy to conserve and protect almost 100 sensitive desert species and natural communities.

¹⁶ California Energy Commission. Accessed 1 May 2015. Website. Available at:
<http://www.energy.ca.gov/2011publications/DRECP-1000-2011-001/DRECP-1000-2011-001.pdf>

3.11.3 THRESHOLDS OF SIGNIFICANCE

The potential for the 2016 RTP/SCS to result in impacts related to land use and planning was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. The Plan would result in significant impacts if it would:

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Physically divide an established community.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

Methodology

The methodology for determining the significance of land use impacts compares the existing conditions to future (2040) conditions, as required in CEQA Section 15126.2(a). The 2016 RTP/SCS consists of a combination of transportation investments integrated with proposed land use strategies that are intended to guide the land use development pattern in the SCAG region. **Section 2.0, *Project Description***, describes the Plan's vision, goals, guiding policies, performance measures, and land use and transportation strategies. A geographic information system (GIS) was used to analyze where major transportation (e.g., freeway, rail, and transit) projects would intersect areas used for residential development and business uses. A 500-foot potential impact zone was drawn around the freeway, rail, and transit projects in the 2016 RTP/SCS to compute the number of acres that could potentially be affected by the construction and operation of transportation projects included in the 2016 RTP/SCS. **Table 3.11.3-1, *Land Uses Located within 500 feet of 2016 RTP/SCS Major Transportation Projects***,¹⁷ shows the current land uses that are located within 500 feet of either side of Plan transportation projects. The 2040 population, households, and employment growth projections for each alternative are held constant at the regional and jurisdictional levels, but differ from one another based on the land use development patterns under different regional growth and land use strategies anticipated for each alternative.

¹⁷ Major Transportation Projects include but are not limited to projects that involve ground disturbing activities and projects outside of existing rights-of-way such as projects that require new rights-of-way, adding traffic lanes, and grade separation.

**TABLE 3.11.3-1
LAND USES LOCATED WITHIN 500 FEET OF 2016 RTP/SCS
MAJOR TRANSPORTATION PROJECTS**

Land Use	County						Total Acres
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	
Agriculture	1,262	2,317	437	2,688	179	414	7,296
Commercial and Services	89	5,382	4,049	2,912	1,657	516	14,605
Education	38	1,073	366	383	138	28	2,026
Facilities	15	1,947	1,054	411	279	45	3,751
General Office	12	1,990	777	460	321	119	3,680
Industrial	7	6,703	1,639	1,383	1,256	189	11,177
Military Installations	0	86	362	311	212	4	974
Mixed Commercial and Industrial	0	68	135	12	15	6	235
Mixed Residential	0	241	44	17	3	7	311
Mixed Residential and Commercial	0	124	19	31	16	3	193
Mobile Homes and Trailer Parks	21	2,017	429	331	165	49	3,012
Multi-Family Residential	24	3,260	1,894	617	400	97	6,292
Open Space and Recreation	8	6,649	1,424	564	1,010	335	9,991
Rural Residential	0	455	0	344	233	0	1,033
Single Family Residential	152	8,397	3,543	2,090	1,770	270	16,222
Transportation, Communications, and Utilities	8	5,131	557	1,428	1,003	115	8,241
Under Construction	0	79	43	201	47	7	377
Undevelopable	0	0	461	0	0	34	495
Vacant	357	15,805	928	5,822	11,147	207	34,267
Water	0	436	213	110	0	0	760
Total Acres	1,993	62,161	18,374	20,114	19,851	2,447	124,940

SOURCE:

Sapphos Environmental, Inc. GIS analysis, 2015.

3.11.4 IMPACT ANALYSIS

IMPACT LU-1: Potential to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Significant Impact

The implementation of major transportation projects and land use strategies included in the 2016 RTP/SCS has the potential to conflict with applicable land use plans, policies, and regulations, constituting a significant impact. SCAG has developed a policy growth forecast and associated land use distribution pattern based on anticipated growth and land use strategies included in the SCS portion of the 2016 RTP/SCS. The SCS demonstrates the region's ability to attain and exceed the GHG emission reduction targets set forth by the CARB. The SCS provides a plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The SCS focuses the majority of new housing and job growth in high-quality transit areas (HQTAs) and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and compliments the proposed transportation investments that emphasizes system preservation, active transportation, and transportation demand management measures. As part of this regional transportation-planning effort, SCAG has included an extensive public outreach effort with low-income and minority communities that is reflected in this 2016 RTP/SCS with the goal of providing an equitable distribution of land use and transportation planning benefits and associated public health benefits, and not a disproportionate share of the burdens associated with the Plan.

Development patterns encouraged and facilitated by the 2016 RTP/SCS, where implemented by local jurisdictions, would influence the distribution of growth in existing urbanized areas or suburban town centers and opportunity areas such as the HQTAs, including livable corridors and neighborhood mobility areas. As described in **Section 2.0, *Project Description***, by 2040, the SCAG region is anticipated to add 3.8 million people with or without the 2016 Plan. To accommodate the growth, the 2016 RTP/SCS includes a set of regional land use policies and strategies that are intended to encourage higher densities in some areas such as existing urban areas (e.g., HQTAs) and suburban town centers and to help increase transportation mode choice, mobility, walking and biking, and other benefits. In some other opportunity areas, the land use policies and strategies in the Plan would encourage use of opportunity areas that may be underutilized urban land. These anticipated development patterns, which would be supported by transportation investments that emphasize system preservation and enhancement, active transportation, and land use integration, are consistent with some local land use plans, goals, and policies in urban areas calling for higher density and more compact, mixed-use development served by high-quality transit and bicycle and pedestrian improvements. The 2016 RTP/SCS's focus on development in HQTAs in existing urban areas is also consistent with the planning strategies for the region's areas that are outside the HQTAs and urban (including opportunity) areas or suburban town centers because the Plan would support maintaining a less compact character for such areas if expressed in local land use plans.

The 2016 RTP/SCS contains transportation projects and land use strategies to help more strategically distribute anticipated population, households, and employment growth in the region by 2040. Many of the proposed land use strategies that support the region's transportation strategies were developed as a result of SCAG's bottom-up planning process outlined in the SCS. This process involved extensive outreach to and input from local jurisdictions, including counties, subregions, and local city planners. As such, the resulting jurisdictional level policy growth forecast was built primarily from local general plans and input from local governments. The policy growth forecast establishes population, employment, households, and housing units forecasts in the region and quantifies jurisdiction-level growth projections from each city and county in the region. As described in **Section 2.0, Project Description**, this policy growth forecast is the basis for developing the land use assumptions at the regional level and serves as the foundation of the SCS.

As a result of this comprehensive and bottom-up planning approach and process, the transportation projects and land use strategies included in the 2016 RTP/SCS are generally compatible with the county and regional level general plan data available to SCAG. However, note that SCAG has no authority to adopt, approve, implement, or otherwise regulate local land use plans or projects that will implement the SCS. SB 375 specifically provides that nothing in SB 375 supersedes the land use authority of cities and counties. In addition, cities and counties are not required to change their land use plans and policies, including general plans, to be consistent with an RTP/SCS. Rather, SB 375 is intended to provide a regional land use strategy and recommended policies to reduce GHG emissions. Local governments reserve their land use authority and may incorporate as appropriate the recommended land use strategies, guiding principles, and policies.

Although the transportation projects and land use strategies included in the 2016 RTP/SCS are generally compatible with county- and regional-level general plan data, local general plans are not updated on a consistent basis and are not required to be consistent with the RTP/SCS. This means some jurisdictions may have not updated their general plans since SCAG's last adopted 2012 RTP/SCS as they are not required to do so under SB 375, as explained in the preceding paragraph. In addition, the 2016 RTP/SCS 2040 planning horizon year is beyond the timeline of many of the most recent general plans. It is likely that over the period of the 2016 RTP/SCS, transportation projects and land use strategies have a potential to result in changes in the land use patterns in the region, and the improved accessibility from the 2016 Plan could help facilitate changes in areas. Therefore, there would be a potential for inconsistencies with general plans and potentially significant effects. However, it is important to recognize that inconsistencies may still exist without the 2016 RTP/SCS as the region grows over the next 25 years. The 2016 RTP/SCS includes region-wide growth and land use policies that are aimed to move the region forward in a direction that would help achieve a broad range of economic, transportation, environmental, sustainability and public health benefits.

In addition, transportation network projects included in the 2016 RTP/SCS such as the high speed rail projects would require new rights-of-way in highly developed areas with high-density housing along transportation corridors, resulting in potential to conflict with an applicable land use plan, policy, or regulation of an agency, constituting a potentially significant impact requiring the consideration of mitigation measures.

The future alignments and engineering designs for these rail projects have not yet been determined, but are likely to be located to the extent feasible within existing public rights-of-way such as along existing freeways, roadways, and rail corridors in order to minimize costs associated with property acquisition

and impacts to owners of private property, including businesses and residents. As a result, these high speed rail improvements would generally not conflict with land use portions of adopted plans. However, at this time, it cannot be guaranteed that all segments of future high speed rail projects would have alignments and design features that would avoid land use conflicts with adopted plans. Individual transportation network projects including the high speed rail improvements would undergo separate environmental review subject to CEQA and NEPA where applicable. The corresponding project-specific environmental documentation would identify significant impacts with regard to conflicts with land use portions of adopted plans, if any, and identify mitigation measures to avoid or lessen physical impacts to the environment resulting from any conflicts. Nevertheless, it cannot be concluded at this time that all project-level conflicts with land use portions of adopted plans associated with high speed rail projects would be avoided or substantially lessened. Therefore, transportation projects listed in the Plan would have a potential to conflict with land use portions of adopted general plans or other applicable land use plans, including specific plans and community plans, constituting the potential for a significant impact.

Overall, the implementation of major transportation projects and land use strategies included in the 2016 RTP/SCS has the potential to conflict with applicable land use plans, policies, and regulations, constituting a significant impact requiring the consideration of mitigation measures.

IMPACT LU-2: Potential to physically divide an established community.

Significant Impact

The construction and operation of the major transportation projects included in the 2016 RTP/SCS, and related and coordinated land use strategies and anticipated community development, have the potential to physically divide established communities as a result of creating real or perceived barriers to pedestrians, bicyclists, and motorists, constituting a significant impact.

New transit facilities are often planned in areas that are within existing communities. Although these facilities have positive effects (such as often creating a community benefit by reducing congestion in the area; connecting to other communities; providing a new mode of travel; offering facilities such as regional and local bikeway networks to increase active transportation opportunities; or relieving overcrowding on an existing mode of travel), new transit track and expanded transit facilities for light rail, high speed rail, heavy rail, or commuter rail, all have the potential to disrupt or divide established communities. Additionally, the addition of new lanes to existing freeway routes also has the potential to divide existing communities. As freeway routes are widened, it can also create a real or perceived barrier to pedestrians, bicyclists, and motorists. New freeway segments that occur in rural areas such as the High Desert Corridor would have the least potential to divide established communities as rural areas do not typically have the same degree of established communities as urban areas. However, the potential for impacts still exists.

Although the 2016 RTP/SCS includes major highway projects that are intended to reduce travel delay by adding capacity or lanes to highways and arterials, and create complete streets such that vehicles and non-motorized transit can both use the streets simultaneously, construction and implementation of new transportation facilities or expansion of existing facilities could disrupt or divide established communities. For example, such impacts could occur as a result of the implementation of the 710 Freeway mixed flow project in Los Angeles County or the 405 Freeway mixed flow project in Orange County.

These impacts normally occur as a result of right-of-way acquisition or development that crosses an existing path of travel used by motorists, cyclists, or pedestrians, resulting in a need to reroute trips on a short-term basis during construction, or permanently. These types of impacts are greatest for pedestrians due to the time required to reroute a walking path, but comparable and normally of shorter duration for cyclists, and motorists. Short-term construction impacts would include physical barriers that limit access to a community or restrict movement within a community. Additional short-term construction-related impacts could result from disturbances due to construction equipment. These impacts are discussed under other CEQA impact categories such as Noise, Aesthetics, and Air Quality of this PEIR. Long-term impacts could result from the construction of new or expanded roadways or transit facilities in existing communities. For example, the widening of a roadway could be perceived as too great a distance to cross by a pedestrian, thereby dividing a community. An elevated grade crossing may create a physical barrier in some locations. Where such impacts occur in close proximity to schools, special consideration is due in light of the Safe Routes to School component of SCAG's Active Transportation Plan.

The potential for community disruption was assessed by evaluating the location of proposed major transportation projects in relation to surrounding land uses and community development. Highway, transit, rail extensions, and major interchange projects were assumed to have a higher potential to disrupt or divide existing communities since they would involve the creation of new roadways and acquisition of new rights-of-way. Highway widening and other projects along established transportation rights-of-way were assumed to have a lower potential to divide or disrupt existing communities and neighborhoods.

Implementation of the 2016 RTP/SCS would affect land use patterns and the consumption of currently vacant and open space lands. Anticipated significant impacts include substantial land use density increase in areas of the region adjacent to transit within HQTAs, rights-of-way acquisitions that could separate residences from community facilities and services, and conversion of vacant lands, including agricultural lands, to transportation infrastructure and residential and commercial development. Both short-term construction-related impacts as well as off-site impacts from new transportation facilities would occur as a result of implementation of the 2016 RTP/SCS. Indirect impacts from changes in land use patterns and urban density increases are expected to occur as a result of the 2016 RTP/SCS's transportation investments and land use strategies.

Through its local input and bottom-up planning process, SCAG has developed a land use distribution pattern supported by land use strategies that are included in the SCS portion of the 2016 RTP/SCS. The SCS outlines a plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The SCS focuses the majority of new housing and job growth in HQTAs and other opportunity areas in existing urbanized areas and suburban town centers and opportunity areas, resulting in an improved jobs-housing balance and more opportunity for infill, mixed-used, and/or transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures.

A GIS analysis was performed to determine where major transportation projects (e.g., freeway, rail, and transit projects) in the 2016-2040 RTP/SCS intersected residential areas. For purposes of identifying potential land use incompatibility, a 500-foot potential impact zone buffer was used around the 2016 RTP/SCS major transportation projects to identify the number of acres potentially affected (Table 3.11.3-1). Based on the jurisdictional level local input to the Projected Growth Forecast, the analysis shows that 27,064 acres of residential land uses would be located within the 500-foot buffer of major projects included in the 2016 RTP/SCS.

The analysis performed is regional and programmatic in nature. It is intended to serve as a regional cumulative analysis for local jurisdictions in the preparation of project-specific environmental documentation and to provide a framework for mitigation measures to be implemented on both a programmatic, regional basis, and at a project level when individual transportation projects are evaluated by individual lead agency jurisdictions.

The construction and operation of the major transportation improvements included in the 2016 RTP/SCS and anticipated growth patterns and community development have the potential to physically divide established communities, constituting a significant impact requiring the consideration of mitigation measures.

IMPACT LU-3: Potential to conflict with any applicable habitat conservation plan or natural community conservation plan.

Significant Impact

The transportation projects included in the 2016 RTP/SCS would result in conflicts with the provisions of applicable adopted HCPs and NCCPs due to proposed transportation project development in lands that are protected under these HCPs and NCCPs.

Major transportation projects included in the 2016 RTP/SCS are determined to have the potential to impact land within five of the 13 HCPs/NCCPs in the SCAG region (see Table 3.4.4-10 in Section 3.4, *Biological Resources*). The development of transportation improvement projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, within the SCAG region may result in significant impacts to lands protected by HCPs and NCCPs. It is anticipated that no impacts related to conflicts with HCPs and/or NCCPs would occur where transportation improvement projects are limited to improvements to existing features and do not expand beyond existing road limits. These potential impacts would include direct impacts to lands protected under these HCPs and NCCPs as well as potential direct and indirect impacts to plant and animal species and their habitats afforded protection under these HCPs and NCCPs through conversion of habitat and introduction of lighting and noise during construction and operation. Four of the five HCPs and NCCPs located within the SCAG region contain provisions for the construction of transportation projects as part of plan-covered activities, acknowledging that such project normally constitute significant impacts, and specifying the requirement for mitigation measures.

Portions of 2016 RTP/SCS major transportation projects in Imperial, Los Angeles, Riverside, and San Bernardino Counties are within the Desert Renewable Energy Conservation Plan (DRECP). The DRECP is a proposed multispecies HCP intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California. However, the DRECP

only applies to the development of renewable energy projects, including wind and solar energy projects. Therefore, 2016 RTP/SCS transportation projects would not conflict with the DRECP because these projects are not facilitating the development of renewable energy projects. The remaining four HCP/NCCPs (Coachella Valley MSHCP, Orange County Transportation Authority NCCP/HCP, West Mojave HCP, and Western Riverside County MSHCP) include considerations for the development of transportation projects as part of plan-covered activities.

The development of transportation projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, within the SCAG region may result in significant impacts to lands protected by HCPs and NCCPs. It is anticipated that no impacts related to conflicts with HCPs and/or NCCPs would occur where transportation projects are limited to improvements to existing features and do not expand beyond existing road limits. These potential impacts would include direct impacts to lands protected under these HCPs and NCCPs as well as potential direct and indirect impacts to plant and animal species and their habitats afforded protection under these HCPs and NCCPs through conversion of habitat and introduction of lighting and noise during construction and operation.

Overall, the 2016 RTP/SCS would be expected to result in significant impacts related to conflicts with the provisions of adopted HCPs and NCCPs applicable to the SCAG region, requiring the consideration of mitigation measures.

3.11.5 CUMULATIVE IMPACTS

IMPACT LU-1: Potential to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Significant Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with related development and infrastructure projects within the SCAG region and surrounding areas, would have a potential to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect, thus constituting a significant cumulative impact. Implementation of the 2016 RTP/SCS would result in an increase in density and land use development over the planning horizon between 2016 and 2040. By 2040, the SCAG region is anticipated to add an additional approximately 3 million people (17 percent increase over baseline conditions) with or without the 2016 RTP/SCS. The land use strategies in the 2016 RTP/SCS identify new growth distribution and anticipated land use development patterns to accommodate growth projections, but may in some instances require higher density land use patterns than those envisioned by currently adopted county and city general plans. Although a similar level of socioeconomic growth and development is anticipated even without the 2016 RTP/SCS, this Plan includes regional level strategies that would influence growth, including distribution patterns, and change land use patterns in the region. Other infrastructure improvements in

the SCAG region related to agricultural, residential, commercial, manufacturing, and institutional land uses may further exacerbate the conflicts with adopted city and county general plan land use goals and policies, and in some instances may warrant consideration of amendments of such plans. Therefore, the Plan would have the potential to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect, thus constituting a significant cumulative impact requiring the consideration of mitigation measures.

IMPACT LU-2: Potential to physically divide an established community.

Significant Cumulative Impact

The construction and operation of the major transportation projects included in the 2016 RTP/SCS, and related and coordinated land use strategies and anticipated community development, when taken into consideration with other land use development projects and infrastructure improvements in the SCAG region and surrounding counties, have the potential to physically divide established communities as a result of barriers to pedestrians, bicyclists, and motorists, constituting a significant cumulative impact. The development of transportation projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and at-grade transit and rail projects within the SCAG region have the potential to result in significant impacts to land use by creating a physical barrier that divide established communities. These impacts when combined with comparable impacts from development of agricultural, residential, commercial, manufacturing, and institutional land uses may contribute to cumulative impacts to land use by contributing to the total number of areas where established communities are divided. Therefore, the Plan would have the potential to physically divide an established community, requiring the consideration of mitigation measures.

IMPACT LU-3: Potential to conflict with any applicable habitat conservation plan or natural community conservation plan.

Significant Cumulative Impact

The 2016 RTP/SCS would not be expected to contribute incrementally with related projects in the SCAG region with regard to conflicting with HCPs and/or NCCPs because all covered transportation projects located within the HCPs and/or NCCPs would be required to comply with the provisions of the respective conservation plans. Although development is anticipated to occur within cities and counties even without the 2016 RTP/SCS, the Plan includes regional policies that could influence growth, including distribution patterns, throughout the region. To address this, the analysis in the PEIR considers overall regional impacts of transportation investments and land development strategies described in the 2016 RTP/SCS. Overall, the impacts to biological resources as a result of transportation projects and investment and land use strategies included in the 2016 RTP/SCS would increase habitat fragmentation and would be expected to incrementally contribute to indirect cumulative impacts to biological resources, in combination with other projects in the SCAG region, requiring the consideration of mitigation measures.

3.11.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to land use and planning are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT LU-1: Potential to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

SCAG Mitigation Measures

MM-LU-1(a)(1): SCAG shall encourage cities and counties in the region to provide SCAG with electronic versions of their most recent general plan (and associated environmental document) and any updates as they are produced.

MM-LU-1(a)(2): SCAG shall continue to provide targeted technical services such as GIS and data support for cities and counties to update their general plans at least every ten years, as recommended by the Governor's Office of Planning and Research.

MM-LU-1(a)(3): SCAG shall work with its member cities and counties to encourage that transportation projects and growth are consistent with the RTP/SCSs.

MM-LU-1(a)(4): SCAG shall coordinate with member cities and counties to encourage that general plans consider and reflect as appropriate RTP/SCS policies and strategies. SCAG will work to encourage consistency between general plans and RTP/SCS policies.

MM-LU-1(a)(5): SCAG shall provide technical assistance and regional leadership to encourage implementation of the RTP/SCS goals and strategies that integrate growth and land use planning with the existing and planned transportation network.

MM-LU-1(a)(6): SCAG shall provide planning services to local jurisdictions through sustainability planning programs including the Sustainability Program, and the Green Region initiative, and "Toolbox Tuesday" workshops. These projects will provide assistance to local jurisdictions to:

- Update General Plans to address sustainable communities strategies to better integrate land use and transportation planning.
- Develop specific plans, zoning overlays and other planning tools to enable and stimulate desired land use changes that are consistent with the future land development pattern in the 2016 RTP/SCS
- Complete the economic analysis and community involvement efforts that will ensure that the planned changes are market feasible and responsible to stakeholder concerns.

- Visualize potential changes, through innovative graphics and mapping technology to inform the dialogue about growth, development and transportation at the local and regional level.

MM-LU-1(a)(7): SCAG shall continue with a public relations strategy that emphasizes the benefits and implications of implementing sustainable growth strategies and builds a sense of common interests among Southern California communities.

MM-LU-1(a)(8): SCAG shall continue to use its Intergovernmental Review Process to provide comments to lead agencies on regionally significant projects, that may be considered for determining consistency with the RTP/SCS .

Project-Level Mitigation Measures

MM-LU-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects regarding the potential to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project that are within the jurisdiction and responsibility of local jurisdictions and Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the goals and policies established within the applicable adopted county and city general plans within the SCAG region to avoid conflicts with zoning and ordinance codes, general plans, land use plan, policy, or regulation of an agency with jurisdiction over the project, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Where an inconsistency with the adopted general plan is identified at the proposed project location, determine if the environmental, social, economic, and engineering benefits of the project warrant a variance from adopted zoning or an amendment to the general plan.

IMPACT LU-2: Potential to physically divide an established community.

SCAG Mitigation Measures

MM-LU-2(a): SCAG shall consult with Lead Agencies such as county and city planning departments to facilitate minimizing impacts to the physical division of an established community. This shall be accomplished through cooperation and information sharing regarding specific alignments and rights-of-way planning for Plan projects, and regional program development as part of SCAG's ongoing regional planning efforts. These include but are not limited to web-based planning tools and sustainability programs for local government such as:

- CA LOTS, and other GIS tools and data services, including but not limited to:
 - Map Gallery.
 - GIS library and GIS applications.
- Direct technical assistance efforts such as Toolbox Tuesday Training series and sharing of associated online training materials.

- Sustainability Planning Grant (formerly known as Compass Blueprint Grant Program).
- Green Region initiative.
- Assistance with economic analysis and community involvement efforts that will ensure that the planned changes are market feasible and responsible to stakeholder concerns.
- Assistance with visualization services, through innovative graphics and mapping technology to inform the dialogue about growth, development, and transportation at the local and regional level.
- Planning services for General Plan updates to assist with implementing sustainable communities strategies that integrate land use and transportation planning.

Project-Level Mitigation Measures

MM-LU-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects related to the physical division of an established community in a project area within the jurisdiction and responsibility of local jurisdictions and Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the goals and policies established within the applicable adopted county and city general plans within the SCAG region to avoid the creation of barriers that physically divide such communities, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Consider alignments within or adjacent to existing public rights-of-way.
- Consider designs to include sections above- or below-grade to maintain viable vehicular, cycling, and pedestrian connections between portions of communities where existing connections are disrupted by the transportation project.
- Wherever feasible incorporate direct crossings, overcrossings, or undercrossings at regular intervals for multiple modes of travel (e.g., pedestrians, bicyclists, vehicles).
- Consider realigning roadway or interchange improvements to avoid the affected area of residential communities or cohesive neighborhoods.
- Where it has been determined that it is infeasible to avoid creating a barrier in an established community, consider other measures to reduce impacts, including but not limited to:
 - Alignment shifts to minimize the area affected.
 - Reduction of the proposed right-of-way take to minimize the overall area of impact.
 - Provisions for bicycle, pedestrian, and vehicle access across improved roadways.
- Design new transportation facilities that consider access to existing community facilities. Identify and consider during the design phase of the project, community amenities and facilities in the design of the project.
- Design roadway improvements that minimize barriers to pedestrians and bicyclists. Determine during the design phase, pedestrian and bicycle routes that permit connections to nearby community facilities.

IMPACT LU-3: Potential to conflict with any applicable habitat conservation plan or natural community conservation plan.

SCAG Mitigation Measures

See MM-BIO-1(a)(1) and MM-BIO-1(a)(2).

Project-Level Mitigation Measures

See MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-BIO-4(b), MM-BIO-5(b), and MM-BIO-6(b).

3.11.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT LU-1: Potential to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

It is likely that in some instances currently adopted general plans and other adopted plans will not be consistent with the 2016 RTP/SCS policies and land use strategies, and they are not required to be consistent for purposes of the SCS pursuant to SB 375. Implementation of mitigation measures MM-LU-1(a)(1), MM-LU-1(a)(2), MM-LU-1(a)(3), MM-LU-1(a)(4), MM-LU-1(a)(5), MM-LU-1(a)(6), MM-LU-1(a)(7), MM-LU-1(a)(8), and MM-LU-1(b) would reduce some of these impacts. However, direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT LU-2: Potential to physically divide an established community.

The 2016 RTP/SCS includes transportation projects that have the potential to disrupt or divide communities through transportation investments and development patterns that would influence the pattern of urbanization in the region. As a result of the scale and number of these projects, even with mitigation, it is likely that in some cases impacts would not be mitigated to a less than significant level. Therefore, after the implementation of Mitigation Measures MM-LU-2(a) and MM-LU-2(b), direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT LU-3: Potential to conflict with any applicable habitat conservation plan or natural community conservation plan.

The implementation of mitigation measures MM-BIO-1(a)(1), MM-BIO-1(a)(2), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-BIO-4(b), MM-BIO-5(b), and MM-BIO-6(b) would avoid or impacts related to conflicts with the provisions of adopted HCPs and NCCPs applicable to the 2016 RTP/SCS to below the level of significance. Any transportation projects proposed for development within these HCPs and/or NCCPs would be required to comply with the provisions and policies of the respective plan. Therefore, it is expected that compliance with these provisions would be sufficient to prevent direct, indirect, and cumulative impacts related to conflicts with HCPs and NCCPs.

3.12 MINERAL RESOURCES

This section of the Program Environmental Impact Report (PEIR) describes mineral resources in the SCAG region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Plan,” or “Project”) on state and local reserves of mineral resources, identifies mitigation measures for the impacts, and evaluates the residual impacts. The potential for impacts on state and local reserves of mineral resources was evaluated in accordance with Appendix G of the 2015 California Environmental Quality Act (CEQA) Guidelines. Mineral resources within the SCAG region were evaluated at the programmatic level of detail, in relation to the general plans of the six counties and 191 cities within the six-county area, a review of *California Minerals and Mines*, a review of related literature germane to the SCAG region, and a review of SCAG’s 2012 RTP/SCS PEIR.¹

Mineral resources, including construction aggregate, are essential to California’s infrastructure and constitute the highest-value commodity mined in California despite low cost per unit volume. Mineral resources are produced and consumed throughout the state and are effectively irreplaceable. Nonfuel mineral production in California consists of 32 minerals that are produced commercially from about 900 actively working mines. There were about 1,230 mines in the state as of 2010. California ranks sixth after Alaska, Minnesota, Utah, Arizona, and Nevada in the value of nonfuel mineral production, accounting for approximately 4.2 percent of the nation’s total, with a market value for 2010 of \$2.9 billion. California also leads the nation in the production of sand and gravel, and ranks second behind Texas in the production of Portland cement.² A continuous supply of aggregate materials for urban infrastructure is essential to the economy of Southern California. The counties and cities in the SCAG region depend on the California Geological Survey (CGS) to identify deposits of regionally significant aggregate resources.

Definitions

Mineral Resources: Mineral resources are commercially viable aggregate or mineral deposits, such as sand, gravel, and other construction aggregate. These clusters or belts of mineral deposits are designated into four classes of Mineral Resource Zones (MRZs) that indicate the potential for a specific area to contain significant mineral resources:

- **MRZ-1:** Areas where available geological information indicated there is little or no likelihood for presence of significant mineral resources
- **MRZ-2:** Areas underlain by mineral deposits where geological data indicate that significant measured or indicated resources are present or where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists

¹ California Department of Conservation, Division of Mineral and Geology. 2000. *California minerals and mines*. Report No. DMG CD 2000-001.

² California Department of Conservation, California Geological Survey. October 2014. *California’s construction aggregate resources*. Available at: http://www.calafco.org/files/2014%20Annual%20Conference/Mineral_Resource_Oct_2014.pdf

- **MRZ-3:** Areas containing known mineral occurrences of undetermined mineral resources significance
- **MRZ-4:** Areas of known mineral occurrences where geological information does not rule out the presence or absence of significant mineral resources

The MRZs were initially mapped in 1980 as a result of the Surface Mining and Reclamation Act (SMARA) of 1975.³ Substantial aggregate mineral resources in the SCAG region can be found in all six counties within the SCAG region. However, aggregate production in Imperial County is less than 0.5 million tons per year.⁴

3.12.1 REGULATORY FRAMEWORK

Federal

Indian Mineral Development Act of 1982

The Indian Mineral Development Act of 1982 (25 U.S. Code [USC] 2101–2108) permits Indian tribes, through the Secretary of the Interior, to enter into certain agreements for the disposition of tribal mineral resources through a Minerals Agreement. A Minerals Agreement provides for the exploration for or extraction of oil, gas, uranium, coal, geothermal, or other energy or nonenergy mineral resources for tribes that own a beneficial or restricted interest or provide for the sale or production of tribal mineral resources.

State

Surface Mining and Reclamation Act (SMARA) of 1975

The SMARA (Public Resources Code [PRC] 2710–2796) requires that the State Department of Mines and Geology Board map areas throughout the state that contain regionally significant mineral resources. Construction aggregate resources (sand and gravel) deposits were the first commodity selected for classification by the Board. Once mapped, the Mines and Geology Board is required to designate for future use those areas that contain aggregate deposits that are of prime importance in meeting the region's future need for construction-quality aggregates. The primary objective of SMARA is for each jurisdiction to develop policies that would conserve important mineral resources, where feasible, that might otherwise be unavailable when needed. SMARA requires that once policies are adopted, local agency land use decisions must be in accordance with its mineral resource management policies. These decisions must also balance the mineral value of the resource to the market region as a whole, not just their importance to the local jurisdiction.

³ California Department of Conservation, Division of Mines and Geology. Accessed 11 September 2015. *Surface mining and reclamation policies and procedures: guidelines for classification and designation of mineral lands*. Available at: <http://www.conservation.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf>

⁴ California Geological Survey. 2012. *Aggregate sustainability in California*. Available at: http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS_52_2012.pdf

Government Code Section 65302(d)

Government Code Section 65302(d) states that a conservation element of the general plan shall address minerals and other natural resources.

Local

County and City General Plans

For the most part, local planning guidelines have been developed in county and city general plans to identify and encourage the utilization and conservation of mineral and energy resources, encourage sustainable management of resources, prevent or minimize adverse effects to the environment, and protect public health and safety. Pursuant to Government Code Section 65302, a general plan must include “A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, *minerals*, and other natural resources” (emphasis added). As discussed in **Section 3.11, *Land Use and Planning***, zoning codes implement the goals and objectives of General Plans.

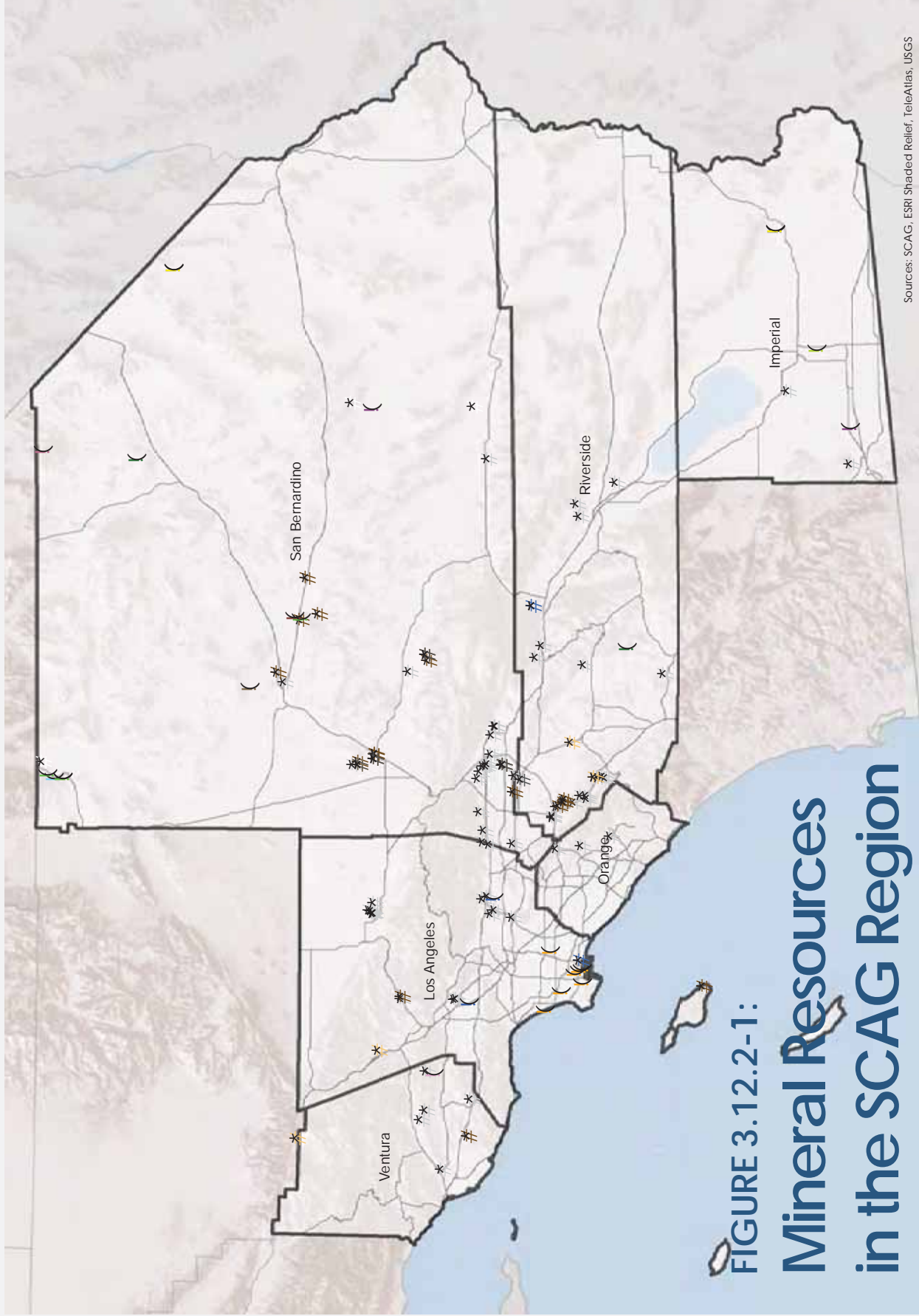
3.12.2 EXISTING CONDITIONS

Regionally Important Mineral Resources

County and city general plans are required to identify significant mineral resource areas and apply appropriate land use designations to ensure their future availability. Many city and county general plans in the SCAG region reference and map local mineral resources. Most of the comprehensive mineral resource mapping in California has been completed for urban areas where there is a high probability that converted land uses would be incompatible with mining. Gold, sand, and gravel are the primary mineral resources still extracted throughout the SCAG region (**Figure 3.12.2-1, *Mineral Resources in the SCAG Region***).

Construction aggregate refers to sand and gravel (natural aggregates) and crushed stone (rock) that are used as Portland-cement-concrete aggregate, asphaltic-concrete aggregate, road base, railroad ballast, riprap, and fill for the production of other construction materials. According to the CGS, the state currently has approximately 4.3 billion tons of permitted resources, and the CGS estimates the state would need approximately 13.5 billion tons of aggregate in the next 50 years.⁵ California’s construction industry is greatly dependent on readily available aggregate deposits that are within a reasonable distance to market regions. Aggregate is a low-unit-value, high-bulk-weight commodity; therefore, aggregate for construction must be obtained from nearby sources in order to minimize costs to the consumer. If nearby aggregate sources do not exist, then transportation costs can quickly exceed the value of the aggregate. The CGS prepares information regarding aggregate resources in the state (**Figure 3.12.2-2, *Aggregate Supply in the SCAG Region***).

⁵ Department of Conservation, Natural Resources Agency. Accessed 30 June 2015. *State Mining and Geology Board annual report 2013–2014*. Available at: http://www.conservation.ca.gov/smgbr/reports/Annual%20Reports/Documents/SMGB_AR_13-14.pdf



Sources: SCAG, ESRI Shaded Relief, TeleAtlas, USGS

FIGURE 3.12.2-1:
Mineral Resources
in the SCAG Region

Active Mine/Plant (Commodity)	#	Cement	(	Feldspar	(	Lime	(	Silver	(	Talc
(	*	Common Clay and Shale	(	Gemstones	(	Perlite	(	Soda Ash	(	Zeolites
(	#	Crushed Stone	(	Gold	*	Salt	(	Sodium Sulfate	(
(	#	Dimension Stone	(	Gypsum	#	Sand and Gravel	(	Sulfur	(

Map Usage and Limitations
 This map is intended to provide general information about the current availability of California's permitted construction aggregate reserves to state, regional, and local land-use planners and decision makers. It is designed to assist planning agencies in considering construction aggregate needs in the regional planning process. However the map is not intended to be used as the sole source of information about construction aggregate availability, or as the basis for site-specific land-use decisions. Although the statewide and regional information on this map be useful to local decision makers, the more detailed information contained in the referenced aggregate studies should be used for local land-use decision making purposes.

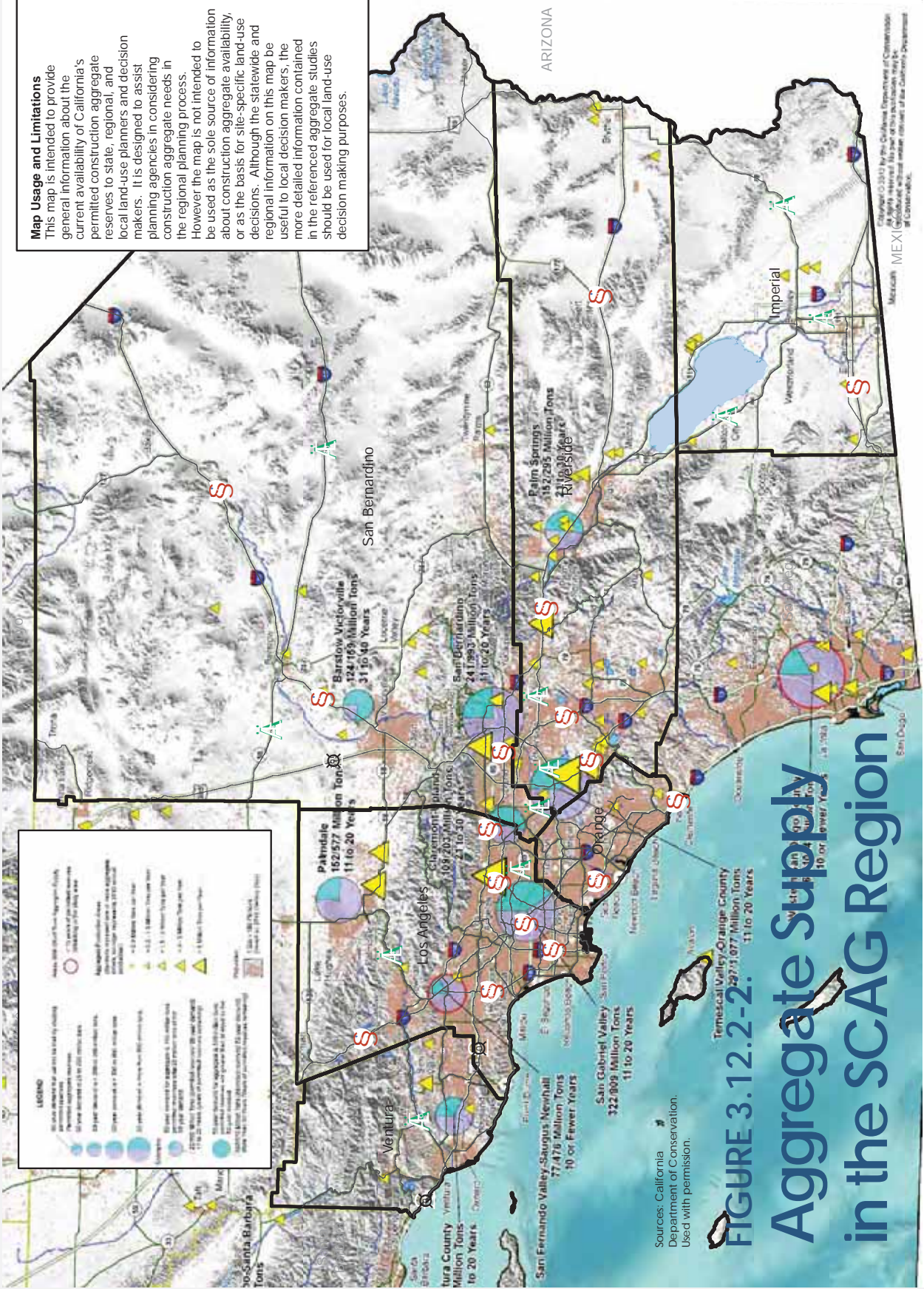


FIGURE 3.12.2-2: Aggregate Supply in the SCAG Region

Sources: California Department of Conservation. Used with permission.



The 50-year demand is based on a per capita consumption forecast, developed from historic data (Table 3.12.2-1, *Permitted Aggregate Resources and 50-Year Demand in the SCAG Region*). This method has been shown to be reasonably accurate in forecasting demand; it tends to smooth out spikes in demand that occur as a result of large-scale projects in a particular area. (It should be noted that although there are aggregate mines in Imperial County, the CGS does not provide permit and demand data for Imperial County.)

**TABLE 3.12.2-1
PERMITTED AGGREGATE RESOURCES AND 50-YEAR DEMAND IN THE SCAG REGION**

	County*	50-Year Demand (million tons)	Permitted Aggregate Reserves (million tons)	Permitted Aggregate Reserves Compared to 50-Year Demand (percent)	Projected Years Remaining
Claremont-Upland P-C Region	San Bernardino	203	109	54	21 to 30
Palmdale P-C Region	Los Angeles	577	152	26	11 to 20
Palm Springs P-C Region	Riverside	295	152	52	21 to 30
San Bernardino P-C Region	San Bernardino	993	241	24	11 to 20
San Fernando Valley/Saugus-Newhall	Los Angeles	476	77	16	10 or fewer
San Gabriel Valley P-C Region	Los Angeles	809	322	40	11 to 20
Temescal Valley-Orange County	Orange	1,077	297	28	11 to 20
Ventura County	Ventura	298	96	32	11 to 20
Total SCAG Region		4,728	1,446	N/A	N/A

NOTE:

*Aggregate reserves not analyzed for Imperial County.

SOURCE:

California Department of Conservation, California Geological Survey. Accessed 11 September 2015. *Aggregate Sustainability in California*. Available at: http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS_52.pdf

Just under one-third of the projected 50-year demand is currently permitted in the SCAG region, exclusive of mines in Imperial County (Table 3.12.2-1). The CGS estimates that there are up to 74 billion tons of nonpermitted resources state-wide. Nonpermitted aggregate resources are deposits that may meet specifications for construction aggregate, are recoverable with existing technology, have no land overlying them that is incompatible with mining, and currently are not permitted for mining. Resource areas include areas that are known to contain aggregate resources and have compatible land uses such as agricultural land, open space lands (not designated as parks), and forest lands. Uses that are considered incompatible with mining include urban areas, county and state parks, national parks, and golf courses.

The estimated nonpermitted resources in the region are in excess of 37 million tons. While the estimated amount of nonpermitted resources is large, it is unlikely that all of these resources would ever be mined because of social, environmental, or economic factors. Aggregate resources located too close to urban or environmentally sensitive areas can limit or stop their development. These resources may also be located too far from a potential market to be economically viable. In spite of such possible

constraints, current nonpermitted aggregate resources are the most likely future sources of construction aggregate potentially available to meet California's continuing demand.

3.12.3 THRESHOLDS OF SIGNIFICANCE

The 2016 RTP/SCS would have a significant impact related to mineral resources if it would have the potential to:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Methodology

The methodology for determining the significance of impacts on mineral resources impacts compares the existing conditions (2015) to the future 2040 conditions under the Plan, as required by CEQA Guidelines Section 15126.2(a). Specifically, the volume of aggregate material likely to be required to support the transportation projects and urban development encouraged by land use strategies in the 2016 RTP/SCS was evaluated in relation to availability of permitted mineral resources, and other potential mineral resource recovery sites in the SCAG region.

3.12.4 IMPACT ANALYSIS

IMPACT MIN-1: Potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Significant Impact

Transportation projects as well as development patterns influenced by land use strategies identified in the 2016 RTP/SCS would require substantial amounts of aggregate resources to construct, constituting a significant impact. The six-county and 191-city SCAG region has approximately 1,446 million tons of permitted aggregate reserves (Table 3.12.2-1). The CGS estimates that the SCAG region would need approximately 4,728 million tons of aggregate over the next 50 years.⁶ The difference of 3,282 million tons would need to be permitted over the next 50 years to meet the projected demand. Table 3.12.2-1 indicates that, of the eight areas of permitted aggregate resources, six have a minimum of 10 to 11 projected years remaining, and two have a minimum of 21 projected years remaining. The SCAG region's construction industry is greatly dependent on readily available aggregate deposits that are within a reasonable distance to market regions. Aggregate is a low-unit-value, high-bulk-weight commodity or material required for construction of most transportation projects and development projects that must be obtained from nearby sources in order to minimize costs to the consumer. If nearby sources do not exist, then transportation costs quickly could exceed the value of the aggregate.

⁶ California Department of Conservation, California Geological Survey. Accessed 11 September 2015. *Aggregate Sustainability in California*. Available at: http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS_52.pdf

Figure 3.12.2-1 shows the 50-year demand that would not be met in aggregate production areas in and around the SCAG region. Additionally, Table 3.12.2-1 shows that just under one-third of the projected 50-year demand is currently permitted in the SCAG region (excluding mines in Imperial County). The 2016 RTP/SCS includes transportation system improvements, such as new or expanded highway/arterials, high-occupancy vehicle (HOV) lanes and connectors, new light and heavy rail, goods movement projects, and infrastructure that would require substantial amounts of aggregate resources. In addition, the regional land use strategies identified in the 2016 RTP/SCS could influence population distribution by focusing growth in HQTAs, existing suburban town centers, and more walkable, mixed-use communities. The development projects encouraged by these land use strategies included in the 2016 RTP/SCS could also result in a demand for aggregate resources for construction.

As a programmatic, long-range planning document, the 2016 RTP/SCS does not include specific construction information related to large transportation projects. However, it is anticipated that the transportation projects included in the 2016 RTP/SCS and anticipated development could require substantial amounts of aggregate resources to construct. Therefore, impacts would be significant, requiring the consideration of mitigation measures.

IMPACT MIN-2: Potential to result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Significant Impact

The 2016 RTP/SCS includes transportation projects that have the potential to impact mineral resources because they could take place in previously undisturbed areas, and development patterns encouraged by land use strategies identified in the 2016 RTP/SCS have the potential to occur in mineral resource zones, constituting a potentially significant impact. Improvements and modifications to existing rights-of-way, such as HOV lanes, high-occupancy toll (HOT) lanes, new bus-ways and capacity enhancement facilities, mixed flow lanes, and right-of-way maintenance would have less potential to impact mineral resources because these transportation project locations have previously been disturbed. Construction of new transportation projects, like additional lanes and right-of-way maintenance, have the potential to impact aggregate and mineral resources.

As this PEIR analyzes impacts to mineral resources on a programmatic level only, it is anticipated that as individual projects are evaluated, the scope of analysis would require a determination regarding the potential for a project to result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Construction of transportation projects and new development influenced and encouraged by land use strategies (e.g., focusing new growth in the region's high-quality transit areas, or HQTAs) included in the 2016 RTP/SCS would result in a potentially significant impacts, requiring the consideration of mitigation measures.

3.12.5 CUMULATIVE IMPACTS

IMPACT MIN-1: Potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Significant Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with related development and infrastructure projects within the SCAG region and surrounding areas, and anticipated growth and land use development pattern, would contribute to significant cumulative impacts with regard to the potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. Similarly, the 2016 RTP/SCS includes a set of regional land use strategies that are intended to guide future land development patterns to focus new growth in HQTAs, existing suburban town centers, and walkable mixed-use communities. While the specific impact of this pattern of development relative to the loss of a known mineral resource is unknown, it could result in cumulative significant impacts. As a programmatic, long-range planning document, the 2016 RTP/SCS does not include specific construction information related to major transportation projects. However, it is anticipated that the transportation projects included in the 2016 RTP/SCS and anticipated development could require substantial amounts of aggregate resources to construct.

Figure 3.12.2-1 shows the 50-year demand that would not be met in aggregate production areas in and around the SCAG region. Additionally, Table 3.12.2-1 shows that just under one-third of the projected 50-year demand is currently permitted in the SCAG region (excluding mines in Imperial County). The 2016 RTP/SCS includes transportation system improvements, such as new or expanded highway/arterials, HOV lanes and connectors, new light and heavy rail, goods movement projects, and infrastructure associated with these projects that would require substantial amounts of aggregate resources. In addition, the mobility and regional land use policies identified in the 2016 RTP/SCS would influence population distribution by focusing growth in HQTAs, existing suburban town centers, and more walkable, mixed-use communities. The development projects encouraged by these land use strategies included in the 2016 RTP/SCS as well as anticipated development would also result in a demand for aggregate resources for construction. Construction of the 2016 RTP/SCS transportation projects and development patterns influenced by land use strategies, when considered with other anticipated infrastructure, residential, and commercial development in the SCAG region, would contribute to cumulative impacts to mineral resources of statewide and local importance in the region, constituting a significant cumulative impact requiring the consideration of mitigation measures.

IMPACT MIN-2: Potential to result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Significant Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with related development and infrastructure projects within the SCAG region and surrounding areas, and anticipated growth and land use development patterns, would contribute to

cumulative significant impacts with regard to the potential to result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. The 2016 RTP/SCS transportation projects and associated development patterns influenced by land use strategies could be constructed atop mineral resources, impeding access to these resources, exacerbating the availability of regional and locally important mineral resource recovery sites. Given the potential for permitted resources to not meet demand both inside and outside the SCAG region, the 2016 RTP/SCS would contribute to a cumulatively significant impact, requiring the consideration of mitigation measures.

3.12.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to mineral resources are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT MIN-1: Potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

SCAG Mitigation Measures

MM-MIN-1(a)(1): SCAG shall coordinate with the Department of Conservation, California Geological Survey to maintain a database of (1) available mineral resources in the SCAG region including permitted and unpermitted aggregate resources and (2) the anticipated 50-year demand for aggregate and other mineral resources. Based on the results of this survey, SCAG shall work with local agencies on strategies to address anticipated demand, including identifying future sites that may seek permitting and working with industry experts to identify ways to encourage and increase recycling to reduce the demand for aggregate.

MM-MIN-1(a)(2): SCAG shall facilitate, encourage, and coordinate with local jurisdictions to review, identify, and update aggregate and mineral resources in their jurisdictions through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA Lots, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as Compass Blueprint's Toolbox Tuesday Training series and sharing of associated online training materials. Resource agencies, such as the California Department of Conservation and the U.S. Geology Survey shall be consulted during this update process. Using the above tools, SCAG shall assist local jurisdictions with developing long range plans and strategies to meet projected demand and ensure that transportation projects and associated development do not preclude the ability to recover known aggregate resources that would be of value to the region and the residents of the state.

Project-Level Mitigation Measures

MM-MIN-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on the loss of availability of a known mineral resource that would be of value to the region and the residents of the state or a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan that are within the jurisdiction and responsibility of the California Department of Conservation, and/or Lead Agencies.

Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with SMARA, California Department of Conservation regulations, local general plans, specific plans, and other laws and regulation governing mineral or aggregate resources, as applicable and feasible. Such measures may include the following, other comparable measures identified by the Lead Agency:

- Provide for the efficient use of known aggregate and mineral resources or locally important mineral resource recovery sites, by ensuring that the consumptive use of aggregate resources is minimized and that access to recoverable sources of aggregate is not precluded, as a result of construction, operation and maintenance of projects.
- Where avoidance is infeasible, minimize impacts to the efficient and effective use of recoverable sources of aggregate through measures that have been identified in county and city general plans, or other comparable measures:
 - Recycle and reuse building materials resulting from demolition, particularly aggregate resources, to the maximum extent practicable.
 - Identify and use building materials, particularly aggregate materials, resulting from demolition at other construction sites in the SCAG region, or within a reasonable hauling distance of the project site.
 - Design transportation network improvements in a manner (such as buffer zones or the use of screening) that does not preclude adjacent or nearby extraction of known mineral and aggregate resources following completion of the improvement and during long-term operations.
 - Avoid or reduce impacts on known aggregate and mineral resources and mineral resource recovery sites through the evaluation and selection of project sites and design features (e.g., buffers) that minimize impacts on land suitable for aggregate and mineral resource extraction by maintaining portions of MRZ-2 areas in open space or other general plan land use categories and zoning that allow for mining of mineral resources.

IMPACT MIN-2: Potential to result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

SCAG Mitigation Measures

MM-MIN-1(a)(1) and MM-MIN-1(a)(2).

Project-Level Mitigation Measures

MM-MIN-1(b).

3.12.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT MIN-1: Potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Implementation of Mitigation Measures MM-MIN-1(a)(1), MM-MIN-1(a)(2), and MM-MIN-1(b) would reduce potential impacts related to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. However, due to the substantial growth and large number of transportation and development projects anticipated direct, indirect, and cumulative impact would remain significant and unavoidable.

IMPACT MIN-2: Potential to result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Implementation of Mitigation Measures MM-MIN-1(a)(1), MM-MIN-1(a)(2), and MM-MIN-1(b) would reduce potential impacts related to the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. However, due to the substantial growth and large number of transportation and development projects anticipated, direct, indirect, and cumulative impacts would remain significant and unavoidable.

3.13 NOISE

This section of the Program Environmental Impact Report (PEIR) describes the ambient noise characteristics of the SCAG region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS, “Plan,” or “Project”) on ambient noise levels, identifies mitigation measures for the impacts, and evaluates the residual impacts. Noise was evaluated in accordance with Appendix G of the 2015 State California Environmental Quality Act (CEQA) Guidelines. Noise within the SCAG region was evaluated at the programmatic level of detail, in relation to federal noise and vibration impacts guidelines; *State of California General Plan Guidelines for Noise Elements*; California Department of Transportation guidance documents; the general plans of the six counties and 191 cities within the SCAG region; and a review of related literature germane to the SCAG region, as well as a review of SCAG’s 2012 RTP/SCS PEIR.^{1,2,3,4,5,6,7,8,9}

Ambient noise levels in the SCAG region vary widely as a function of the dramatic physical environment, land use, and density of people. Noise levels for various areas are identified according to the use of the area. Maximum allowable noise levels associated with various sensitive land uses are provided. Exposure of people to noise levels and ground borne vibration from transportation and transit infrastructure varies in relation to noise level at the source, density of the source, distance from the source, and sound modulating or attenuating structures between the source and the receptor.

Definitions

The definitions for noise and ground-borne vibration are discussed in this section to provide context for the evaluation of noise.

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- ¹ Federal Interagency Committee on Noise. August 1992. *Federal Agency Review of Selected Airport Noise Analysis Issues*. Washington, DC.
 - ² Cowan, James P. 1993. *Handbook of Environmental Acoustics*. Hoboken, NJ: John Wiley and Sons.
 - ³ Nelson, J.T., and H.J. Saurenman. December 1983. *State-of-the-Art Review: Prediction and Control of Ground-Borne Noise and Vibration from Rail Transit Trains*. U.S. Department of Transportation, Urban Mass Transportation Administration, Report Number UMTA-MA-06-0049-83-4, DOT-TSC-UMTA-83-3.
 - ⁴ Governor’s Office of Planning and Research. 2003. *State of California General Plan Guidelines*. Sacramento, CA.
 - ⁵ California Department of Transportation. 18 June 2009. *Project Development Procedures Manual*. Chapter 30. Sacramento, CA.
 - ⁶ California Department of Transportation, Division of Environmental Analysis. May 2011. *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*. Sacramento, CA.
 - ⁷ California Department of Transportation. September 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. Sacramento, CA.
 - ⁸ Federal Railroad Administration. September 2012. *High-Speed Ground Transportation Noise and Vibration Impact Assessment*. Final Report. Washington, DC.
 - ⁹ California Department of Transportation, Division of Aeronautics. October 2011. *California Airport Land Use Planning Handbook*. Sacramento, CA.

Noise and Vibration Terminology

A list of noise terminology is included to facilitate the discussion of noise and its impacts.

A-weighting: This is the method commonly used to quantify environmental noise that involves evaluation of all frequencies of sound, with an adjustment to reflect the constraints of human hearing. Because the human ear is less sensitive to low and high frequencies than to midrange frequencies, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called A-weighting (dBA).

Ambient: Ambient is the total noise in the environment, excluding noise from the source of interest.

Community noise equivalent level (CNEL): CNEL represents the average daytime noise level during a 24-hour day, adjusted to an equivalent level to account for people's lower tolerance of noise during the evening and nighttime hours. Because community receptors are more sensitive to unwanted noise intrusion during the evening and night, an artificial decibel increment is added to quiet-time noise levels. Sound levels are increased by 5 dBA during the evening, from 7:00 p.m. to 10:00 p.m. and by 10 dBA during the nighttime, from 10:00 p.m. to 7:00 a.m. during this quiet time period.

Day-night equivalent level (L_{dn}): L_{dn} is a measure of the 24-hour average noise level at a given location. It is based on a measure of the L_{eq} noise level over a given time period. The L_{dn} is calculated by averaging the L_{eq} for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 p.m. to 7:00 a.m.), by 10 dBA to account for the increased sensitivity of people to noises that occur at night. L_{dn} is also referred to as day-night average (DNL) sound level in some cases.

Decibel (dB): dB is a unitless measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals.

Equivalent sound level (L_{eq}): L_{eq} is a term typically used to express time averages. It is a steady-state energy level that is equivalent to the energy content of a varying sound level over a stated period of time, which means that the L_{eq} represents the noise level experienced over a stated period of time averaged as a single noise level.

Frequency: Frequency is the number of cycles per unit of time (seconds), expressed in hertz (Hz).

Noise: Noise is any sound that annoys or disturbs humans or that causes or tends to cause an adverse psychological or physiological effect on humans. Any unwanted sound.

Noise level (L_N): Another measure used to characterize noise exposure, L_N is the variation in sound levels over time, measured by the percentage exceedance level. L_{10} is the A-weighted sound level that is exceeded for 10 percent of the measurement period, and L_{90} is the level that is exceeded for 90 percent of the measurement period. L_{50} is the median sound level. Additional statistical measures include L_{min} and L_{max} , the minimum and maximum sound levels, respectively, measured during a stated measurement period.

Peak Particle Velocity (PPV): Defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in inches per second (in/sec).

Sound: A vibratory disturbance created by vibrating objects, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.

Vibration: Vibration is the mechanical motion of earth or ground, building, or other type of structure, induced by the operation of any mechanical device or equipment located upon or affixed thereto. For purposes of this report, the magnitude of the vibration shall be stated as the acceleration in “g” units (1 g is equal to 32.2 feet/second², or 9.81 meters/second²).

Noise Measurement

Noise is defined as unwanted sound. The human response to environmental noise is subjective and varies considerably from individual to individual. Sensitive receptors, such as residential areas, convalescent homes, schools, auditoriums, and other similar land uses, may be affected to a greater degree by increased noise levels than industrial, manufacturing, or commercial facilities. The effects of noise can range from interference with sleep, concentration, and communication, to the causation of physiological and psychological stress, and at the highest intensity levels, hearing loss.¹⁰

The method commonly used to quantify environmental noise involves evaluation of all frequencies of sound, with an adjustment to reflect the constraints of human hearing. Since the human ear is less sensitive to low and high frequencies than to midrange frequencies, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called “A-weighting,” written as dBA. In practice, environmental noise is measured using a sound level meter that includes an electronic filter corresponding to the A-weighted frequency spectrum. Typical examples can be used to illustrate sound sources that correlate to measure A-weighted sound levels and the subjective loudness to a person (Table 3.13-1, *Common Sound Levels and Loudness*).

¹⁰ U.S. Environmental Protection Agency, Office of Noise Abatement and Control. August 1978. *Noise: A Health Problem*. Washington, DC.

**TABLE 3.13-1
COMMON SOUND LEVELS AND LOUDNESS**

Decibel (dB)	Subjective Loudness	Source of Sound
130	Threshold of pain	Military jet aircraft take-off from aircraft carrier with afterburner at 50 feet
120	Uncomfortably loud	Turbo-fan aircraft at takeoff power at 200 feet; rock band
110		
100	Very loud	Boeing 707 or DC-8 aircraft at 1 nautical mile (6,080 feet) before landing; jet flyover at 1,000 feet; Bell J-2A helicopter at 100 feet
90		Boeing 737 or DC-9 aircraft at 1 nautical mile before landing; power mower; motorcycle at 25 feet; car wash at 20 feet
80		High urban ambient sound; diesel truck at 40 mph at 50 feet; diesel train at 45 mph at 100 feet; passenger car at 65 mph at 25 feet; food blender; garbage disposal
70	Moderately loud	Living room music; radio or TV audio; vacuum cleaner
60		Air conditioning unit at 100 feet; dishwasher (rinse) at 10 feet; conversation
50	Quiet	Large transformers at 100 feet
40		Bird calls; lowest limit of urban ambient sound
30		
20		Quiet living room
10	Just audible	Average whisper
0	Threshold of hearing	

SOURCE:

Adapted from: Federal Interagency Committee on Noise. August 1992. *Federal Agency Review of Selected Airport Noise Analysis Issues*. Table B.1. Washington, DC.

Adapted from: Cowan, James P. 1993. *Handbook of Environmental Acoustics*. Hoboken, NJ: John Wiley and Sons.

Vibration Measurement

Vibration is an oscillatory motion in terms of displacement, velocity, or acceleration. Vibration is typically measured as peak particle velocity (PPV) in inches per second. In this context, vibration refers to the minimum ground- or structure-borne motion that causes a normal person to be aware of the vibration by means such as, but not limited to, sensation by touch or visual observation of moving objects. The effects of ground-borne vibration include movements of the building floors that can be felt, rattling of windows, and shaking of items on shelves or hangings on the walls. In extreme cases, vibration can cause damage to buildings. The noise radiated from the motion of the room surfaces is called ground-borne noise (Table 3.13-2, *Typical Levels of Ground-Borne Vibration*). The vibration motion normally does not provoke the same adverse human reactions as the noise unless there is an effect associated with the shaking of the building. In addition, the vibration noise can only occur inside buildings. Similar to the propagation of noise, vibration propagated from the source to the receptor depends on the receiving building (i.e., the weight of the building), soil conditions, layering of the soils, the depth of groundwater table, and so forth.

**TABLE 3.13-2
TYPICAL LEVELS OF GROUND-BORNE VIBRATION**

Response	Velocity Level*	Typical Sources (at 50 feet)
Minor cosmetic damage of fragile buildings	100	Blasting from construction projects
Difficulty with tasks such as reading a video display terminal (VDT) screen	90	Bulldozers and other heavy tracked construction equipment
Residential annoyance, infrequent events	80	Rapid transit, upper range
Residential annoyance, frequent events	70	High speed rail, typical
Approximate threshold for human perception	60	Bus or truck, typical
	50	Typical background vibration

NOTE:

* Root mean square (RMS) vibration velocity level in VdB relative to 10⁻⁶ inches/second

SOURCE:

Nelson, J.T., and H.J. Saurenman. December 1983. *State-of-the-Art Review: Prediction and Control of Ground-Borne Noise and Vibration from Rail Transit Trains*. U.S. Department of Transportation, Urban Mass Transportation Administration, Report Number UMTA-MA-06-0049-83-4, DOT-TSC-UMTA-83-3.

3.13.1 REGULATORY FRAMEWORK

The federal government sets noise standards for transportation-related noise sources that are closely linked to interstate commerce, such as aircraft, locomotives, and trucks; and, for those noise sources, the state government is preempted from establishing more stringent standards. The state sets noise standards for those transportation noise sources that are not preempted from regulation, such as automobiles, light trucks, and motorcycles. Noise sources associated with industrial, commercial, and construction activities are generally subject to local control through noise ordinances and general plan policies.

Federal

Noise Control Act of 1972

The Noise Control Act of 1972, as codified in 42 U.S. Code §4901 et seq., establishes a means for effective coordination of federal research and activities in noise control, authorizes the establishment of federal noise emission standards for products distributed in commerce, and provides information to the public with respect to the noise emission and noise reduction characteristics of such products.

Title 40 of the Code of Federal Regulations (40 CFR 201, 40 CFR 205, 49 CFR 210)

The Federal Highway Administration sets federal regulations related to noise limits for aircraft, locomotives, and medium and heavy trucks, and standards for noise studies and studies for federal and federal-aid highway projects.

Parts 201 and 210

Federal regulations for railroad noise are contained in Title 40 of the Code of Federal Regulations (CFR) Part 201 and 49 CFR Part 210. The regulations set noise limits for locomotives and are implemented through regulatory controls on locomotive manufacturers.

Part 205

Federal regulations also establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 CFR Part 205, Subpart B. The federal truck pass-by noise standard is 80 decibels (dB) at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers. The Federal Highway Administration (FHWA) regulations for noise abatement must be considered for federal or federally funded projects involving the construction of a new highway or significant modification of an existing freeway when the project would result in a substantial noise increase or when the predicted noise levels approach or exceed the Noise Abatement Criteria (NAC).

Title 23 of the Code of Federal Regulations

Title 23 CFR § 772 provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and federal-aid highway projects. Under 23 CFR §

772.7, projects are categorized as Type I or Type II projects. FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes. A Type II project is a noise barrier retrofit project that involves no changes to highway capacity or alignment.

Type I projects include those that create a completely new noise source, as well as those that increase the volume or speed of traffic or move the traffic closer to a receiver. Type I projects include the addition of an interchange, ramp, auxiliary lane, or truck-climbing lane to an existing highway, or the widening an existing ramp by a full lane width for its entire length. Projects unrelated to increased noise levels such as striping, lighting, signing, and landscaping projects are not considered Type I projects.

Under Title 23 CFR § 772.11, noise abatement must be considered for Type I projects if the project is predicted to result in a traffic noise impact. In such cases, 23 CFR § 772 requires that the project sponsor consider noise abatement before adoption of the environmental document. This process involves identification of noise abatement measures that are reasonable, feasible, and likely to be incorporated into the project, and of noise impacts for which no apparent solution is available.

Traffic noise impacts, as defined in 23 CFR § 772.5, occur when the predicted noise level in the design year approaches or exceeds the NAC specified in 23 CFR § 772, or a predicted noise level substantially exceeds the existing noise level (a substantial noise increase). Under these regulations, an impact could result unrelated to the plan if existing noise levels already exceed the NAC. A *substantial increase* is defined as when an increase in L_{eq} of 12 dB during the peak hour of traffic noise occurs. For sensitive uses, such as residences, schools, churches, parks, and playgrounds, the NAC for interior and exterior spaces is L_{eq} 57 and 66 dB, respectively, during the peak hour of traffic noise.

Title 14 Code of Federal Regulations, Part 36

The Federal Aviation Administration (FAA) has federal regulatory authority over noise emissions levels by aircraft operated in the United States. These requirements are set forth in Title 14 CFR, Part 36. Part 36 establishes maximum acceptable noise levels for specific aircraft types, taking into account the model year, aircraft weight, and number of engines. Pursuant to the federal Airport Noise and Capacity Act of 1990, the FAA established a schedule for complete transition to Part 36 “Stage 3” standards by year 2000. This transition schedule applies to jet aircraft with a maximum takeoff weight in excess of 75,000 pounds, and thus applies to passenger and cargo airlines, but not to operators of business jets or other general aviation aircraft.

Title 14 Code of Federal Regulations, Part 150

Part 150 applies to airport noise compatibility planning and provides the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. It provides guidance for measuring noise at airports and surrounding areas and for determining exposure of individuals to noise from the operations of an airport. Part 150 also identifies land uses that are normally compatible with various levels of exposure to noise by individuals. It provides guidance on the preparation and execution of noise compatibility planning and implementation programs.

Noise Abatement and Control, Title 24 Code of Federal Regulations, Part 51, Subpart B

The mission of Department of Housing and Urban Development (HUD) includes fostering “a decent, safe, and sanitary home and suitable living environment for every American.” Accounting for acoustics is intrinsic to this mission, as an environment’s safety and comfort can be compromised by excessive noise. In order to facilitate the creation of suitable living environments, HUD has developed a standard for noise criteria. The basic foundation of the HUD noise program is set out in the noise regulation 24 CFR Part 51 Subpart B, Noise Abatement and Control.

HUD’s noise policy clearly requires noise attenuation measures be provided when proposed projects are to be located in high noise areas. Within the HUD Noise Assessment Guidelines, potential noise sources are examined for projects located within 15 miles of a military or civilian airport, 1,000 feet from a road, or 3,000 feet from a railroad.

HUD exterior noise regulations state that 65 dBA DNL noise levels or less are acceptable for residential land uses and noise levels exceeding 75 dBA DNL are unacceptable. HUD’s regulations do not contain standards for interior noise levels. Rather, a goal of 45 dBA is set forth, and the attenuation requirements are geared toward achieving that goal. It is assumed that, with standard construction, any building will provide sufficient attenuation so that if the exterior level is 65 dBA DNL or less, the interior level will be 45 dBA DNL or less.

Federal Transit Administration Noise and Vibration Guidance

The Federal Transit Administration (FTA) has published the *Transit Noise and Vibration Impact Assessment*¹¹ report to provide guidance on procedures for assessing impacts at different stages of transit project development. The report covers both construction and operational noise impacts, and describes a range of measures for controlling excessive noise and vibration. The specified noise criteria are an earlier version of the criteria provided by the Federal Railroad Administration’s High-Speed Ground Transportation Noise and Vibration Impact Assessment (Table 3.13.1-1). In general, the primary concern regarding vibration relates to potential damage from construction. The guidance document establishes criteria for evaluating the potential for damage for various structural categories from vibration (Table 3.13-3, *Construction Vibration Damage Criteria*).

**TABLE 3.13-3
CONSTRUCTION VIBRATION DAMAGE CRITERIA**

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

SOURCE:

Adapted from: Federal Transit Administration. May 2006. *Transit Noise and Vibration Impact Assessment*. Washington, DC.

¹¹ Federal Transit Administration. May 2006. *Transit Noise and Vibration Impact Assessment*. Washington, DC.

Railroad Noise Guidance

The Federal Railroad Administration provides implementation procedures for predicting and assessing noise and vibration impacts of high-speed trains within their *High-Speed Ground Transportation Noise and Vibration Impact Assessment*.¹² The document provides three levels of analysis, including a preliminary impact screening, a general assessment, and a detailed analysis, as well as a range of mitigation measures for dealing with adverse noise and vibration impacts. The report also includes noise criteria for potential impacts (Table 3.13.1-1, *Noise Levels Defining Impact for High-Speed Train Projects*, and Table 3.13.1-2, *Land Use Categories and Metrics for High-Speed Train Noise Impact Criteria*).

**TABLE 3.13.1-1
NOISE LEVELS DEFINING IMPACT FOR HIGH-SPEED TRAIN PROJECTS**

Existing Noise Exposure* L _{eq} (h) or L _{dn} (dBA)	Project Noise Impact Exposure* L _{eq} (h) or L _{dn} (dBA)					
	Category 1 or 2 Sites			Category 3 Sites		
	No Impact	Moderate Impact	Severe Impact	No Impact	Moderate Impact	Severe Impact
<43	< Ambient+10	Ambient + 10 to 15	>Ambient+15	<Ambient+15	Ambient + 15 to 20	>Ambient+20
43	<51.6	51.6–57.6	>57.6	<56.6	56.6–62.6	>62.6
44	<51.8	51.8–58.6	>58.6	<56.8	56.8–63.6	>63.6
45	<52.0	52.0–58.6	>58.6	<57.0	57.0–63.6	>63.6
46	<52.2	52.2–58.7	>58.7	<57.2	57.2–63.7	>63.7
47	<52.5	52.5–58.9	>58.9	<57.5	57.5–63.9	>63.9
48	<52.7	52.7–59.1	>59.1	<57.7	57.7–64.1	>64.1
49	<53.0	53.0–59.3	>59.3	<58.0	58.0–64.3	>64.3
50	<53.4	53.4–59.5	>59.5	<58.4	58.4–64.5	>64.5
51	<53.7	53.7–59.7	>59.7	<58.7	58.7–64.7	>64.7
52	<54.1	54.1–60.0	>60.0	<59.1	59.1–65.0	>65.0
53	<54.4	54.4–60.4	>60.4	<59.4	59.4–65.4	>65.4
54	<54.9	54.9–60.7	>60.7	<59.9	59.9–65.7	>65.7
55	<55.3	55.3–61.1	>61.1	<60.3	60.3–66.1	>66.1
56	<55.7	55.7–61.5	>61.5	<60.7	60.7–66.5	>66.5
57	<56.2	56.2–61.9	>61.9	<61.2	61.2–66.9	>66.9
58	<56.7	56.7–62.3	>62.3	<61.7	61.7–67.3	>67.3
59	<57.2	57.2–62.8	>62.8	<62.2	62.2–67.8	>67.8
60	<57.8	57.8–63.3	>63.3	<62.8	62.8–68.3	>68.3
61	<58.4	58.4–63.8	>63.8	<63.4	63.4–68.8	>68.8
62	<58.9	58.9–64.4	>64.4	<63.9	63.9–69.4	>69.4
63	<59.6	59.6–64.9	>64.9	<64.6	64.6–69.9	>69.9
64	<60.2	60.2–65.5	>65.5	<65.2	65.2–70.5	>70.5
65	<60.8	60.8–66.1	>66.1	<65.8	65.8–71.1	>71.1
66	<61.5	61.5–66.7	>66.7	<66.5	66.5–71.7	>71.7
67	<62.2	62.2–67.4	>67.4	<67.2	67.2–72.4	>72.4
68	<62.9	62.9–68.0	>68.0	<67.9	67.9–73.0	>73.0

¹² Federal Railroad Administration. September 2012. *High-Speed Ground Transportation Noise and Vibration Impact Assessment*. Final Report. Washington, DC.

**TABLE 3.13.1-1
NOISE LEVELS DEFINING IMPACT FOR HIGH-SPEED TRAIN PROJECTS**

Existing Noise Exposure* L _{eq} (h) or L _{dn} (dBA)	Project Noise Impact Exposure* L _{eq} (h) or L _{dn} (dBA)					
	Category 1 or 2 Sites			Category 3 Sites		
	No Impact	Moderate Impact	Severe Impact	No Impact	Moderate Impact	Severe Impact
69	<63.6	63.6–68.7	>68.7	<68.6	68.6–73.7	>73.7
70	<64.4	64.4–69.4	>69.4	<69.4	69.4–74.4	>74.4
71	<65.0	65.0–70.1	>70.1	<70.0	70.0–75.1	>75.1
72	<65.0	65.0–70.8	>70.8	<70.0	70.0–75.8	>75.8
73	<65.0	65.0–71.6	>71.6	<70.0	70.0–76.6	>76.6
74	<65.0	65.0–72.3	>72.3	<70.0	70.0–77.3	>77.3
75	<65.0	65.0–73.1	>73.1	<70.0	70.0–78.1	>78.1
76	<65.0	65.0–73.9	>73.9	<70.0	70.0–78.9	>78.9
77	<65.0	65.0–74.7	>74.7	<70.0	70.0–79.7	>79.7
>77	<65.0	65.0–75.0	>75.0	<70.0	70.0–80.0	>80.0

NOTE:

* L_{dn} is used for land use where nighttime sensitivity is a factor; L_{eq} during the hour of maximum transit noise exposure is used for land use involving only daytime activities.

SOURCE:

Federal Railroad Administration. September 2012. *High-Speed Ground Transportation Noise and Vibration Impact Assessment*. Final Report. Table 3-1. Washington, DC.

**TABLE 3.13.1-2
LAND USE CATEGORIES AND METRICS FOR HIGH-SPEED TRAIN NOISE IMPACT CRITERIA**

Land-Use Category	Noise Metric (dBA)	Description of Land-Use Category
1	Outdoor L _{eq} (h)*	Tracts of land where quiet is an essential element in their intended purpose. This category includes lands set aside for serenity and quiet, and such land uses as outdoor amphitheaters and concert pavilions, as well as national historic landmarks with significant outdoor use. Also included are recording studios and concert halls.
2	Outdoor L _{dn}	Residences and buildings where people normally sleep. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
3	Outdoor Leq(h)*	Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, theaters, and churches, where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material. Places for meditation or study associated with cemeteries, monuments, and museums can also be considered to be in this category. Certain historical sites, parks, campgrounds, and recreational facilities are also included.

NOTE:

* L_{eq} for the noisiest hour of transit-related activity during hours of noise sensitivity.

SOURCE:

Federal Railroad Administration. September 2012. *High-Speed Ground Transportation Noise and Vibration Impact Assessment*. Final Report. Table 3-2. Washington, DC.

State

California Government Code Section 65302

Section 65302 of California Government Code provides a framework for general plans and their content. It requires that the noise element include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards. The noise element shall also identify and appraise noise problems in the community, analyze and quantify current and projected noise levels for (a) highways and freeways; (b) primary arterials and major local streets; (c) passenger and freight online railroad operations and ground rapid transit systems; (d) commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation; (e) local industrial plants, including, but not limited to, railroad classification yards; and (f) other ground stationary noise sources, including, but not limited to, military installations, identified by local agencies as contributing to the community noise environment.

Section 65302 also specifies that noise contours be shown for all of the above listed sources and be stated in terms of community noise equivalent level (CNEL) or day-night average level (L_{dn}). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified above. The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.

California Noise Control Act of 1973

The California Noise Control Act (California Health and Safety Code, Division 28, § 46000 et seq), as found in the California Health and Safety Code, Division 28, § 46000 et seq., declares that excessive noise is a serious hazard to public health and welfare, and establishes the Office of Noise Control with responsibility to set standards for noise exposure in cooperation with local governments or the state legislature.

Airport Noise Standards (Title 21, CCR Section 5000 et seq.)

The State of California has the authority to establish regulations requiring airports to address aircraft noise impacts on land uses in their vicinities. The State of California's Airport Noise Standards, found in Title 21 of the California Code of Regulations, identify a noise exposure level of CNEL 65 dB as the noise impact boundary around airports. Within the noise impact boundary, airport proprietors are required to ensure that all land uses are compatible with the aircraft noise environment or the airport proprietor must secure a variance from the California Department of Transportation (Caltrans).

Noise Insulation Standards

The California Noise Insulation Standards found in Title 24 of the California Code of Regulations, California Health and Safety Code § 17922.6, set requirements for new multi-family residential units, hotels, and motels that may be subject to relatively high levels of transportation-related noise. For

exterior noise, the noise insulation standard is DNL 45 dB in any habitable room and requires an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than DNL 60 dB.

California Streets and Highways Code

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dB. The state pass-by standard for light trucks and passenger cars (less than 4.5 tons gross vehicle rating) is also 80 dB at 15 meters from the centerline. For new roadway projects, Caltrans employs the NAC, promulgated by Title 40 of the Code of Federal Regulations (CFR), as administered by the FHWA.

Section 216





Section 216 of the California Streets and Highways Code relates to the noise effects of a proposed freeway project on public and private elementary and secondary schools. Under this code, a noise impact occurs if, as a result of a proposed freeway project, noise levels exceed 52 dBA L_{eq} in the interior of public or private elementary or secondary classrooms, libraries, multipurpose rooms, or spaces. If a project results in a noise impact under this code, noise abatement must be provided to reduce classroom noise to a level that is at or below 52 dBA L_{eq} . If the noise levels generated from freeway and non-freeway sources exceed 52 dBA L_{eq} prior to the construction of the proposed freeway project, then noise abatement must be provided to reduce the noise to the level that existed prior to construction of the project.

California Department of Health Services Land Use Guidelines for Community Noise Exposure

The state has published guidance for locating land uses in areas compatible with the existing noise environment (Table 3.13.1-3, *Land Use Guidelines*).¹³ For example, it would normally be acceptable for a single-family residence to be located in an area with an existing noise level of 60 dBA CNEL or less.

¹³ Governor's Office of Planning and Research. 2003. *State of California General Plan Guidelines*. Sacramento, CA.

**TABLE 3.13.1-3
LAND USE GUIDELINES**

Land Use Category	Community Noise Exposure (L _{dn} or CNEL, dB)					
	55	60	65	70	75	80
Residential - Low Density Single-Family, Duplex, Mobile Homes	Green	Green	Green	Yellow	Yellow	Yellow
Residential - Multi-Family	Green	Green	Green	Yellow	Yellow	Yellow
Transient Lodging - Motels Hotels	Green	Green	Green	Yellow	Yellow	Yellow
Schools, Libraries, Churches, Hospitals, Nursing Homes	Green	Green	Green	Yellow	Yellow	Yellow
Auditoriums, Concert Halls, Amphitheatres	Green	Green	Green	Yellow	Yellow	Yellow
Sports Arena, Outdoor Spectator Sports	Green	Green	Green	Yellow	Yellow	Yellow
Playgrounds, Neighborhood Parks	Green	Green	Green	Yellow	Yellow	Yellow
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Green	Green	Green	Yellow	Yellow	Yellow
Office Buildings, Business Commercial and Professional	Green	Green	Green	Yellow	Yellow	Yellow
Industrial, Manufacturing, Utilities, Agriculture	Green	Green	Green	Yellow	Yellow	Yellow
 Normally Acceptable - Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.						
 Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditioning will normally suffice.						
 Normally Unacceptable - New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.						
 Clearly Unacceptable - New construction or development should generally not be undertaken.						

SOURCE:

Adapted from: Governor's Office of Planning and Research. 2003. *State of California General Plan Guidelines*. Appendix C, Noise Element Guidelines, Figure 2. Sacramento, CA.

Caltrans Guidance

Traffic Noise. Chapter 30 of the Caltrans *Project Development Procedures Manual*¹⁴ offers guidance on highway traffic noise abatement criteria (NAC), corresponding to various land use activity categories. However, the NAC in Chapter 30 has been superseded by the Caltrans *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects* (Table 3.13.1-4, Activity

¹⁴ California Department of Transportation. 18 June 2009. *Project Development Procedures Manual*. Chapter 30.

Categories and Noise Abatement Criteria).¹⁵ Activity categories and related traffic noise impacts are determined based on the actual land use in a given area. The Caltrans *Technical Noise Supplement to the Traffic Noise Analysis Protocol*¹⁶ provides additional details on noise analysis procedures, practices, and other useful technical background information related to the analysis and reporting of highway and construction noise impacts and abatement. It supplements and expands on concepts and procedures referred to in the *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*.

**TABLE 3.13.1-4
ACTIVITY CATEGORIES AND NOISE ABATEMENT CRITERIA**

Activity	L _{eq} (h)*	Evaluation Location	Description of Activities
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B**	67	Exterior	Residential.
C**	67	Exterior	Active sport areas, amphitheatres, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F			Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G			Undeveloped lands that are not permitted.

NOTES:

* The L_{eq}(h) activity criteria values are for impact determination only and are not design standards for noise abatement measures. All values are A-weighted decibels (dBA).

** Includes undeveloped lands permitted for this activity category.

SOURCE:

California Department of Transportation, Division of Environmental Analysis. May 2011. *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*. Table 1. Sacramento, CA.

Railway. The *Transportation and Construction Vibration Guidance Manual* refers to the FTA *Transit Noise and Vibration Impact Assessment*¹⁷ report for guidance on railways.

¹⁵ California Department of Transportation, Division of Environmental Analysis. May 2011. *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*.

¹⁶ California Department of Transportation. September 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. Sacramento, CA.

¹⁷ Federal Transit Administration. May 2006. *Transit Noise and Vibration Impact Assessment*. Washington, DC.

Airport Noise. The Caltrans Division of Aeronautics *California Airport Land Use Planning Handbook*¹⁸ offers guidance on airport planning and developing compatible land use policies. It also provides suggested criteria for the CNEL values commonly used as the limit for acceptable residential noise exposure (Table 3.13.1-5, *Noise Compatibility Criteria*).

**TABLE 3.13.1-5
NOISE COMPATIBILITY CRITERIA**

CNEL (dB)	Criteria	Suggested Applicability
65	Set by the FAA and other federal agencies as the level above which residential land uses may be incompatible if not acoustically treated. Established by California state regulations as the maximum normally acceptable noise level for residential and certain other land uses at county-designated noise-problem airports.	Generally not appropriate for most new development. May be acceptable in noisy urban locations and/or in hot climates where most buildings are air conditioned.
60	The contour within which California Building Code (Section 1207.11) requires an acoustical analysis of proposed residential structures, other than detached single-family dwellings. Suggested by the California Governor’s Office of Planning and Research General Plan Guidelines as the maximum “normally acceptable” noise exposure for residential areas. [Note: Individual noise events will occasionally cause significant interference with residential land use activities, particularly outdoor activities, in quiet suburban/rural communities.]	Suitable for new development around most airports. Particularly appropriate in mild climates where windows are often open.
55	Identified by the EPA as the level below which “undue interference with activity and annoyance” will not occur. [Note: Individual noise events will seldom significantly interfere with residential land use activities (e.g., interference with speech). In urban areas, aircraft contribution to this noise level may be less than that of other noise sources.]	Suitable for airports in quiet, rural locations.

NOTE:

When setting criteria for a specific airport, other characteristics of the airport and its environs also need to be considered.

SOURCE:

California Department of Transportation. October 2011. *California Airport Land Use Planning Handbook*. Table 4B. Sacramento, CA.

Construction Noise. Section 14-8.02, Noise Control, of Caltrans standard specifications provides guidance on preventing construction noise impacts. The specification states:

- Do not exceed 86 dBA at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Equip an internal combustion engine with the manufacturer recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

¹⁸ California Department of Transportation. October 2011. *California Airport Land Use Planning Handbook*. Sacramento, CA.

If adverse construction noise impacts are anticipated, project plans and specifications must identify abatement measures that would minimize or eliminate adverse construction noise impacts on the community.

Construction Vibration. The *Transportation and Construction Vibration Guidance Manual* presents a variety of criteria for vibration impacts based on previously completed studies.¹⁹ Caltrans recommends that extreme care be taken when sustained pile driving occurs within 7.5 meters (25 feet) of any building and 15 to 30 meters (50 to 100 feet) of a historic building or a building in poor condition.

Local

To identify, appraise, and remedy noise problems in local communities, each county and city in the SCAG region is required to adopt a noise element as part of its General Plan. Each noise element is required to analyze and quantify current and projected noise levels associated with local noise sources, including, but not limited to, highways and freeways, primary arterials and major local streets, rail operations, air traffic associated with the airports, local industrial plants, and other ground stationary sources that contribute to the community noise environment. Beyond statutory requirements, local jurisdictions are free to adopt their own goals and policies in their noise elements, although most jurisdictions have chosen to adopt noise/land use compatibility guidelines that are similar to those recommended by the state. The overlapping DNL ranges indicate that local conditions (existing noise levels and community attitudes toward dominant noise sources) should be considered in evaluating land use compatibility at specific locations.

In addition to regulating noise through noise element policies, local jurisdictions regulate noise through enforcement of local ordinance standards. These standards generally relate to noisy activities (e.g., use of loudspeakers and construction) and stationary noise sources and facilities (e.g., air conditioning units and industrial activities). Three cities in the SCAG region, Los Angeles, Long Beach, and Port Hueneme, operate port facilities. Noise from the Ports of Los Angeles, Long Beach, and Hueneme are regulated by the noise ordinances and noise elements of the Los Angeles, Long Beach, and Port Hueneme General Plans.

In terms of airport noise, some of the actions that airport proprietors have been allowed to take to address local community noise concerns include runway use and flight routing changes, aircraft operational procedure changes, and engine run-up restrictions. These actions generally are subject to approval by the FAA, which has the authority and responsibility to control aircraft noise sources, implement and enforce flight operational procedures, and manage the air traffic control system. Airport proprietors may also consider limitations on airport use, but such restrictions can be overridden by the Federal Aviation Administration if it is determined that they unjustly discriminate against any user, impede the federal interest in safety and management of the air navigation system, or unreasonably interfere with interstate commerce.

Some local jurisdictions regulate vibration through enforcement of local ordinance standards. These standards generally relate to preventing perceptible vibration from being generated past the property line of the source location.

¹⁹ California Department of Transportation. September 2013. *Transportation and Construction Vibration Guidance Manual*. Sacramento, CA.

3.13.2 EXISTING CONDITIONS

Ambient Noise Levels

The 38,000-square-mile SCAG region includes 6 counties and 191 cities. It covers a diverse array of land uses that range from quiet, undeveloped rural areas to loud, dense, urban areas. Ambient noise levels for areas where sensitive receptors may be located can range from 46 dBA for a small town or quiet suburban area to greater than 87 dBA for an urban area next to a freeway.²⁰ Given the size of the SCAG region and the variation in sources, it is not useful to complete a detailed noise monitoring study for this PEIR. Rather, this PEIR presents a discussion of noise levels associated with different noise sources, thereby allowing the reader to infer the noise level at different locations depending on the proximity of a location to a noise source. Since the range of ambient noise levels is so vast, a variety of land uses and locations was sampled in order to characterize their ambient noise levels. Six locations were selected within the SCAG region to represent the range of ambient noise conditions by land use types (Table 3.13.2-1, *Ambient Noise Sampling Data*).

**TABLE 3.13.2-1
AMBIENT NOISE SAMPLING DATA**

Location	Land Use	Peak Hour Noise Level (dBA, L _{eq})
City of Los Angeles	Recreation (Elysian Reservoir)	42
City of Los Angeles	Residential Area	51
City of Los Angeles	Industrial Area (Port)	67
City of Redlands	Freeway	65
City of Santa Monica	Residential Area	50
City of West Covina	Commercial Area	60

SOURCE:

Southern California Association of Governments. March 2012. *Program Environmental Impact for the 2012–2035 RTP/SCS*.

The most common noise sources within the SCAG region are motor vehicles traveling on highways and on arterial roadways. Higher levels of noise from motor vehicles are generally due to higher traffic volumes and faster travel speeds. Aircraft noise is also present in many areas of the SCAG region, with higher noise levels generated during takeoff and landing. Rail traffic and industrial and commercial activities also contribute to the noise level. Other contributors may also include construction, garbage collecting trucks, and sporting/special events.

Transportation

Many principal noise generators within the SCAG region are associated with transportation (i.e., airports, freeways, arterial roadways, seaports, and railroads). However, local collector streets are not considered to be a significant source of noise since traffic volumes and travel speeds are generally much lower than for freeways and arterial roadways.

²⁰ U.S. Environmental Protection Agency. March 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health with an Adequate Margin of Safety*. Prepared by the U.S. Environmental Protection Agency Office of Noise Abatement and Control. Available at: http://www.fican.org/pdf/EPA_Noise_Levels_Safety_1974.pdf

Airports

The SCAG region contains 57 airports, with 12 major commercial airports serving the region²¹ (Table 3.13.2-2, *Major Commercial Airports within the SCAG Region*).

**TABLE 3.13.2-2
MAJOR COMMERCIAL AIRPORTS WITHIN THE SCAG REGION**

Airport	Location	Airport Land Use Plan	Noise Contour Available?
Palmdale Regional Airport	Palmdale	Los Angeles County Airport Land Use Plan	Yes
Southern California Logistics Airport	Victorville	Southern California Logistics Airport Comprehensive Land Use Plan	Yes
Oxnard Airport	Oxnard	Airport Comprehensive Land Use Plan for Ventura County	Yes
Bob Hope Airport	Burbank	Los Angeles County Airport Land Use Plan	Yes
Ontario International Airport	Ontario	LA/Ontario International Airport Land Use Compatibility Plan	Yes
San Bernardino International Airport	San Bernardino	Not available	Yes
Los Angeles International Airport	Los Angeles	Los Angeles County Airport Land Use Plan	Yes
Long Beach Airport	Long Beach	Los Angeles County Airport Land Use Plan	Yes
March Inland Port	March Air Reserve Base	March Air Reserve Base / Inland Port Airport Land Use Compatibility Plan	Yes
Palm Springs International Airport	Palm Springs	Riverside County Airport Land Use Compatibility Plan	Yes
John Wayne Airport	Santa Ana	Airport Environs Land Use Plan for John Wayne Airport	Yes
Imperial County Airport	Imperial	Airport Land Use Compatibility Plan for Imperial County Airports	Yes

SOURCE:

Southern California Association of Governments. December 2011. *2012–2035 Regional Transportation Plan / Sustainable Communities Strategy: Aviation and Airport Ground Access*. Los Angeles, CA.

Southern California Association of Governments. 7 January 2008. SCAG Commercial Airport System Map. Available at: <http://www.scag.ca.gov/programs/Pages/ASA.aspx>

Airport noise is generated primarily by aircraft takeoffs and landings, which will vary depending on the aircraft's weight and the number, type, and location of the engines. Typically, most major public airports will have an airport land use plan that provides guidance on noise levels and land use in adjacent areas. The FAA measures airport-related noise in communities in terms of overall exposure rather than single events such as takeoffs and landings since overall exposure would account for the overall number of noise events and the time when these events occur. The day night average sound level (L_{dn}) is the standard federal (FAA and EPA) metric for this measurement; however, the FAA also accepts the CNEL when a state requires that metric to assess noise effects. The State of California Department of Transportation Division of Aeronautics adopted the CNEL as their methodology for describing airport noise exposure. Noise levels computed by these two methods typically differ by less

²¹ Southern California Association of Governments. 7 January 2008. *SCAG Commercial Airport System Map*. Available at: <http://www.scag.ca.gov/programs/Pages/ASA.aspx>

than 1 dBA. The resulting noise contour map identifies geographic areas that are exposed to various levels of impacts from airport noise. Areas that are within the noise contours of 65 dBA CNEL and above, associated with airport activities, are considered to be incompatible with certain land uses,²² including residences, schools, hospitals, and childcare facilities.

Freeways, Highways, and Arterial Roadways

The SCAG region has nearly 21,000 centerline (route) miles and more than 65,000 lane-miles of roadways.²³ Regionally significant arterials provide access to the freeway system and often serve as parallel alternate routes; in some cases, they are the only major system of transportation available to travelers. Typical arterial roadways have one or two lanes of traffic in each direction, with some containing as many as four lanes in each direction. Traffic noise is generated primarily from vehicles and dominated by trucks. In general, higher traffic volumes, higher speeds, and greater numbers of trucks will increase the noise level. Vehicle noise comes from noises generated by the engine, exhaust, and tires, and is often exacerbated by vehicles in a state of disrepair, such as defective mufflers or struts.

There are also environmental factors that affect noise from highway and roads. The level of traffic noise can be reduced by distance, terrain, vegetation, and intervening obstructions. However, unlike construction noise, traffic noise is a line source, not a point source. Therefore, the attenuation with distance is not as great as for traffic noise. In comparison, a point source such as stationary construction equipment attenuates by 6 dB with every doubling of the distance, whereas a line source such as traffic attenuates only by 3 dB with every doubling of the distance.

Traffic noise can therefore be a significant environmental concern where buffers (e.g., buildings, landscaping, etc.) are inadequate or where the distance to sensitive receptors is relatively short. Given typical daily traffic volumes of 10,000 to 40,000 vehicle trips, noise levels along arterial roadways typically range from L_{dn} 65 to 70 dB at a distance of 50 feet from the roadway centerlines.

In addition to distance, the line of sight also affects the extent to which traffic noise can affect sensitive receptors. Line of sight can be interrupted by roadways that are elevated above grade or depressed below grade; by intervening structures such as buildings, landscaping, and sound walls; or by terrain such as hills. For example, measurements show that depressing a freeway by approximately 12 feet yields a reduction in traffic noise relative to an at-grade freeway of 7 to 10 dB at all distances from the freeway due to the interrupted line of sight. Traffic noise from an elevated freeway is typically 2 to 10 dB less than the noise from an equivalent at-grade facility within 300 feet of the freeway, but beyond 300 feet, the noise radiated by an elevated and at-grade freeway (assuming equal traffic volumes, fleet mix, and vehicle speed) is the same because at short distances, the elevated structure of the freeway itself interrupts the line of sight between the traffic and the sensitive receptor, but that line of sight is reestablished at greater distances. Caltrans also has an extensive sound wall program for areas with residential property built prior to the freeway or prior to a major widening and has hourly noise levels that exceed the 67-dB (L_{eq}) threshold, and where the wall would be able to achieve at least a 5-dB

²² Federal Aviation Administration. October 2007. *Environmental Desk Reference for Airport Actions*. Chapter 17, Noise. Washington, DC.

²³ Southern California Association of Governments. April 2012. *2012–2035 Regional Transportation Plan*. Los Angeles, CA.

reduction and the cost would not exceed \$35,000 per residential unit (1987 dollars).²⁴ A typical wall that interrupts the line of sight is capable of reducing noise levels by 10 dB.

Railroad Operations

Railroad operations generate high, relatively brief, intermittent noise events. These noise events are an environmental concern for sensitive receptors located along rail lines and in the vicinities of switching yards. Locomotive engines; the interaction of steel wheels and rails from rolling noise, impact noise when a wheel encounters a rail joint, turnout, or crossover, and squeal generated by friction on tight curves; and warning devices such as air horns and crossing bell gates are the primary sources of rail noise. Noise levels vary widely for different types of rail operations (Table 3.13.2-3, *Reference Noise Levels for Various Rail Operations*).

**TABLE 3.13.2-3
REFERENCE NOISE LEVELS FOR VARIOUS RAIL OPERATIONS**

Source/Type		Reference Condition	Reference Noise Level (SEL, dBA)
Commuter rail, at-grade	Locomotives	Diesel-electric, 3,000 horsepower	92
		Electric	90
	Diesel multiple unit	Diesel-powered, 1,200 horsepower	85
	Horns	Within one-quarter mile of grade crossing	110
	Cars	Ballast, welded rail	82
Rail transit		At-grade, ballast, welded rail	82
Transit whistles/warning devices		Within one-eighth mile of grade crossing	93
Automated guideway transit	Steel wheel	Aerial, concrete, welded rail	80
	Rubber tire	Aerial, concrete, guideway	78
Monorail		Aerial, straddle beam	82
Maglev		Aerial, open guideway	72

SOURCE:

Federal Transit Administration. May 2006. *Transit Noise and Vibration Impact Assessment*. Washington, DC.

Freight Trains

Locomotive engine noise and wheel-to-rail interactions are the primary source of noise generated by freight train pass-by events. Engine noise increases when the train is being pulled uphill. Wheel noise increases approximately 6 dB for each doubling of train velocity. A rail line supporting 40 freight trains per day generates approximately L_{dn} 75 dB at 200 feet from the tracks. Freight trains also generate substantial amounts of ground-borne noise and vibration in the vicinity of the tracks. Ground-borne noise and vibration is a function of both the quality of the track and the operating speed of the train.

²⁴ California Department of Transportation. Updated 13 October 2010. Soundwalls. Website. Available at: <http://www.dot.ca.gov/dist07/resources/soundwalls/>

The SCAG region is served by two Class I railroads: Union Pacific Railroad (UP) and Burlington Northern/Santa Fe Railway (BNSF).²⁵ BNSF rail lines extend south from switching yards in eastern Los Angeles to the Los Angeles and Long Beach ports complex and east to Arizona and points beyond via San Bernardino County. In 2010, UP and BNSF handled more than 4 million international and domestic containers and truck trailers. The SCAG Inland Empire Railroad Main Line Study suggest that the number of freight trains on most BNSF and UP lines will more than double between 2000 and 2025 in response to a tripling of container volume at the San Pedro Bay Ports. In addition, there are three Class III railroads (short lines) serving the region, the Pacific Harbor Line (which handles all rail coordination in the Ports of Los Angeles and Long Beach), the Los Angeles Junction Railway (which provides switching service in the Vernon area for the two main line railroads), and the Ventura County Railroad (which serves the Port of Hueneme).

Completed in 2002, the Alameda Corridor provides a substantial long-term reduction in noise and vibration associated with rail operations in the vicinities of the Ports of Long Beach and Los Angeles by eliminating 209 grade-level street/rail crossings. The Alameda Corridor consolidates the operations of UP and BNSF on 90 miles of existing branch line tracks into one 20-mile corridor along Alameda Street. This corridor provides a direct connection between the ports of Long Beach and Los Angeles and the UP and BSNF switching yards in eastern Los Angeles. The project includes four overpasses and three underpasses at intersections south of SR-91 that allow vehicles to pass above the trains. North of SR-91, trains pass through a 10-mile, 33-foot-deep trench. The construction of tracks in a below-grade trench, track construction on new base materials, and the use of continuous welded track reduce noise impacts on adjacent uses from trains associated with the ports. The project also includes sound walls in certain locations to mitigate vehicle noise along Alameda Street in residential neighborhoods and other sensitive areas.

Commuter Rail

In general, the noise generated by commuter rail facilities (powered by either diesel or electric locomotives) is from the locomotives themselves. In the SCAG region, there are two commuter and intercity passenger train operators: Amtrak and the Southern California Regional Rail Authority (SCRRA).

Amtrak operates five routes that travel through the SCAG region: Texas Eagle, Coast Starlight, Pacific Surfliner, Southwest Chief, and Sunset Limited. These routes serve Chicago, St. Louis, Dallas, San Antonio, Los Angeles, Portland, Seattle, San Luis Obispo, Santa Barbara, San Diego, Albuquerque, and New Orleans.²⁶ A typical Amtrak pass-by event generates SEL 107 dB at 50 feet; two such events during the daytime or evening periods generate approximately L_{dn} 61 dB at 50 feet and approximately L_{dn} 52 dB at 200 feet. Nine such events generate approximately L_{dn} 67 dB at 50 feet and 58 L_{dn} dB at 200 feet.

The SCRRA operates the Metrolink commuter rail system. This system currently includes 57 stations and 7 rail lines: Antelope Valley, Inland Empire–Orange County, Orange County, Riverside, San Bernardino, Ventura, and 91.²⁷ Noise levels generated by Metrolink are similar to those associated with Amtrak.

²⁵ Southern California Association of Governments. December 2012. *On the Move: Southern California Delivers the Goods*. Summary Report. Los Angeles, CA.

²⁶ Amtrak. Accessed 25 August 2015. *California Train Routes*. Available at: <http://www.amtrak.com/california-train-routes>

²⁷ Metrolink. Accessed 25 August 2015. *Stations*. Available at: <http://www.metrolinktrains.com/stations/>

Urban Rail Transit

This category includes both heavy and light rail transit. Heavy rail is generally defined as electrified rapid transit trains with dedicated guideways, and light rail as electrified transit trains that do not require dedicated guideways. In general, noise increases with speed and train length. Sensitivity to rail noise generally arises when there is less than 50 feet between the rail and sensitive receptors. Individual urban rail transit pass-by events generate substantially less noise than commuter rail events, but the aggregate noise impact for sensitive uses along the line can be similar or greater due to the much higher frequency of pass-by events. Complaints about ground-borne vibration from surface track are more common than complaints about ground-borne noise. A significant percentage of complaints about noise can be attributed to the proximity of switches, rough or corrugated track, or wheel flats.

In the SCAG region, the Los Angeles County Metropolitan Transportation Authority (Metro) provides urban rail transit for their 1,447-square-mile service area. Metro operates 86.1 miles of rail service on two subway lines (Purple and Red) and four light rail lines (Blue, Expo, Gold, and Green). The Purple Line extends from downtown Los Angeles west to the Koreatown neighborhood with 8 existing stations. The Red Line extends from downtown Los Angeles west to the Koreatown neighborhood and then north to North Hollywood with 14 existing stations. The Blue Line extends from Long Beach to downtown Los Angeles with 22 existing stations. The Expo Line extends from downtown Los Angeles to Culver City with 12 existing stations. The Gold Line extends from East Los Angeles to Pasadena with 21 existing stations. The Green Line extends from Norwalk west to El Segundo and south to Redondo Beach with 14 existing stations. In addition, Metro has two (Orange and Silver) bus rapid transit ways (BRTs). The Orange Line extends from North Hollywood, travels west to Woodland Hills, and then north to Chatsworth, with 18 existing stations. The Silver Line extends from El Monte west to downtown Los Angeles and then south to Gardena with 10 existing stations.

Port Operations

The three major ports in the SCAG region, Port of Los Angeles, Port of Long Beach, and Port of Hueneme in Ventura County, provide a major link between the United States and the Pacific Rim countries. At the ports, noise is generated from three sources: ships using the port facilities, equipment associated with cargo activity within the port, and truck and rail traffic that move cargo to and from the ports. All sources affect the ambient noise levels in the port areas. Residential areas in San Pedro and West Long Beach are affected most by truck and rail traffic related to the ports.

Since 2000, the Port of Los Angeles has handled more container volume of cargo than any other port in the United States. In fiscal year 2014, the Port of Los Angeles handled 176.4 million metric revenue tons (MMRT) of cargo,²⁸ Port of Long Beach handled 165.5 MMRT,²⁹ and Port of Hueneme handled 1.4 MMRT.³⁰ When combined together, the Port of Los Angeles and the Port of Long Beach rank ninth in the world for container volume. The Ports of Los Angeles, Long Beach, and Hueneme are major regional economic development centers. The San Pedro Bay Ports, which include the Los Angeles and Long Beach Ports, currently handle almost 40 percent of the cargo volume in the country; the Port of Hueneme in Ventura County is a major shipping point for automobiles, fresh fruit, and produce.

²⁸ Port of Los Angeles. 2015. *Facts & Figures*.

²⁹ Port of Long Beach. 2015. *Comprehensive Annual Financial Report for the Fiscal Year Ended September 30, 2014*.

³⁰ Port of Hueneme. 2014. *Comprehensive Annual Financial Report: Fiscal Year Ended June 30, 2014 and 2013*.

Industrial and Manufacturing Noise

Noise from industrial complexes and manufacturing plants are characterized as stationary point sources of noise even though they may include mobile sources such as forklifts. Local governments typically regulate noise from industrial and manufacturing equipment and activities through enforcement of noise ordinance standards and implementation of general plan policies. Industrial complexes and manufacturing plants are generally located away from sensitive land uses, and, as such, noise generated from these sources generally have less effect on the local community.

Construction Noise

Noise from construction sites are characterized as stationary point sources of even though they may include mobile sources, such as graders. Local governments typically regulate noise from construction equipment and activities through enforcement of noise ordinance standards and imposition of conditions of approval for building or grading permits.

Construction noise related to transportation projects is typically addressed in each project's noise analysis report and related environmental document. Most projects will not require modeling or any form of analysis associated with construction-related noise. Some projects may require basic noise calculations. For projects that require compliance with local ordinances, more detailed analysis techniques may be required.

Construction-related noise levels generally fluctuate depending on the construction phase, equipment type and duration of use, distance between noise source and receptor, and line of sight between the noise source and the receptor (temporary barriers can block the line of sight to reduce noise levels). The Federal Transit Administration has established typical noise levels associated with various types of construction-related machinery (*Table 3.13.2-4, Construction Equipment Noise Levels*). In contrast to industrial and manufacturing plants, construction sites are located throughout the region and are often located within, or adjacent to, residential districts and other sensitive receptors. In general, construction activities generate high noise levels intermittently on and adjacent to the construction sites, and the related noise impacts are short-term in nature. The dominant source of noise from most construction equipment is the engine, usually a diesel engine, with inadequate muffling. In a few cases, however, such as impact pile driving or pavement breaking, noise generated by the process dominates. Construction equipment can be considered to operate in two modes, stationary and mobile. Stationary equipment operates in one location for one or more days at a time, with either a fixed-power operation (pumps, generators, compressors) or a variable noise operation (pile drivers, pavement breakers). Mobile equipment moves around the construction site with power applied in cyclic fashion (bulldozers, loaders), or movement to and from the site (trucks). The noise levels of these point sources decrease by approximately 6 dB with each doubling of distance from the noise source (e.g., noise levels from excavation might be approximately 83 dB at 100 feet from the site, and about 77 dB at 200 feet from the site). Interior noise levels from construction are approximately 10 dB (open windows) to 20 dB (closed windows) less than exterior noise levels due to the attenuation provided by building walls.

**TABLE 3.13.2-4
CONSTRUCTION EQUIPMENT NOISE LEVELS**

Equipment	Typical Noise Level (dBA) at 50 feet from Source
Air Compressor	81
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pile-driver (Impact)	101
Pile-driver (Sonic)	96
Pneumatic Tool	85
Pump	76
Rail Saw	90
Rock Drill	98
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	88

SOURCE:

Federal Transit Administration. May 2006. *Transit Noise and Vibration Impact Assessment*. Washington, DC.

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others due to noise exposure (in terms of both exposure time and “insulation” from noise) and the types of activities typically involved. Residences, motels, and hotels; schools; libraries; churches; hospitals; nursing homes and senior centers; and natural areas, parks, and outdoor recreation areas are generally more sensitive to noise than are commercial and industrial land uses. The 38,000-square-mile SCAG region contains a large number of these sensitive land uses (Table 3.13.2-5, *Existing Noise Sensitive Land Uses*).

**TABLE 3.13.2-5
EXISTING NOISE SENSITIVE LAND USES**

Land Use	Acceptable Upper Noise Limit (CNEL, dB)	Number of Locations within SCAG Region
Residential	60 for single-family residential; 65 for multi-family residential and transient lodging	3,762,256
Schools	70	9,865
Libraries	70	520
Churches	70	8,118
Hospitals and Nursing Homes	70	2,590
Natural Areas, Parks, and Playgrounds	70	2,805

SOURCE:

SCAG data, 2015.

Sensitive land uses within the SCAG region were determined using two sources of data from SCAG. The first source of data was TomTom GIS points of particular feature types that fell into a sensitive land use category. The TomTom GIS points were reviewed for accuracy, and duplicate points and points that were not sensitive locations/land uses were removed to the greatest extent practicable. The second source of data was existing land use parcel data in the SCAG region. Because the TomTom data lacked residential locations, the existing land use parcel data where the land use was categorized as residential (i.e., single family residential, multi-family residential, mobile homes and trailer parks, mixed residential, or rural residential) was used to locate sensitive land uses within the SCAG region.

The noise standards for sensitive land uses are more stringent than those for less sensitive uses, such as commercial and industrial. To protect various human activities and sensitive land uses (e.g., residences, schools, and hospitals) lower noise levels are needed. A noise level of L_{dn} 55 to 60 dB outdoors is the upper limit for intelligible speech communication inside a typical home. In addition, social surveys and case studies have shown that complaints and community annoyance in residential areas begin to occur at L_{dn} 55 dB. Sporadic complaints associated with the L_{dn} 55 to 60 dB range give way to widespread complaints and individual threats of legal action within the L_{dn} 60 to 70 dB range. At L_{dn} 70 dB and above, residential community reaction typically involves threats of legal action and strong appeals to local officials to stop the noise.

Sensitive receptors for vibration are the same as for noise, with one exception. Historic structures are potentially sensitive to excessive vibration because ground vibration will excite building structures, and if the vibration levels are high, there is a potential for structural damage. The Caltrans *Transportation and Construction Vibration Manual* references the National Cooperative Highway Research Program report published in September 2012 for a summary of construction effects on historic buildings. Using the most conservative values in that report, historic buildings may be damaged when a single vibration event exceeds 0.20 ppv or frequent vibration events exceed 0.13 ppv, whereas extremely fragile historic buildings may be damaged when a single vibration event exceeds 0.12 ppv or frequent vibration events exceed 0.08 ppv.³¹

³¹ National Cooperative Highway Research Program. September 2012. *Current Practices to Address Construction Vibration and Potential Effects to Historic Buildings Adjacent to Transportation Projects*. Table 1. Washington, DC.

3.13.3 THRESHOLDS OF SIGNIFICANCE

The potential for the 2016 RTP/SCS to result in impacts related to noise was analyzed in relation to the six questions contained in Appendix G of the State CEQA Guidelines. The Plan would result in a significant impact related to noise if it would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

Implementation of the 2016 RTP/SCS would result in temporary increases in noise levels during the construction of transportation projects and permanent increases in noise levels in areas where the traffic capacity has been increased. The analysis of these impacts is programmatic at the regional level. Project-specific impacts vary and appropriate mitigation measures would need to be developed on a project-by-project basis, as appropriate.

Methodology

This section summarizes the methodology used to evaluate the potential anticipated impacts from noise and vibration as a result of implementing the transportation projects and anticipated pattern of land use considered in the 2016 RTP/SCS.

Permanent increases in operational noise associated with highway traffic is dependent on a number of variables:

- Traffic volume (the greater the number of vehicles passing through an area within a specified period results in greater noise)
- Vehicle speed (greater speed results in greater noise from tire noise and aerodynamic noise)
- Vehicle types such as cars, trucks, and motorcycles (different engine and exhaust combinations, different tires, and different aerodynamic profiles result in different noise levels)
- Location of the roadway with respect to sensitive receptors (distance and intervening objects or topography will reduce noise levels)

3.13.4 IMPACT ANALYSIS

The analysis of significant impacts from noise and vibration resulting from the 2016 RTP/SCS was based on the provided list of transportation projects located throughout the six counties and 38,000 square miles of the SCAG region. Project types range from projects with substantial ground disturbance such as rail projects, mixed flow lane projects, and grade separation projects, to operations and maintenance projects with minimal ground disturbance such as traffic signal synchronization or lane-restripping projects. Locations of major projects were analyzed in conjunction with sensitive land uses within 500 feet (Table 3.13.4-1, *Noise Sensitive Land Uses within 500 Feet of Major Transportation Projects*).

**TABLE 3.13.4-1
NOISE SENSITIVE LAND USES WITHIN 500 FEET OF MAJOR TRANSPORTATION PROJECTS**

Land Use	Acceptable Upper Noise Limit (CNEL, dB)	Number of Locations within SCAG Region
Residential	60 for single-family residential; 65 for multi-family residential and transient lodging	152,671
Schools	70	857
Libraries	70	61
Churches	70	912
Hospitals and Nursing Homes	70	368
Natural Areas, Parks, and Playgrounds	70	129

SOURCE:

SCAG GIS analysis and data, 2015.

Sensitive land uses within 500 feet of major projects were determined by using a combination of the TomTom GIS points and the existing land use data from SCAG. A 500-foot buffer was placed on the major SCAG future projects (mixed flow lane, toll lane, HOT lane, HOV lane, freight corridor, bus rapid transit, and rail line) GIS line files to obtain an impact buffer for the analysis. The number of TomTom point data and existing land use residential parcels that fell within the impact buffer per sensitive land use category are included in Table 3.13.4-1.

IMPACT NOISE-1. Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Significant Impact

Implementation of transportation projects and land use strategies in the 2016 RTP/SCS would result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, constituting a significant impact. Grading and construction activities would generate temporary increases in noise levels, and operational activities would generate permanent increases in noise levels in excess of standards established in the local general plan or noise ordinance, constituting a potentially significant impact, requiring the consideration of mitigation measures.

Construction. There are 154,998 existing sensitive land uses within 500 feet of major transportation projects (Table 3.13.4-1). Impacts to sensitive receptors resulting from the construction of these major transportation improvement projects would depend on several factors, such as the type of project, adjacent land use, and duration and intensity of the construction activities. Construction noise levels would fluctuate depending on how the construction is phased, the equipment mix, the distance between the construction and the nearest sensitive receptor, and the presence of intervening objects. Furthermore, anticipated development to accommodate the policy forecast population, household, and employment would take a variety of forms, with a substantial fraction focused in and around high quality transit areas (HQTAs), existing urbanized areas, and opportunity areas. Because development would be focused in HQTAs and urbanized areas, residents in and around those areas would be subject to increased frequency of construction noise.

Operations. There are 154,998 existing sensitive land uses within 500 feet of major transportation projects (Table 3.13.4-1). Impacts to sensitive receptors resulting from the operation of these major transportation improvement projects would depend on several factors, such as the type of project and adjacent land use. Operational noise levels would fluctuate depending on traffic volume, vehicle speed, vehicle mix, location and distance of the roadway with respect to sensitive receptors, and the presence of intervening objects. Similar to construction impacts, anticipated development to accommodate the policy forecast population, household, and employment would take a variety of forms, with a substantial fraction focused in and around HQTAs, existing urbanized areas, and opportunity areas. Operation of transportation and transit projects in these HQTAs, existing urbanized areas, and opportunity areas would have the potential to increase noise level in excess of standards established in county and city general plans and noise ordinances.

Implementation of transportation projects and land use strategies in the 2016 RTP/SCS would result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, which constitutes a significant impact requiring the consideration of mitigation measures.

IMPACT NOISE-2. Result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Significant Impact

Implementation of transportation projects and land use strategies in the 2016 RTP/SCS would result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels, which constitutes a significant impact. Both construction and operation activities would expose people to excessive groundborne vibration or groundborne noise levels, constituting a potentially significant impact, thus requiring the consideration of mitigation measures.

Construction. Construction of transportation projects and development projects arising from the land use strategies in the 2016 RTP/SCS would result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Construction-related vibration has the potential to damage structures and be a source of annoyance to individuals who live or work near these construction activities (Tables 3.13-2 and 3.13-3). Pile drivers can generate vibrations in excess of 0.5 PPV at a distance of 25 feet (Table 3.13.4-2, *Construction Equipment Vibration Levels*), which, as noted in Table 3.13-3, can result in damage to even reinforced concrete. Vibration levels generated by pile driving vary

depending soil conditions, construction methods, and equipment used. Depending on the proximity of existing structures to the pile driving, the structural condition of the existing structures, and the methods of construction used, vibration levels caused by pile driving or other foundation work with a substantial impact component such as blasting, rock or caisson drilling, and site excavation or compaction may be high enough to damage existing structures. A vibration analysis completed by Caltrans indicated that “extreme care must be taken when sustained pile driving occurs within 7.5 m (25 ft) of any building, and 15–30 m (50–100 ft) of a historical building, or building in poor condition.”³²

**TABLE 3.13.4-2
CONSTRUCTION EQUIPMENT VIBRATION LEVELS**

Equipment		PPV at 25 feet
Pile Driver (impact)	Upper Range	1.518
	Typical	0.644
Pile Driver (Sonic)	Upper Range	0.734
	Typical	0.170
Vibratory Roller		0.210
Clam Shovel		0.202
Hydro Mill	In Soil	0.008
	In Rock	0.017
Large Bulldozer		0.089
Caisson Drilling		0.089
Loaded Trucks		0.076
Jackhammer		0.035
Small Bulldozer		0.003

SOURCE:

Adapted from: Federal Transit Administration. May 2006. *Transit Noise and Vibration Impact Assessment*. Washington, DC.

Operation. Operation of transportation projects in the 2016 RTP/SCS would result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels, constituting a significant impact. Operation-related vibration would be a source of annoyance to individuals who live or work near new infrastructure associated with heavy truck and bus traffic along roadways and train traffic along rail lines. The amplitude of vibration generated by heavy trucks, buses, or trains has the potential to result in structural or cosmetic damage if the route is adjacent or in close proximity to fragile older buildings.

Based on vibration measurements throughout California, Caltrans determined that maximum traffic vibration levels from truck traffic drop below the threshold of perception at a distance of 42.5 meters or 140 feet from the source and that vibration levels from truck traffic are unlikely to cause architectural damage to fragile historic buildings unless the building was adjacent or within 5 meters or 17 feet from the source.³³ There are 28,300 sensitive land uses located within 140 feet of new transportation infrastructure; therefore, it is anticipated that the operation activities would result in a significant impact related to the exposure of people to excess groundborne vibration or groundborne noise levels.

³² California Department of Transportation. 20 February 2002. *Transportation Related Earthborne Vibrations*. Technical Advisory, Vibration: TAV-02-01-R9601. Sacramento, CA.

³³ California Department of Transportation. 20 February 2002. *Transportation Related Earthborne Vibrations*. Technical Advisory, Vibration: TAV-02-01-R9601. Sacramento, CA.

A Caltrans study conducted throughout California measured a peak train vibration level of 0.36 in/sec PPV at 3 meters or 10 feet.³⁴ A vibration level of 0.36 in/sec PPV at 3 meters or 10 feet would fall below the threshold of perception at a distance of 80 meters or 263 feet from the source. There are 13,088 sensitive land uses located within 263 feet of new transportation infrastructure; therefore, it is anticipated that the operation activities would result in a significant impact related to the exposure of people to excess groundborne vibration or groundborne noise levels. Furthermore, a vibration level of 0.36 in/sec PPV at 3 meters or 10 feet would potentially result in damage to historic buildings at a distance of 25 meters or 82 feet from the source.

Implementation of transportation projects in the 2016 RTP/SCS would result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels, which constitutes a significant impact requiring the consideration of mitigation measures.

IMPACT NOISE-3. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Significant Impact

Operational activities associated with transportation projects and land use strategies in the 2016 RTP/SCS would generate permanent increases in ambient noise levels in the project vicinity above levels existing without the project (2016 RTP/SCS), constituting a significant impact.

There are 154,998 noise-sensitive land uses located near these projects, including hospitals schools, nursing homes and senior centers (Table 3.13.4-1). At the regional scale, the noise impacts of new highways, highway widening, new HOV lanes, new transit corridors, and increased frequency along existing transit corridors are anticipated to exceed the significance criteria when they occur near sensitive receptors.

Highways. Noise would increase adjacent to major highway project. There are approximately 1,781 miles of major highway, mixed flow, and freight corridor projects.³⁵ The increase in traffic volume anticipated as a result of these projects would result in a permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Transit. Noise would increase adjacent to new bus and rail corridors. There are approximately 1,169 miles of new bus and rail corridors.³⁶ Crossings that use audible warning signals could also affect nearby residents. Increases in bus and rail traffic could also lead to more horns and/or whistles at crossings near residential areas, which is a source of annoyance, especially at night or in early morning or evening. The increase in noise anticipated as a result of these projects would result in a permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Freight and Passenger Rail. The 2016 RTP/SCS includes facilities and actions that encourage more efficient intermodal transportation of goods including roadways and train facilities. The number of

³⁴ California Department of Transportation. 20 February 2002. *Transportation Related Earthborne Vibrations*. Technical Advisory, Vibration: TAV-02-01-R9601. Sacramento, CA.

³⁵ SCAG GIS data, 2015.

³⁶ SCAG GIS data, 2015.

freight trains currently operating each day in the SCAG region is dependent on the demands of the industries using rail services and can vary greatly from day to day. The 2016 RTP/SCS includes proposed rail capacity improvements to reduce current passenger/freight rail bottlenecks and increase capacity for existing freight. The number of daily events might increase, and highest peak noise level would likely be increased relative to the existing condition and may expose people adjacent to rail corridors to higher noise levels relative to the existing condition. While increases in rail freight transport would increase the frequency of freight trains, these trains would likely operate on an as-needed basis and would not have a fixed schedule. Therefore, the noise levels and frequency of these trains would continue to vary from day to day. On some days, there may be no increase in freight train activity. However, an increase in train traffic would yield a consequent increase in noise in areas adjacent to rail corridors. The increase in noise anticipated as a result of the greater frequency in train traffic would result in a permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Land Use. Similarly, anticipated development projects influenced by land use strategies in the 2016 RTP/SCS have a potential to result in more compact and densified infill or mixed-used development in HQTAs and urbanized areas. As described in **Section 3.11, *Land Use and Planning***, the 2016 RTP/SCS would have the potential to change land use patterns in the region in order to accommodate the projected new growth that the region would experience in the next 25 years. The increase in noise anticipated as a result of the change in land use patterns would result in a permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Operational activities associated with transportation projects in the 2016 RTP/SCS would result in permanent increases in ambient noise levels in the project vicinity above levels existing without the project, which would constitute a significant impact requiring the consideration of mitigation measures.

IMPACT NOISE-4. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Significant Impact

Both construction and operation of transportation projects in the 2016 RTP/SCS and the associated changes in development patterns influenced by land use strategies would result in a substantial temporary or periodic increase in ambient noise levels in the project above levels existing without the project (2016 RTP/SCS), which constitutes a significant impact requiring the consideration of mitigation measures.

There are 154,998 existing sensitive land uses within 500 feet of major transportation projects (**Table 3.13.4-1**). Impacts to sensitive receptors resulting from the construction of these major transportation improvement projects would depend on several factors, such as the type of project, adjacent land use, and duration and intensity of the construction activities. Construction noise levels would fluctuate depending on how the construction is phased, the equipment mix, the distance between the construction and the nearest sensitive receptor, and the presence of intervening objects. Additionally, construction noise of these major transportation projects, although they are temporary or periodic in nature, would depend on when these projects would be implemented. These transportation projects are within the responsibility and implementing authority of county transportation commissions. SCAG does not implement or build these transportation projects. Subject to subsequent environmental

reviews and decision of their respective lead agencies, major transportation projects may be implemented periodically at any point in time during the next 25 years. Hence, transportation projects included in the 2016 RTP/SCS would have a potential to result in a substantial temporary or periodic increase in ambient noise levels in the vicinity above levels existing without it.

Anticipated development from the land use strategies of the 2016 RTP/SCS may also have a potential to result in a substantial temporary or periodic increase in ambient noise levels in the vicinity above levels existing. As more compact development is anticipated to accommodate the region's new population growth, there would be higher densified development in HQTAs and urbanized areas. Similar to the transportation projects, SCAG does not implement or build development projects. Development projects are within jurisdiction of local governments. Subject to their environmental review process and decision by their respective decision-makers, anticipated development projects may be built at any point in time during the lifetime of the 2016 RTP/SCS. Hence, land use strategies included in the 2016 RTP/SCS would have a potential to result in a substantial temporary or periodic increase in ambient noise levels in the vicinity above levels existing without it.

IMPACT NOISE-5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in the exposure of people residing or working in the project area to excessive noise levels.

Less than Significant Impact

Implementation of transportation projects in the 2016 RTP/SCS would result in less than significant impacts related to projects located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, that would expose people residing or working in the project area to excessive noise levels.

The SCAG region contains 57 airports, with 12 major commercial airports serving the region (Table 3.13.2-2).^{37,38} There are approximately 41 linear miles of major projects and 10,785 acres of HQTAs within the 65 dBA CNEL of the 12 major airports.³⁹ According to the 2012 RTP/SCS, the regional passenger demand forecast is 145.9 million annual passengers (MAP) in 2035.⁴⁰ According to the August 6, 2015, Staff Report to SCAG Transportation Committee, the 2016 RTP/SCS has a regional passenger demand forecast of 136.2 MAP in 2040, which is a decrease of approximately 7 percent at the regional level.⁴¹ Furthermore, major public airports have an airport land use plan that provides guidance on noise levels and land use in adjacent areas. Therefore, impacts would be less than significant, and the consideration of mitigation measures is not required.

³⁷ Southern California Association of Governments. December 2011. *2012–2035 Regional Transportation Plan / Sustainable Communities Strategy: Aviation and Airport Ground Access*. Los Angeles, CA.

³⁸ Southern California Association of Governments. 7 January 2008. SCAG Commercial Airport System Map. Available at: <http://www.scag.ca.gov/programs/Pages/ASA.aspx>

³⁹ SCAG GIS data, 2015.

⁴⁰ Southern California Association of Governments. April 2012. *2012–2035 Regional Transportation Plan / Sustainable Communities Strategy*. Los Angeles, CA.

⁴¹ Southern California Association of Governments. 6 August 2015. Staff Report to Transportation Committee. Los Angeles, CA. Available at: <http://www.scag.ca.gov/programs/Pages/ASA.aspx>

IMPACT NOISE-6. For a project within the vicinity of a private airstrip, result in the exposure of people residing or working in the project area to excessive noise levels.

Less than Significant Impact

Implementation of transportation projects in the 2016 RTP/SCS would result in less than significant impacts related to projects within the vicinity of a private airstrip that would expose people residing or working in the project area to excessive noise levels.

The SCAG region includes 14 private airstrips, 3 of which are within 1 mile of an HQTA.⁴² As described above, the 2012 RTP/SCS had forecasted the regional passenger demand forecast of 145.9 MAP in 2035.⁴³ According to the August 6, 2015, Staff Report to SCAG Transportation Committee, the 2016 RTP/SCS has a regional passenger demand forecast of 136.2 MAP in 2040, which is a decrease of approximately 7 percent.⁴⁴ Therefore, at the regional level, impacts would be less than significant, and the consideration of mitigation measures is not required.

3.13.5 CUMULATIVE IMPACTS

IMPACT NOISE-1. Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Significant Impact

Implementation of the 2016 RTP/SCS would result in significant cumulative impacts from the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Grading and construction activities would generate temporary increases in noise levels, and operational activities resulted from implementation of transportation projects and anticipated land use development would generate permanent increases in noise levels in excess of standards established in the local general plan or noise ordinance, constituting a significant impact requiring the consideration of mitigation measures.

⁴² SCAG GIS data, 2015.

⁴³ Southern California Association of Governments. April 2012. 2012–2035 Regional Transportation Plan / Sustainable Communities Strategy. Los Angeles, CA.

⁴⁴ Southern California Association of Governments. 6 August 2015. Staff Report to Transportation Committee. Los Angeles, CA. Available at: <http://www.scag.ca.gov/programs/Pages/ASA.aspx>

IMPACT NOISE-2. Result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Significant Cumulative Impact

Implementation of the 2016 RTP/SCS , when taken into consideration with all other infrastructure and development project that may occur in the region between 2016 and 2040, would result in significant cumulative impacts from the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Both construction and operation activities would expose people to excessive groundborne vibration or groundborne noise levels, constituting a significant impact, requiring the consideration of mitigation measures.

IMPACT NOISE-3. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Significant Cumulative Impact

Operational activities associated with the implementation of the 2016 RTP/SCS would result in significant cumulative impacts from the generation of permanent increases in ambient noise levels, when taken into consideration with all other transportation infrastructure and development projects that may occur in the region between 2016 and 2040, in the vicinity above levels existing without the Plan due to the presence of 154,998 noise-sensitive land uses located near these projects (Table 3.13.4-1), constituting a significant impact requiring the consideration of mitigation measures.

IMPACT NOISE-4. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Significant Cumulative Impact

Implementation of the 2016 RTP/SCS would result in significant cumulative impacts from the generation of a substantial temporary or periodic increase in ambient noise levels in the vicinity above levels existing without the Plan), when taken into consideration with all other transportation and ancillary infrastructure and development projects that may occur in the region between 2016 and 2040, due to the presence of 154,998 noise-sensitive land uses located near these projects (Table 3.13.4-1), constituting a significant impact requiring the consideration of mitigation measures.

IMPACT NOISE-5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in the exposure of people residing or working in the project area to excessive noise levels.

Less than Significant Cumulative Impact

Implementation of the 2016 RTP/SCS would result in significant cumulative impacts related to projects located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, which would expose people residing or working in the project area to excessive noise levels. Areas that are within the noise contours of 65 dBA CNEL and above, associated with airport activities, are considered to be incompatible with certain land uses, including residences, schools, hospitals, and childcare facilities.⁴⁵ There are approximately 23,082 locations of incompatible land uses and approximately 41 linear miles of major projects within the 65 dBA CNEL of the 12 major airports.⁴⁶ The implementation of the 2016 RTP/SCS would add both construction and operation noise to an area that is already at the threshold for significant impact. Implementation of mitigation measures, as described below, would reduce impacts, but may not reduce impacts to below the level of significance in all instances. Therefore, cumulative impacts would remain significant and unavoidable.

IMPACT NOISE-6. For a project within the vicinity of a private airstrip, result in the exposure of people residing or working in the project area to excessive noise levels.

Less than Significant Impact

Implementation of the 2016 RTP/SCS would be anticipated to result in less than significant cumulative impacts related to projects within the vicinity of a private airstrip that would expose people residing or working in the project area to excessive noise levels. Airport noise is generated primarily by aircraft takeoffs and landings, which will vary depending on the aircraft's weight and the number, type, and location of the engines. Typically, most private airstrips will have a lower volume of air traffic and smaller planes that result in a lower noise level than major airports. Furthermore, in the SCAG region, there are only 3 private airstrips within a 1-mile radius of major transportation projects.⁴⁷ The consideration of mitigation measures is not required.

3.13.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to noise are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016

⁴⁵ Federal Aviation Administration. October 2007. *Environmental Desk Reference for Airport Actions*. Chapter 17, Noise. Washington, DC.

⁴⁶ SCAG GIS data, 2015.

⁴⁷ SCAG GIS data, 2015.

RTP/SCS. Project-level mitigation measures can and should be implemented by the Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT NOISE-1. Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

SCAG Mitigation Measures

MM-NOISE-1(a): SCAG shall coordinate with member agencies as part of SCAG's outreach and technical assistance to local governments under Toolbox Tuesday Training series to encourage projects involving residential and commercial land uses to be developed in areas that are normally acceptable or conditionally acceptable, consistent with the Governor's Office of Planning and Research Noise Element Guidelines.

Project-Level Mitigation Measures

MM-NOISE-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects of noise impacts that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure consistency with the Federal Noise Control Act, California Government Code Section 65302, the Governor's Office of Planning and Research Noise Element Guidelines, and the noise ordinances and general plan noise elements for the counties or cities where projects are undertaken, Federal Highway Administration and Caltrans guidance documents and other health and safety standards set forth by federal, state, and local authorities that regulate noise levels, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- Install temporary noise barriers during construction.
- Include permanent noise barriers and sound-attenuating features as part of the project design.
- Schedule construction activities consistent with the allowable hours pursuant to applicable general plan noise element or noise ordinance. Where construction activities are authorized outside the limits established by the noise element of the general plan or noise ordinance; notify affected sensitive noise receptors and all parties who will experience noise levels in excess of the allowable limits for the specified land use, of the level of exceedance and duration of exceedance; and provide a list of protective measures that can be undertaken by the individual, including temporary relocation or use of hearing protective devices.
- Limit speed and/or hours of operation of rail and transit systems during the selected periods of time to reduce duration and frequency of conflict with adopted limits on noise levels.
- Post procedures and phone numbers at the construction site for notifying the Lead Agency staff, local Police Department, and construction contractor (during regular construction hours and off-hours), along with permitted construction days and hours,

complaint procedures, and who to notify in the event of a problem.

- Notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of anticipated times when noise levels are expected to exceed limits established in the noise element of the general plan or noise ordinance.
- Hold a preconstruction meeting with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.
- Designate an on-site construction complaint and enforcement manager for the project.
- Ensure that construction equipment are properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps). All intake and exhaust ports on power equipment shall be muffled or shielded.
- Ensure that impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction are hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust can and should be used. External jackets on the tools themselves can and should be used, if such jackets are commercially available and this could achieve a reduction of 5 dBA. Quieter procedures can and should be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.
- Ensure that construction equipment are not idle for an extended time in the vicinity of noise-sensitive receptors.
- Locate fixed/stationary equipment (such as generators, compressors, rock crushers, and cement mixers) as far as possible from noise-sensitive receptors.
- Locate new roadway lanes, roadways, rail lines, transit-related passenger station and related facilities, park-and-ride lots, and other new noise-generating facilities away from sensitive receptors to the maximum extent feasible.
- Where feasible, eliminate noise-sensitive receptors by acquiring freeway and rail rights-of-way.
- Use noise barriers to protect sensitive receptors from excessive noise levels during construction.
- Construct sound-reducing barriers between noise sources and noise-sensitive receptors to minimize exposure to excessive noise during operation of transportation improvement projects, including but not limited to earth-berms or sound walls.
- Where feasible, design projects so that they are depressed below the grade of the existing noise-sensitive receptor, creating an effective barrier between the roadway and sensitive receptors.
- Where feasible, improve the acoustical insulation of dwelling units where setbacks and sound barriers do not provide sufficient noise reduction.
- Monitor the effectiveness of noise reduction measures by taking noise measurements and installing adaptive mitigation measures to achieve the standards for ambient noise levels established by the noise element of the general plan or noise ordinance.

IMPACT NOISE-2. Result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

SCAG Mitigation Measures

MM-NOISE-1(a).

Project-Level Mitigation Measures

MM-NOISE-1(b).

MM-NOISE-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects of vibration impacts that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the Federal Transportation Authority and Caltrans guidance documents, county or city transportation commission, noise and vibration ordinances and general plan noise elements for the counties and cities where projects are undertaken and other health and safety regulations set forth by federal state, and local authorities that regulate vibration levels, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the potential vibration impacts to the structural integrity of the adjacent buildings within 50 feet of pile driving locations.
- For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the threshold levels of vibration and cracking that could damage adjacent historic or other structure, and design means and construction methods to not exceed the thresholds.
- For projects where pile driving would be necessary for construction due to geological conditions, utilize quiet pile driving techniques such as predrilling the piles to the maximum feasible depth, where feasible. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground where pile driving noise can be shielded more effectively by a noise barrier/curtain.
- For projects where pile driving would be necessary for construction due to geological conditions, utilize quiet pile driving techniques such as the use of more than one pile driver to shorten the total pile driving duration.

IMPACT NOISE-3. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

SCAG Mitigation Measures

See MM-NOISE-1(a).

Project-Level Mitigation Measures

MM-NOISE-1(b).

IMPACT NOISE-4. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

SCAG Mitigation Measures

MM-NOISE-1(a).

Project-Level Mitigation Measures

MM-NOISE-1(b).

3.13.7 Level of Significance after Mitigation

IMPACT NOISE-1. Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Implementation of Mitigation Measures MM-NOISE-1(a) and MM-NOISE-1(b) may not reduce noise levels to below the level established in the local general plan or noise ordinance, or applicable standards of other agencies in all cases; therefore, direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT NOISE-2. Result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Implementation of Mitigation Measures MM-NOISE-1(a), MM-NOISE-1(b), and MM-NOISE-2(a) may not reduce vibration levels to below the level of significance in all cases; therefore, direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT NOISE-3. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Implementation of Mitigation Measures MM-NOISE-1(a) and MM-NOISE-1(b) may not reduce noise levels to below the level of significance in all cases; therefore, direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT NOISE-4. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Implementation of Mitigation Measures **MM-NOISE-1(a)** and **MM-NOISE-2(b)** may not reduce noise levels to below the level of significance in all cases; therefore, direct, indirect, and cumulative impacts would remain significant and unavoidable.

POPULATION, HOUSING, AND EMPLOYMENT

This section of the Program Environmental Impact Report (PEIR) describes population, housing, and employment in the Southern California Association of Governments (SCAG) region; discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Plan,” or “Project”) on population, housing, and employment; identifies mitigation measures for the impacts; and evaluates the residual impacts. The effects on population, housing, and employment were evaluated in accordance with Appendix G of the 2015 California Environmental Quality Act Guidelines (State CEQA Guidelines). Population, housing, and employment within the SCAG region were evaluated at the programmatic level of detail, in relation to the general plans of the six counties and the 191 cities within the SCAG region; a review of demographic data available from the U.S. Census, the California Department of Finance, and SCAG; a review of related literature germane to the SCAG region; as well as a review of SCAG’s 2012 RTP/SCS PEIR.¹

The SCAG region is composed of six counties and totals approximately 38,000 square miles in area (almost 25 million acres). The SCAG region is home to approximately 19 million people in 2015, and is one of the most racially and ethnically diverse regions in the United States. The SCAG region contributes \$1,005 billion of gross regional product (GRP) and supports approximately 8 million jobs, thus making it the 16th largest economy in the world.^{2,3} Two factors account for population change: natural increase and net migration. Through 1990, net migration was a substantial contributor to net growth in the SCAG region; however, since that time net migration has slowed, contributing to an overall slowing of growth in the SCAG region to levels that are comparable to other areas of California and the United States as a whole. The availability of jobs attracts people to the region, whereas in times of recession, the reverse is true. The most recent recession of the 2000s (2007–2009) had a negative effect on the region’s population growth. As a result, the annual average growth rate of population in the region during those periods was 0.9 percent.⁴ The growth of the motion picture, petroleum, and aircraft industries and the region’s reputation as the land of opportunity explain the tremendous growth in the region during the 1980s. The recession in the 1990s was the result of major cuts in the national defense budget, which affected the region much more severely than the rest of the nation. In the 2000 to 2010 time period, households in the SCAG region were generally aging, with the percent of households in the 15–24 and 35–54 age brackets declining and the 24–34 and 55–75 age brackets increasing. In this same period, Hispanic and Asian householders increased, and average household size remained stable or decreased in all categories. California’s homeownership rate in 2010 was the third lowest in the nation at 56 percent, while Southern California’s homeownership rate was even lower at 54 percent.⁵

¹ Southern California Association of Governments. April 2012. *Final Program Environmental Report: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*. Available at: <http://rtpscsc.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

² Southern California Association of Governments. March 2012. *Program Environmental Impact for the 2012–2035 RTP/SCS*. Section II: Regional Growth: Past and Future.

³ Choi, Simon. 1 June 2015. *SCAG’s New Population Projection and Migration: What Are the Big Changes?* 26th USC-SCAG Annual Demographic Workshop, California Science Center. Available at: <https://www.scag.ca.gov/calendar/Documents/demo26/Panel1-SimonChoi.pdf>

⁴ Myers, Dowell, J. Pitkin, S. Mawhorter, J. Goldberg, and S. Min. March 2010. *The New Place of Birth Profile of Los Angeles and California Residents in 2010*. Special Report, Population Dynamics Research Group.

⁵ Southern California Association of Governments. Accessed 11 September 2015. *Regional Housing Needs Assessment (RHNA)*. Available at: <http://www.scag.ca.gov/Documents/scagRHNA2012.pdf>

Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for population, housing, and employment are provided.

Employment: Paid employment consists of full- and part-time employees, including salaried officers and executives of corporations, who were on the payroll in the pay period. Included are employees on sick leave, holidays, and vacations; not included are proprietors and partners of unincorporated businesses.

Household: A household consists of all the people who occupy a housing unit. A house, an apartment or other group of rooms, or a single room are regarded as housing units when occupied or intended for occupancy as separate living quarters, that is, when the occupants do not live with any other persons in the structure and there is direct access from the outside or through a common hall. A household includes the related family members and all the unrelated people, if any, such as lodgers, foster children, wards, or employees who share the housing unit. A person living alone in a housing unit, or a group of unrelated people sharing a housing unit such as partners or roomers, is also counted as a household. The count of households excludes group quarters.

Householder: The householder refers to the person (or one of the people) in whose name the housing unit is owned or rented (maintained) or, if there is no such person, any adult member, excluding roomers, boarders, or paid employees. If the house is owned or rented jointly by a married couple, the householder may be either the husband or the wife. The person designated as the householder is the “reference person” to whom the relationship of all other household members, if any, is recorded.

Housing: As used in this analysis, *housing* is data available from the U.S. Census for the SCAG region for the period of 2000 through 2035.

Population: As used in this analysis, *population* is data available from the U.S. Census for the SCAG region for the period of 1900 through 2010, with population projections available from SCAG in 2014 for the projected population growth period of 2008 through 2035.

Regional Housing Needs Assessment (RHNA): The RHNA quantifies the need for housing within each jurisdiction during specified planning periods. The RHNA is mandated by state housing law as part of the periodic process of updating local housing elements of the General Plan. State law requires SCAG to determine the existing and projected housing need for its region. SCAG’s region encompasses Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties and 191 cities. The intention of the RHNA process is to create a better balance of jobs and housing in communities, ensure the availability of decent affordable housing for all income groups, and achieve sustainability through long-term strategic land use planning. The RHNA consists of two measurements:

- 1) Existing need for housing: The existing need assessment examines key variables from Census data in order to measure ways in which the housing market is not meeting the needs of current residents. This includes the number of low-income households paying more than 30 percent of their income for housing, as well as how many people occupy overcrowded housing units.

- 2) Future need for housing: The future need assessment is determined by SCAG's growth forecast and public participation process. Each new household (created by a young adult moving out of a parent's home or a family moving into a community for employment) creates the need for more housing. The anticipated need is then adjusted to account for an ideal level of vacant units.

3.14.1 REGULATORY FRAMEWORK

Federal

Federal Uniform Act (URA) (1970)

The Federal Uniform Act (Uniform Relocation Assistance and Real Property Acquisition Policies Act; 42 U.S. Code [USC] 61), passed by Congress in 1970, is a federal law that establishes minimum standards for federally funded programs and projects that require the acquisition of real property (real estate) or displace persons from their homes, businesses, or farms. The Uniform Act's protections and assistance apply to the acquisition, rehabilitation, or demolition of real property for federal or federally funded projects.

Moving Ahead for Progress in the 21st Century (MAP-21)

MAP-21 (23 USC 134(a), (h), and (E)) replaces the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU; Public Law 109-59) as the nation's surface transportation program and extended the provisions for fiscal year (FY) 12 with new provisions for FY 13. MAP-21 funds surface transportation programs at over \$105 billion for FY 2013 and FY 2014. It is intended to create a streamlined, performance-based, and multimodal program to address challenges facing the U.S. transportation system. These challenges include improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery. MAP-21 builds on and refines many of the highway, transit, bike, and pedestrian programs and policies first established under the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA; Public Law 102-240). One of most significant changes from MAP-21 affecting metropolitan planning organizations (MPOs), states, and transit operators is the new requirement for performance-based planning that involves use of performance measures and target setting. The U.S. Department of Transportation (U.S. DOT) is in the process of the rulemaking effort to implement these MAP-21 requirements.

Section 134(a) of MAP-21 encourages and promotes the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight that will encourage economic growth and development within and between states and urbanized areas, while minimizing transportation-related fuel consumption and air pollution through metropolitan and statewide transportation planning processes. Section 134(a) also encourages the continued improvement and evolution of the metropolitan and statewide transportation planning processes by metropolitan planning organizations, state departments of transportation, and public transit operators as guided by the planning factors identified in Subsection (h) and Section 135 (d). Subsection (h) describes the scope of the planning process.

(1) In general. The metropolitan planning process for a metropolitan planning area under this section shall provide for consideration of projects and strategies that will:

- (A) support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- (B) increase the safety of the transportation system for motorized and nonmotorized users;
- (C) increase the security of the transportation system for motorized and nonmotorized users;
- (D) increase the accessibility and mobility of people and for freight;
- (E) protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;
- (F) enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- (G) promote efficient system management and
- (H) emphasize the preservation of the existing transportation system.

Federal Planning Regulations

Title 23 Code of Federal Regulations (CFR) 450.322(e) requires in the development of the regional transportation plan that the MPO validate data utilized in preparing other existing modal plans for providing input to the regional transportation plan. In updating the plan, the MPO shall base the update on the latest available estimates and assumptions for population, land use, travel, employment, congestion, and economic activity. The MPO is required to prepare and approve the regional transportation plan.

State

1969 California Housing Element Law

The California Housing Element Law (California Government Code §65300) requires SCAG and other regional councils of government in California to determine the existing and projected regional housing needs for persons at all income levels. According to California Government Code §65300, each governing body of a local government in California is required to adopt a comprehensive, long-term general plan for the physical development of the city, city and county, or county. The California Housing Element Law, enacted in 1969, mandates that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community as part of the housing element, one of the seven mandated elements of the local general plan. The California Housing Element Law is implemented by the California Department of Housing and Community Development (HCD), which is responsible for reviewing local governments' housing elements for compliance with state law and providing written comments to the local governments. Using the information provided by local governments in its Housing Element, the HCD determines the regional housing need for each county and allocates funding to meet this need to the council of governments for distribution to its jurisdictions. The HCD also oversees distribution of funding related to the regional housing need by the council of governments to the local governments to ensure that funds are appropriately allocated. The

requirements for the Housing Element are delineated in California Government Code Section 65580–65589.9.

Regional Housing Needs Assessment

California Government Code §65583(a)(1) and §65584 require that each Council of Governments consult with the California Division of Housing Policy Development (HPD) and shall determine each region's existing and projected housing need through preparation of an RHNA that allocates a share of the regional housing need to each city, county, or city and county based on an analysis of population and employment trends and documentation of projections and a quantification of the locality's existing and projected housing needs for all income levels, including extremely low income households, as defined in subdivision (b) of Section 50105 and Section 50106 of the Health and Safety Code. The RHNA is a key tool for SCAG and its member governments to plan for this growth. The RHNA quantifies the regional need for housing that is allocated to each jurisdiction for a certain planning period (e.g., in the next RHNA cycle, the period is from 2014 to 2021).

This region's RHNA is produced periodically by SCAG, as mandated by state law, to coincide with the region's schedule for preparing Housing Elements. It consists of two measurements of housing need: (1) existing need and (2) future need for very-low income, low-income, moderate, and above-moderate income categories.

The existing need assessment is based on data from the most recent U.S. Census to measure ways in which the housing market is not meeting the needs of current residents. These variables include the number of low-income households paying more than 30 percent of their income for housing, as well as severe overcrowding.

The future need for housing is determined primarily by the forecasted growth in households in a community, based on historical growth patterns, job creation, household formation rates, and other factors to estimate how many households will be added to each community over the projection period. The housing need for new households is then adjusted to account for an ideal level of vacancy needed to promote housing choice, maintain price competition, and encourage acceptable levels of housing upkeep and repair. The RHNA also accounts for units expected to be lost due to demolition, natural disaster, or conversion to nonhousing uses. The sum of these factors—household growth, vacancy need, and replacement need—form the “construction need” assigned to each community.

Finally, the RHNA considers how each jurisdiction might grow in ways that will decrease the concentration of low-income households in certain communities. The need for new housing is distributed among income groups so that each community moves closer to the regional average income distribution.

Sustainable Communities and Climate Protection Act of 2008

Senate Bill 375 (SB 375; Chapter 728, Statutes of 2008) focuses on aligning transportation, housing, and other land uses to achieve regional greenhouse gas (GHG) emission reduction targets established under the California Global Warming Solutions Act, also known as Assembly Bill 32 (AB 32). SB 375 requires California Metropolitan Planning Organizations to develop an SCS as part of the RTP, with the purposes of identifying policies and strategies to reduce per capita passenger vehicle-generated GHG emissions.

The SCS must identify the general location of land uses, residential densities, and building intensities within the region; identify areas within the region sufficient to house all the population of the region; identify areas within the region sufficient to house an eight-year projection of the regional housing need; identify a transportation network to service the regional transportation needs; gather and consider the best practically available scientific information regarding resources areas and farmland in the region; consider the state housing goals; set forth a forecasted development pattern for the region; and allow the regional transportation plan to comply with the federal Clean Air Act (CAA) of 1970 (42 USC § 7401 et seq.). The development pattern in the SCS, when integrated with the transportation network and other transportation measures and policies, must reduce the GHG from automobiles and light duty trucks to achieve the GHG emission reduction targets approved by the California Air Resources Board (CARB). If the SCS does not achieve the GHG emission targets set by CARB, an Alternative Planning Strategy (APS) must be developed to demonstrate how the targets could be achieved.

SB 375 also imposes a number of new requirements on the regional housing needs process. Prior to SB 375, the regional transportation plan and regional housing needs processes were not required to be coordinated. SB 375 now synchronizes the schedules of the RHNA and regional transportation plan processes. The RHNA, which is developed after the regional transportation plan, must also allocate housing units within the region consistent with the development pattern included in the SCS. Previously, the RHNA determination was based on population projections produced by the Department of Finance. SB 375 requires the determination to be based upon population projections by the Department of Finance and regional population forecasts used in preparing the regional transportation plan. If the total regional population forecasted and used in the regional transportation plan is within a range of 3 percent of the regional population forecast completed by the Department of Finance for the same planning period, then the population forecast developed by the regional agency and used in the regional transportation plan shall be the basis for the determination. If the difference is greater than 3 percent, then the two agencies shall meet to discuss variances in methodology and seek agreement on a population projection for the region to use as the basis for the RHNA determination. If no agreement is reached, then the basis for the RHNA determination shall be the regional population projection created by the Department of Finance.

Existing law requires local governments to adopt a housing element as part of their general plan. Unlike the rest of the general plan, where updates sometimes occur at intervals of 20 years or longer, under previous law the housing element was required to be updated as frequently as needed and no less than every five years. Under SB 375, this period has been lengthened to eight years and timed so that the housing element period begins no less than 18 months after adoption of the regional transportation plan to encourage closer coordination between the housing and transportation planning. SB 375 also changes the implementation schedule required in each housing element. Previous law required the housing element to contain a program which set forth a five-year schedule of to implement the goals and objectives of the housing element. The new law instead requires this schedule of actions to occur during the eight-year housing element planning period, and requires each action have a timetable for implementation.

California Relocation Assistance Act

The California Relocation Assistance Act (Government Code Section 7260 et seq.) establishes uniform policies to provide for the fair and equitable treatment of people displaced from their homes or businesses as a direct result of state and/or local government projects or programs. The California

Relocation Assistance Act requires that comparable replacement housing be made available to displaced persons within a reasonable period of time prior to the displacement. Displaced persons or businesses are assured payment for their acquired property at fair market value. Relocation assistance in the form of advisory assistance and financial benefits would be provided at the local level. This includes aid in finding a new home location, payments to help cover moving costs, and additional payments for certain other costs.

Senate Bill 862 Greenhouse Gases Emission Reduction

In June 2014, new state law, SB 862, established long-term cap and trade funding programs for transit, sustainable communities and affordable housing, and high speed rail. SB 862 allocates 60 percent of ongoing cap and trade revenues, beginning in 2015–2016, to these programs. The remaining 40 percent is to be determined by future legislatures.⁶ A minimum of 25 percent of cap and trade dollars must go to projects that provide benefits to disadvantaged communities, and a minimum of 10 percent must go to projects located within those disadvantaged communities. In addition, this bill would establish the CalRecycle Greenhouse Gas Reduction Revolving Loan Program and Fund.

Senate Bill 535: California Global Warming Solutions Act of 2006: Greenhouse Gas Reduction Fund (GGRF)

SB 535 was signed into law by Governor Brown on September 30, 2012. This bill sets aside cap and trade revenues to mitigate climate change in disadvantaged communities. The California EPA is the responsible agency for identifying disadvantaged communities for potential investment. The California Department of Finance must allocate 25 percent of the available moneys in the GGRF to projects that benefit disadvantaged communities and a minimum of 10 percent to projects located within disadvantaged communities.

Homeowners and Private Property Protection Act

In 2008, California voters approved Proposition 99, the Homeowners and Private Property Protection Act, which amended Section 19 of Article 1 of the California Constitution so that local governments are prohibited from using eminent domain authority to acquire an owner-occupied residence for the purposes of conveying it to a private recipient, with limited exceptions. Proposition 99 applies only to owner-occupied residences. Cities may still use eminent domain authority to convey multifamily and nonresidential property to other private parties.

Local

Housing Elements of County and City General Plans

The most comprehensive and detailed land use planning, including that for population, housing, and employment in the SCAG region is provided by city and county General Plans, which local governments

⁶ California Transit Association. 17 June 2014. *Overview of 2014 Cap and Trade Legislation and Opportunities for Public Transit: Implementing 2014-15 Appropriations and a Long-Term Cap and Trade Funding Program*. Available at: <http://www.calcog.org/DocumentCenter/View/313>

are required by state law to prepare as a guide for future development. State law mandates that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community as discussed above. Housing policy in the state rests largely upon the effective implementation of local general plans and, in particular, local housing elements.

Local Coastal Programs

The three counties and 27 cities within the SCAG region with coastlines are mandated to prepare Local Coastal Programs (LCP) as a result of the California Coastal Act of 1976. The LCPs prepared by these local jurisdictions may contain goals and policies related to housing type, location, and affordability.

3.14.2 EXISTING CONDITIONS

SCAG is the nation's largest metropolitan planning organization, representing six counties, 191 cities, and approximately 19 million residents. The SCAG region is the second most populous metropolitan region in the nation. The California State Department of Finance estimates that the population of the region reached 18,545,063 in 2014.⁷ Approximately 6 percent of the national population lives in the SCAG region, and for over half a century the region has been home to approximately half the population of California.

The SCAG region contributes \$1,005 billion of GRP and supports approximately 8 million jobs, thus making it the 16th largest economy in the world, behind South Korea.^{8,9} However, in 2014, the U.S. Census Bureau reported that poverty levels in the region continued to rise despite economic recovery.

According to data from the six counties in the SCAG region, in 2014 there were approximately 18,545,063 people living in the region, comprising 6,029,326 households and 8,327,300 jobs (**Table 3.14.2-1, 2014–2040 Population, Households, and Employment Projections in the SCAG Region**). The highest population densities occur in Los Angeles County, and lowest densities occur in the unincorporated territories of the counties. Based on U.S. Census data from 2010, the average household size ranges from 3.0 in Los Angeles and Orange Counties to 3.5 in Imperial County. Employment ranges from a high of 76.5 percent of the 2014 population between the ages of 18 and 64 in Ventura County to a low of 57.6 in Imperial County.¹⁰

⁷ Southern California Association of Governments. May 2015. *Local Profiles Reports*. Los Angeles, California. Available at: <https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>

⁸ Southern California Association of Governments. March 2012. *Program Environmental Impact for the 2012–2035 RTP/SCS*. Section II: Regional Growth: Past and Future.

⁹ Choi, Simon. 1 June 2015. *SCAG's New Population Projection and Migration: What Are the Big Changes?* 26th USC-SCAG Annual Demographic Workshop, California Science Center. Available at: <https://www.scag.ca.gov/calendar/Documents/demo26/Panel1-SimonChoi.pdf>

¹⁰ U.S. Census Bureau. Accessed 10 July 2015. *American Fact Finder: Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties, and Puerto Rico Commonwealth and Municipalities: April 1, 2010 to July 1, 2014 more information: 2014 Population Estimates*. Available at: <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

TABLE 3.14.2-1
2014–2040 POPULATION, HOUSEHOLDS, AND EMPLOYMENT PROJECTIONS IN THE SCAG REGION

County	Population 2014	Projected Population 2020	Projected Population 2035	Projected Population 2040	Housing Units 2014	Projected Housing Units 2020	Projected Housing Units 2035	Projected Housing Units 2040	Employment 2014	Projected Employment 2020	Projected Employment 2035	Projected Employment 2040
Imperial	180,672	234,000	272,000	282,000	49,766	72,000	89,000	92,000	61,300	102,000	121,000	125,000
Los Angeles	10,041,797	10,326,000	11,145,000	11,514,000	3,268,347	3,494,000	3,809,000	3,946,000	4,610,800	4,662,000	5,062,000	5,226,000
Orange	3,113,991	3,271,000	3,431,000	3,461,000	1,005,957	1,075,000	1,135,000	1,152,000	1,489,200	1,730,000	1,870,000	1,899,000
Riverside	2,279,967	2,480,000	3,044,000	3,168,000	700,413	802,000	1,005,000	1,049,000	927,300	849,000	1,112,000	1,175,000
San Bernardino	2,085,669	2,197,000	2,638,000	2,731,000	617,749	687,000	825,000	854,000	836,000	789,000	998,000	1,028,000
Ventura	842,967	886,000	945,000	966,000	269,896	285,000	306,000	312,000	402,700	375,000	409,000	420,000
SCAG region	18,545,063	19,395,000	21,475,000	22,122,000	6,029,326	6,415,000	7,169,000	7,406,000	8,327,300	8,507,000	9,572,000	9,872,000

NOTE:
Projected numbers are rounded to the nearest 1,000.
SOURCE:
SCAG modeling, 2015.

In order to develop growth forecasts, SCAG encourages and utilizes the participation and cooperation of all local government partners within the SCAG region. SCAG uses a bottom-up planning process by which all local governments are informed of the 2016 RTP/SCS planning process and have clear and adequate opportunities to provide input. Growth forecasts and land use updates for development of the 2016 RTP/SCS have been developed through this bottom-up local input process, reflecting the following guiding principles approved SCAG's Community, Economic and Human Development Committee on October 8, 2015:¹¹

- Principle #1: The Draft PGF for the 2016 RTP/SCS shall be adopted by the Regional Council at the jurisdictional level, thus directly reflecting the population, household and employment growth projections derived from the local input and previously reviewed and approved by SCAG's local jurisdictions. The policy growth forecast (PGF) maintains these projected jurisdictional growth totals, meaning future growth is not reallocated from one local jurisdiction to another.
- Principle #2: The Draft PGF at the Transportation Analysis Zone (TAZ) level is controlled to be within the density ranges¹² of local general plans or input received from local jurisdictions in this most recent round of review.
- Principle #3: For the purpose of determining consistency for CEQA streamlining, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the propose 2016 RTP/SCS.
- Principle #4: TAZ level data or any data at a geography smaller than the jurisdictional level is included in the Draft PGF only to conduct the required modeling analysis and is therefore, only advisory and non-binding because SCAG's sub-jurisdictional forecasts are not to be adopted as part of the 2016 RTP/SCS. After SCAG's adoption of the PGF at the jurisdictional level, the TAZ level data may be used by jurisdictions in local planning as it deems appropriate and there is no obligation by a jurisdiction to change its land use policies, General Plan, or regulations to be consistent with the RTP/SCS. SCAG staff plans to monitor the use of this data after the adoption of the RTP/SCS to encourage appropriate use.
- Principle #5: SCAG staff continues to communicate with other agencies who use SCAG sub-jurisdictional level data to ensure that the "advisory & non-binding" nature of the dataset is appropriately maintained.

Population Growth

The population in the SCAG region has changed drastically over the more than hundred-year period from 1900 to 2012 (Table 3.14.2-2, *SCAG Population and Percentage of U.S. and California Populations, 1900–2012*). Between 1900 and 1910, the SCAG region comprised less than 1 percent of the U.S. population and less than 30 percent of the state population. In the 1920s, population nearly doubled in the SCAG region and represented over 1 percent of the nation's population and over 30 percent of the state's population. Between 1930 and 1960, the SCAG region grew to represent 2 to nearly 5 percent of the national population, housing nearly half the state population. Since 1970, the

¹¹ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

¹² With the exception of 6% of TAZs that have an average density below the density range of local general plans.

SCAG region has housed approximately half of the state population, representing 5 to 6 percent of the national population.

**TABLE 3.14.2-2
SCAG POPULATION AND PERCENTAGE OF U.S. AND CALIFORNIA POPULATIONS, 1900–2012**

Year	Population	Percentage of U.S. Population	Percentage of California Population
1900	250,187	0.3	16.9
1910	661,907	0.7	27.8
1920	1,193,705	1.1	34.8
1930	2,657,969	2.2	46.8
1940	3,312,460	2.5	48.0
1950	4,997,221	3.3	47.2
1960	7,823,721	4.4	49.8
1970	10,055,351	4.9	50.4
1980	11,589,678	5.1	49.0
1990	14,640,832	5.9	49.2
2000	16,516,006	5.9	48.8
2010	18,051,534	5.8	48.5
2012	18,322,197	5.8	48.1

SOURCE:

U.S. Census Bureau, Decennial Census. Accessed 29 June 2015. Website. Available at: <http://factfinder2.census.gov>

The population in the SCAG region increased by 2.0 million people between 2000 and 2014. This represents an increase of 12.3 percent (Table 3.14.2-3, *Population Growth in the SCAG Region for 2000 and 2014*). In descending order, Riverside County grew by 47.5 percent (734,580 persons), Imperial County grew by 26.9 percent (38,311 persons), San Bernardino County grew by 22.0 percent (376,235 persons), Ventura County grew by 11.9 percent (89,770 persons), Orange County grew by 9.4 percent (267,702 persons), and Los Angeles County grew by 5.5 percent (522,459 persons). Riverside County had the highest annual growth rate of 3.2 percent in the SCAG region. However, the rate of growth has decreased, bringing SCAG in alignment with rates of growth for the State of California and the United states (Table 3.14.2-4, *Average Annual Growth Rate of Population: 1850 to 2040*). During the 26th Annual SCAG-USC Demographic Workshop, data were presented to demonstrate that the population growth rate is decreasing (slowing down) due to five key factors: (1) lower birth rates (fewer children), (2) lower immigration rates (fewer immigrants), (3) aging population (fewer at childbearing age), (4) high housing costs (lack of housing), and (5) slow economic growth (lack of jobs).¹³

¹³ 26th USC-SCAG Annual Demographic Workshop, California Science Center, 1 June 2015.

**TABLE 3.14.2-3
POPULATION GROWTH IN THE SCAG REGION FOR 2000 TO 2014**

County	2000 Population	2014 Population	2000–2014 Growth (Persons)	Percent Change (2000–2014)	Annual Growth Rate
Imperial	142,361	180,672	38,311	26.9%	1.8%
Los Angeles	9,519,338	10,041,797	522,459	5.5%	0.4%
Orange	2,846,289	3,113,991	267,702	9.4%	0.6%
Riverside	1,545,387	2,279,967	734,580	47.5%	3.2%
San Bernardino	1,709,434	2,085,669	376,235	22.0%	1.5%
Ventura	753,197	842,967	89,770	11.9%	0.8%
SCAG region	16,516,006	18,545,063	2,029,057	12.3%	0.8%

SOURCE:

Southern California Association of Governments. Accessed 11 September 2015. *Local Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County*. Available at: <http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>

**TABLE 3.14.2-4
AVERAGE ANNUAL GROWTH RATE OF POPULATION: 1850 TO 2040**

	1850	1910	1960	1990	2010	2014	2035	2040
SCAG region ¹	4	662	7,824	14,641	18,052	18,729	21,482	22,122
California ²	93	2,378	15,717	29,760	37,254	38,803	45,748	47,233
United States ³	23,192	92,228	179,323	248,710	308,746	318,857	370,338	382,152

NOTE:

In thousands.

SOURCE:

¹ Southern California Association of Governments. 2014. *Draft Growth Forecast*.

² California Department of Finance. 2014. *Population Projections*.

³ U.S. Census Bureau, Decennial Census. 2014. *Population Estimates and Population Projections*.

Households

Housing Characteristics

There were approximately 6.0 million households in the SCAG region in 2014 (Table 3.14.2-5, *2014 Housing Characteristics*). Los Angeles County accounts for over half of all households in the region.

**TABLE 3.14.2-5
2014 HOUSING CHARACTERISTICS**

County	Households	Median Household Income	Homeownership Rate
Imperial	49,766	\$39,039	56.1%
Los Angeles	3,268,347	\$53,125	47.5%
Orange	1,005,957	\$72,262	59.0%
Riverside	700,413	\$52,648	67.4%
San Bernardino	617,749	\$50,080	62.6%
Ventura	269,896	\$73,594	65.2%
SCAG region	6,029,326	\$56,737	54.5%

SOURCE:

Southern California Association of Governments. Accessed 11 September 2015. *Local Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County*. Available at: <http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>

Household Income

Median household income in the SCAG region varies widely, from \$39,039 in Imperial County to \$73,594 in Ventura County. The county with the second highest median income is Orange County (\$72,262). Across the SCAG region, the average median income is \$56,737. Homeownership rates also vary, from a low of 47.5 percent in Los Angeles County to a high of 67.4 percent in Riverside County. The average homeownership rate in the SCAG region is 54.5 percent (Table 3.14.2-5).

Poverty

Poverty levels in the SCAG region rose 69 percent between 1990 and 2012, with one in four children living in poverty.¹⁴ The U.S. Census Bureau reported 3.2 million people in the SCAG region were living in poverty in 2012 and 2013, up from 1.9 million in 1990 and from 2.8 million people in 2010 (Table 3.14.2-6, *Poverty Rates, 1990–2013*).¹⁵ That represents a 69 percent increase, roughly equivalent to three times the population. The average poverty rate in the SCAG region has remained above the state and national averages since 1990. Imperial County has the highest poverty rate, followed by San Bernardino County, Los Angeles County, and Riverside County, all of which are above the state and national averages. Orange County and Ventura County have consistently had poverty rates below state and national averages between 1990 and 2013. Using U.S. Census Bureau American Community Survey Data, SCAG has identified underserved communities in the SCAG region (Figure 3.14.2-1, *Environmental Justice Areas*) and disadvantaged communities in the SCAG region (Figure 3.14.2-2, *SB 535 Disadvantaged Communities in the SCAG Region* and Figure 3.14.2-3, *Environmental Justice Communities of Concern in the SCAG Region*).

¹⁴ Lambert, Steve. 4 December 2013. *Poverty Levels Rise in Region Despite Recovery*. Available at: <http://patch.com/california/hollywood/poverty-rises-in-socal-despite-recovery>

¹⁵ U.S. Census Bureau. Accessed 10 July 2015. *Poverty Rates by County: 1960–2010*. Available at: <http://www.census.gov/hhes/www/poverty/>

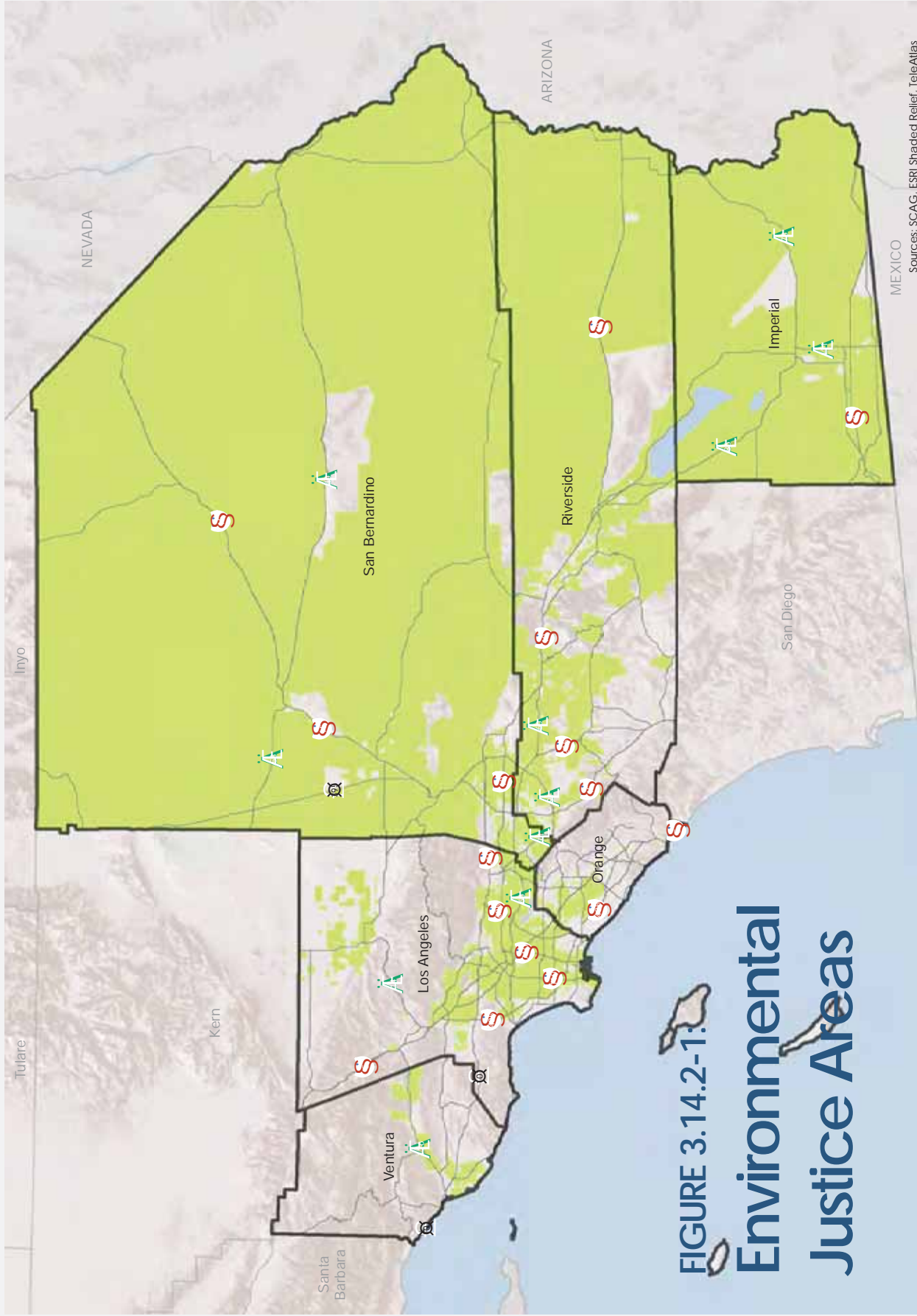
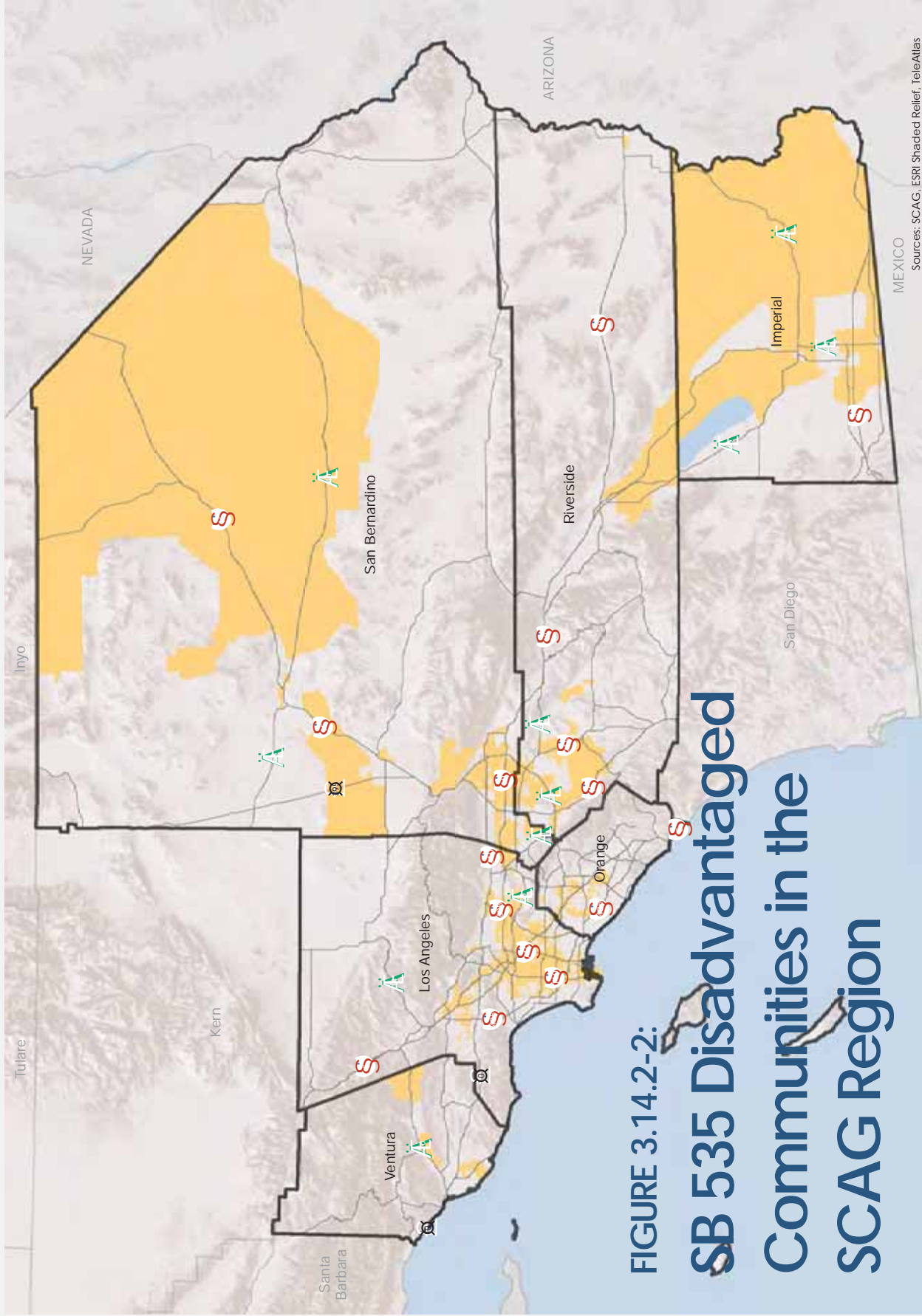


FIGURE 3.14.2-1:
Environmental
Justice Areas

■ Qualifying Transportation Analysis Zones (TAZs)

Sources: SCAG, ESRI Shaded Relief, TeleAtlas

0 5 10 20 Miles



**FIGURE 3.14.2-2:
SB 535 Disadvantaged
Communities in the
SCAG Region**

■ SB 535 Disadvantaged Areas

Sources: SCAG; ESRI Shaded Relief; TeleAtlas



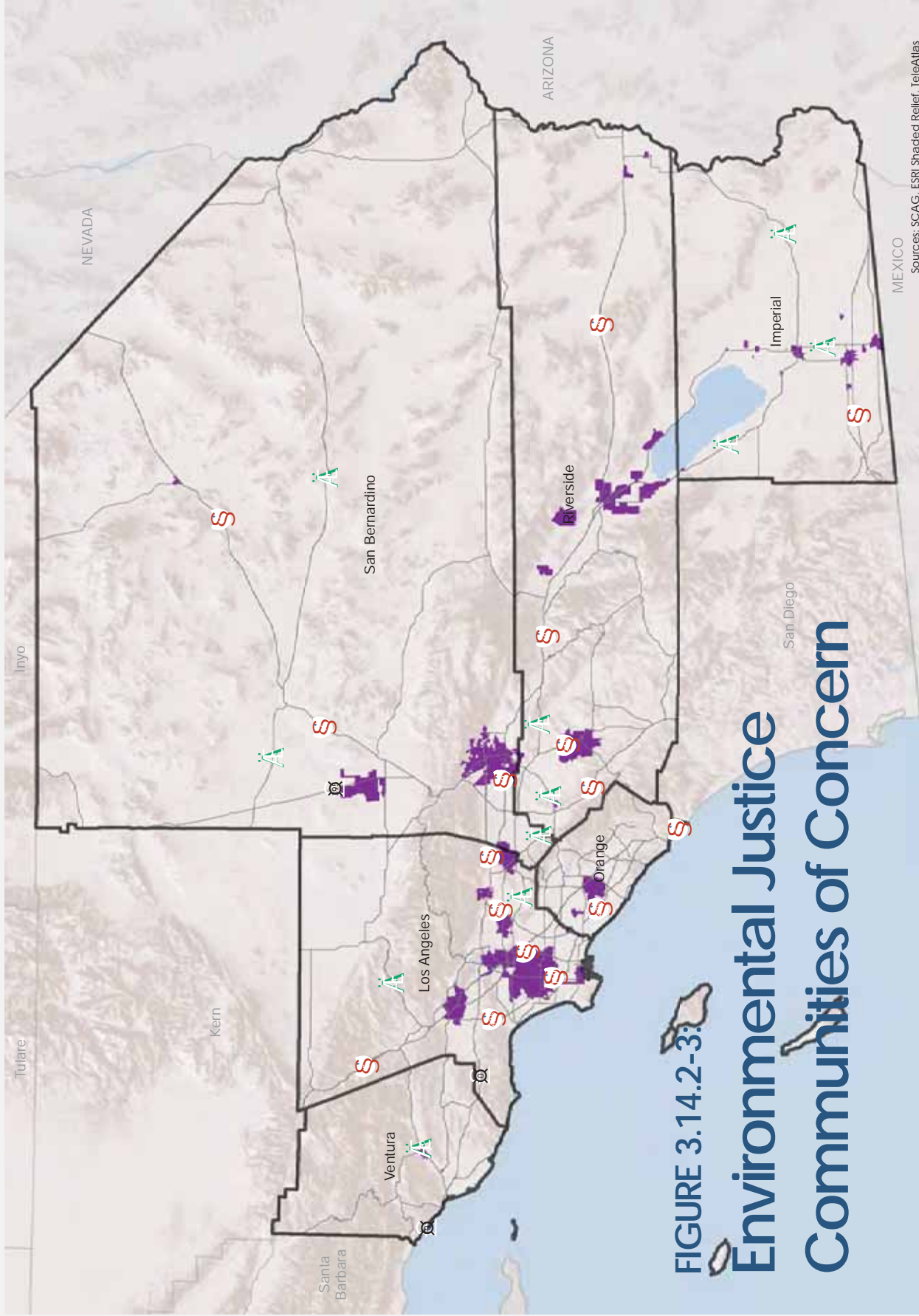


FIGURE 3.14.2-3:
Environmental Justice
Communities of Concern

■ Communities of Concern

0 5 10 20
 Miles

Sources: SCAG, ESRI Shaded Relief, TeleAtlas

**TABLE 3.14.2-6
POVERTY RATES, 1990–2013**

County	1990 Poverty Rate ¹	2000 Poverty Rate ¹	2010 Poverty Rate ¹	2013 Poverty Rate ²
Imperial	23.8%	22.6%	23.0%	22.7%
Los Angeles	15.1%	17.9%	17.1%	19.0%
Orange	8.5%	10.3%	11.7%	13.5%
Riverside	11.5%	14.2%	15.6%	17.4%
San Bernardino	12.7%	15.9%	17.6%	19.2%
Ventura	7.3%	9.2%	10.3%	12.0%
SCAG region	13.2%	15.0%	15.9%	17.3%
State average	12.5%	14.2%	15.3%	16.8%
National average	13.1%	12.4%	14.9%	15.8%

SOURCE:

¹ U.S. Census Bureau. Accessed 10 July 2015. *Poverty Rates by County: 1960-2010*. Available at: <http://www.census.gov/hhes/www/poverty/>

² U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program. Accessed 13 July 2015. *Small Area Income and Poverty Estimate (SAIPE) 1: All Ages in Poverty: 2013 - California (CA) - Selected Counties*. Available at: <http://www.census.gov/did/www/saipe/data/interactive/saipe.html>

The percentage of the population living in poverty in the SCAG region ranges from a low of 11 percent in Ventura County to a high of 23 percent in Imperial County (Table 3.14.2-7, *Percentage of the Population in the SCAG Region in Poverty—Individuals and Household*). The percentage of households living in poverty follows a comparable pattern with a low of 10 percent in Ventura County to a high of 25 percent in Imperial County. The data on poverty status of households were derived from answers to the income questions, as part of the outreach process undertaken by SCAG in preparation of the 2016 RTP/SCS. Since poverty is defined at the family level and not the household level, the poverty status of the household is determined by the poverty status of the householder. Households are classified as poor when the total income of the householder’s family is below the appropriate poverty threshold. The poverty thresholds vary depending on three criteria: size of family, number of related children, and, for one- and two-person families, age of householder. The Census Bureau uses a set of dollar value thresholds that vary by family size and composition to determine who is in poverty. If a family’s total income is less than the dollar value of the appropriate threshold, then that family and every individual in it are considered to be in poverty. Similarly, if an unrelated individual’s total income is less than the appropriate threshold, then that individual is considered to be in poverty.¹⁶

¹⁶ U.S. Census Bureau. 2014. *American Community Survey and Puerto Rico Community Survey – 2014 Subject Definitions*. Available at: http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2014_ACSSubjectDefinitions.pdf

**TABLE 3.14.2-7
PERCENTAGE OF THE POPULATION IN THE SCAG REGION IN POVERTY—
INDIVIDUALS AND HOUSEHOLDS**

County	Individuals (Percentage)	Households (Percentage)
Imperial	23	25
Los Angeles	18	17
Orange	12	11
Riverside	16	15
San Bernardino	19	17
Ventura	11	10

SOURCE:

SCAG, 2009–2013 ACS 5-year estimates.

Household Size

Household size in the SCAG region increased slightly between 2000 and 2014, from 3.16 persons per household to 3.18 persons per household, or an increase of the equivalent of 0.02 persons per household (Table 3.14.2-8, *Household Size*). Average household size does not vary significantly from one county to another. In descending order, San Bernardino and Riverside Counties' household size grew, while Ventura, Orange, Imperial, and Los Angeles Counties' household size declined between 2000 and 2014.

**TABLE 3.14.2-8
HOUSEHOLD SIZE**

County	2000 ¹	2014 ²	2000–2014 Change (Persons)
Imperial	3.42	3.5	–0.08
Los Angeles	3.14	3.0	–0.14
Orange	3.06	3.0	–0.06
Riverside	3.09	3.2	0.11
San Bernardino	3.17	3.3	0.13
Ventura	3.11	3.1	–0.01
SCAG region	3.16	3.18	0.02

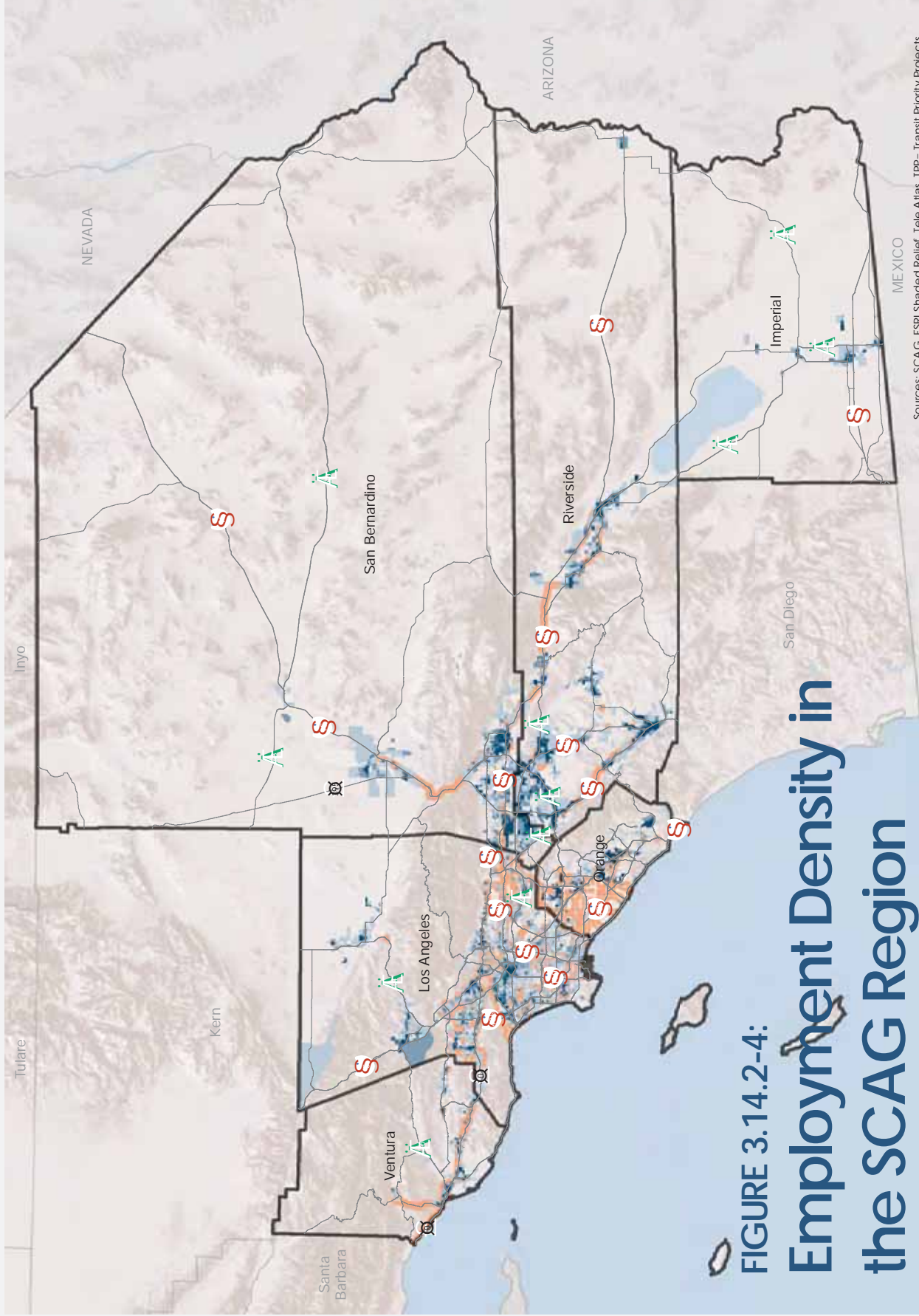
SOURCE:

¹ Southern California Association of Governments. March 2012. *Program Environmental Impact for the 2012–2035 RTP/SCS*. Growth Forecast Appendix, Table 6.

² Southern California Association of Governments. Accessed 11 September 2015. *Local Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County*. Available at: <http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>

Employment

Throughout the SCAG region, jobs are frequently co-located along major transportation intersections and transportation corridors. Figure 3.14.2-4, *Employment Density in the SCAG Region*, depicts the employment density across the region. Employment trends in Southern California have long followed a



Sources: SCAG, ESRI Shaded Relief, Tele Atlas, TPP= Transit Priority Projects

**FIGURE 3.14.2-4:
Employment Density in
the SCAG Region**

- 501 - 1,000
- 1,001 - 1,500
- Greater than 1,500
- Less than 100
- 101 - 500
- TPP Area in 2035



“boom and bust” cycle. Much of the 2000s saw a boom of housing development, particularly in the Inland Empire, only to be followed by a bust starting in 2008 which affected employment, particularly in the housing construction and service sectors. As of 2013, there were approximately 8 million jobs in the SCAG region (Table 3.14.2-9, *2013 Employment by County—Incorporated Cities and Unincorporated Areas*). Based on the most recent available published data, the economy experienced a net increase in jobs, between 2000 and 2013, for three of the six counties in the SCAG region: Imperial, Orange, and Riverside (Table 3.14.2-10, *Employment Growth for 2000 to 2013*). The remaining counties in the SCAG region (Los Angeles, San Bernardino, and Ventura) all show a decline in jobs, as does the SCAG region as a whole. As of 2013, employment in Imperial County grew by 34.2 percent (15,854 jobs), employment in Orange County grew by 9.9 percent (141,630 jobs), and employment in Riverside County grew by 1.6 percent (10,236 jobs). The counties with the highest employment loss (in increasing order of percent of lost employment) are: Los Angeles County (1.2 percent loss), San Bernardino County (2.3 percent loss), and Ventura County (9.4 percent loss). Overall, the SCAG region gained approximately 37,089 jobs (or 0.5 percent) between 2000 and 2013.

**TABLE 3.14.2-9
2013 EMPLOYMENT BY COUNTY—INCORPORATED CITIES AND UNINCORPORATED AREAS**

	Incorporated Cities	Unincorporated Areas	Total County
Imperial	61,158	996	62,154
Los Angeles	4,153,374	219,002	4,372,376
Orange	1,549,480	21,350	1,570,830
Riverside	578,981	75,455	654,436
San Bernardino	627,962	59,748	687,710
Ventura	307,249	32,539	339,788

SOURCE:

Southern California Association of Governments. Accessed 11 September 2015. *Local Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County*. Available at: <http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>

**TABLE 3.14.2-10
EMPLOYMENT GROWTH FOR 2000 TO 2013**

County	2000 (Jobs)	2013 (Jobs)	2000–2013 Growth (Jobs)	Percent Change (2000–2013)
Imperial	46,300	62,154	15,854	34.2%
Los Angeles	4,424,900	4,372,375	-52,525	-1.2%
Orange	1,429,100	1,570,730	141,630	9.9%
Riverside	644,200	654,436	10,236	1.6%
San Bernardino	704,000	687,710	-16,290	-2.3%
Ventura	374,900	339,788	-35,112	-9.4%
Total SCAG region	7,623,400	7,660,489	37,089	0.5%

SOURCE:

State of California Employment Development Department. Accessed 29 June 2015. *Employment by Industry Data*. Available at: http://www.labormarketinfo.edd.ca.gov/LMID/Employment_by_Industry_Data.html

Southern California Association of Governments. Accessed 11 September 2015. *Local Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County*. Available at: <http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>

Unemployment

Although unemployment rates declined between 2010 and 2014 for all counties in the SCAG region, rates of unemployment remain above 2000 unemployment rates in all counties (**Table 3.14.2-11, *Unemployment Rates***). The 2014 (the most recent full year data available) unemployment rates in the SCAG region are among the highest in the country, exceeding the national and state average (6.2 percent and 7.5 percent, respectively). In 2014, Imperial County had the highest unemployment rate in the SCAG region (almost 24 percent), while Orange County had the lowest in the SCAG region (5.5 percent, below the national average). In 2014, the average unemployment rate in the SCAG region was 10.7 percent. The U.S. Department of Labor and the State of California only report labor statistics by County.

**TABLE 3.14.2-11
UNEMPLOYMENT RATES**

County	2000 Unemployment Rate ¹	2010 Unemployment Rate ³	2014 Unemployment Rate ¹
Imperial	17.5%	29.9%	23.6%
Los Angeles	5.4%	12.6%	8.3%
Orange	3.5%	9.5%	5.5%
Riverside	5.4%	14.5%	8.2%
San Bernardino	4.8%	14.2%	8.1%
Ventura	4.5%	10.8%	6.7%
SCAG region	6.8%	15.3%	10.7%
State average	4.9%	12.4%	7.5%
National average²	4.0%	9.6%	6.2%

SOURCE:

¹ State of California Employment Development Department. Accessed 29 June 2015. *LMI by County*. Search Selection: "Unemployment Rates: Labor Force." Available at: http://www.labormarketinfo.edd.ca.gov/LMI_by_County.html

² United States Department of Labor, Bureau of Labor Statistics. Accessed 29 June 2015. *Labor Force Statistics from the Current Population Survey*. Available at: <http://data.bls.gov/timeseries/LNS14000000>

³ State of California. 19 April 2013. *Report 400C: Labor Force Data for Counties – Annual Average 2010 – Revised*. Available at: <http://www.calmis.ca.gov/file/lfhist/10aacou.pdf>

3.14.3 THRESHOLDS OF SIGNIFICANCE

The potential for the 2016 RTP/SCS to result in impacts related to population and housing was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. The Plan would normally be considered to have a significant impact to population and housing if it would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere.
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Methodology

The methodology for determining the significance of population, housing, and employment impacts compares the existing conditions to future (2040) conditions, as required in CEQA Section 15126.2(a). The CEQA Guidelines require “growth-inducing” impacts to be discussed. Such impacts occur when the proposed project could encourage economic or population growth, or remove obstacles to growth. Growth-inducing impacts include both changes in the amount and distribution of growth.

The 2016 RTP/SCS includes transportation projects and land use strategies to influence distribution patterns. These land use distribution patterns identify growth distribution and anticipated land use development to accommodate growth projections. The Regional Travel Demand Model (RTDM) used for this analysis captures pass-through traffic that does not have an origin or destination in the region, but does impact the region, so that too is included in the project analysis. Although a similar level of development is anticipated even without the Plan, the Plan would influence growth, including distribution patterns throughout the region, including targeting new growth in existing urbanized areas and high quality transit areas (HQTAs). To address this, the analysis in the PEIR covered overall impacts of transportation projects and anticipated land development patterns described in the 2016 RTP/SCS.

The 2016 RTP/SCS consists of a combination of vision, goals, guiding policies, performance measures, investments, and land use-transportation strategies (see **Section 2.0, *Project Description***). In addition, different growth patterns were developed for a range of feasible alternatives to the 2016 RTP/SCS (see **Chapter 4.0, *Alternatives***). Transportation projects in the 2016 RTP/SCS were reviewed to identify those that may involve right-of-way (ROW) acquisition and the potential for displacement of homes and businesses. These projects that might require acquisition of ROW were analyzed with a 500-foot buffer with a geographic information system (GIS) to generally identify locations within areas of residential land use that had the potential for large displacement of existing homes and businesses. **Table 3.14.3-1, *Potential Displacement of Existing Homes and Businesses (in Acres)***, shows the results of the analysis with the potential acreage of these affected areas by county.

The potential for community disruption was assessed by evaluating the location of major transportation projects in relation to surrounding land uses and community development. Highway and transit extensions and major interchange projects were assumed to have a higher potential to disrupt or divide existing communities since they would involve the creation of new roadways. Highway widening and other projects along established transportation rights-of-way were assumed to have a lower potential to divide or disrupt existing communities and neighborhoods.

The analysis is based on general descriptions of transportation projects listed in the Plan (see **Appendix B, *2016 RTP/SCS Project List***) and is regional and programmatic in nature.

**TABLE 3.14.3-1
POTENTIAL DISPLACEMENT OF EXISTING HOMES AND BUSINESSES (IN ACRES)**

Land Use	County						Total
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	
Commercial and services	89	5,382	4,049	2,912	1,657	516	14,605
General office	12	1,990	777	460	321	119	3,680
Industrial	7	6,703	1,639	1,383	1,256	189	11,177
Mixed commercial and industrial	0	68	135	12	15	6	235
Mixed residential	0	241	44	17	3	7	311
Mixed residential and commercial	0	124	19	31	16	3	193
Mobile homes and trailer parks	21	2,017	429	331	165	49	3,012
Multi-family residential	24	3,260	1,894	617	400	97	6,292
Rural residential	0	455	0	344	233	0	1,033
Single-family residential	152	8,397	3,543	2,090	1,770	270	16,222
Total	305	28,637	12,529	8,197	5,836	1,257	56,761

SOURCE:

SCAG GIS analysis and data, 2015.

3.14.4 IMPACT ANALYSIS

Implementation of the 2016 RTP/SCS would have a potential to influence the distribution of population, households, and employment. It is anticipated that significant impacts would include substantial induced population growth within urban areas that are adjacent to transit and new ROW acquisitions that could result in the displacement of a substantial number of existing businesses and homes, separation of residences from community facilities and services. While the 2016 RTP/SCS encourage growth in existing urbanized area, the proposed land use strategies would not accommodate all of the growth anticipated in the region. As exemplified in the PGF, some development would still be expected to occur in areas that would have the potential to convert open and natural land areas near the edge of existing urbanized areas to urban development.

Short-term construction-related impacts and long-term or permanent displacement, as well as off-site impacts from new facilities, would occur as a result of implementation of the 2016 RTP/SCS. Indirect impacts from the changes in population distribution expected to occur due to the 2016 RTP/SCS's transportation investments and land use policies are also identified.

IMPACT PHE-1: Potential to induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

Significant Impact

The 2016 RTP/SCS's land use strategies would accommodate new growth within existing urbanized areas, HQTAs, underutilized urban areas and existing suburban town centers. These areas have the potential to accommodate growth by integrating land use development patterns with transportation improvements that improve accessibility, increase mobility, and encourage the use of active transportation. However, these strategies might result in increased densities in some areas. Therefore, implementation of the 2016 RTP/SCS would have a potential to result in a significant impact requiring the consideration of mitigation measures.

As discussed in **Section 2.0, *Project Description***, as well as earlier in this section, the 2016 RTP/SCS PGF is based on local input with a distribution of growth within and around HQTAs and other minor modifications at a regional policy level. The PGF represents the projected increase and distribution of people that would occur in 2040 if the policies and investments included in the Plan were to be implemented. The total SCAG region population is expected to increase by approximately 3.8 million persons at the end of the 2016 RTP/SCS planning period (2040). The land use development pattern of the 2016 RTP/SCS assumes a significant increase in small-lot, single-family, and multi-family housing that is expected to mainly occur in infill locations near transit infrastructure within HQTAs, including livable corridors¹⁷ (Table 3.14.2-1) and neighborhood mobility areas.¹⁸ In some cases, anticipated land use patterns assume that more housing within HQTA and other mobility areas would be built than is currently anticipated in local general plans. However the shift in housing type from large-lot to small-lot single-family homes would likely occur naturally due to changes in the marketplace and as developers accommodating in response to this new demand. In 2012, 55 percent of total housing units were single-family units and 45 percent were multi-family units. The 2016 RTP/SCS projects that in 2040, 33 percent of new homes in the SCAG region will be single-family units and 67 percent multi-family units.¹⁹

Of the 1,521,000 new housing units expected in 2040, 14 percent are anticipated to be large-lot single-family units, 19 percent small-lot single-family units, 11 percent townhome units, and 56 percent multi-family units.²⁰ Government Code Section 65080(b)(2)(B)(ii) requires that the RTP/SCS must accommodate all the population of the region, including all economic segments of the population, over the course of the planning period of the regional transportation plan. In accordance with Government Code Section 65080(b)(2)(B)(ii), this projected housing mix would help the region accommodate the projected housing needs over the life of the 2016 RTP/SCS, especially housing at the lower income categories. SCAG is currently moving towards improving the current distribution of households by income category in the region through the RHNA. Mandated by State Housing Law as part of the periodic (every eight years) process of updating local housing elements of the General Plan, the RHNA

¹⁷ Most Livable Corridors would be located within HQTAs.

¹⁸ Neighborhood mobility areas are conducive to active transportation and include a "complete streets" approach to roadway improvements to encourage replacing single- and multi-occupant automobile use with biking, walking, skateboarding, neighborhood electric vehicles and senior mobility device.

¹⁹ SCAG modeling, 2015.

²⁰ SCAG modeling, 2015.

quantifies the need for housing within each jurisdiction during the planning periods. The most recent RHNA Allocation Plan, which covered the planning period from January 1, 2014 through October 1, 2021, was adopted by SCAG's governing body, Regional Council, in October 2012.²¹ The RHNA does not necessarily encourage or promote growth, but rather allows communities to anticipate growth. As such, communities may use the RHNA in land use planning; prioritizing local resource allocation; and in deciding how to address identified existing and future housing needs resulting from population, employment, and household growth.²²

The 2016 RTP/SCS land use development pattern would accommodate 46 percent of the region's future household growth and 50 percent of the future employment growth in HQTAs,²³ while keeping jurisdictional totals consistent with local input. It moves the region towards more compact, mixed-use development with a variety of housing types leading to more opportunities for walking and biking, more transit use, and shorter auto trips. As part of this regional transportation-planning process, SCAG has included an extensive public outreach effort with low-income and minority communities that is reflected in this 2016 RTP/SCS with the goal of providing an equitable distribution of benefits, including associated public health benefits, and not a disproportionate share of the burdens associated with the Plan. Additionally, the integrated transportation investments and land use strategies in the 2016 RTP/SCS would influence economic (jobs) and household growth in some areas such as the HQTAs, and could remove some obstacles to growth in other parts of the region. Specifically, improved accessibility and connectivity potentially gained from transportation investments in the Plan, the Plan could facilitate population and economic growth to areas of the region that are currently not developed or underdeveloped. Therefore, implementation of the Plan would have a potential to induce growth in some areas of the SCAG region, requiring the consideration of mitigation measures.

IMPACT PHE-2: Potential to displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere.

Significant Impact

The construction of transportation projects that require the expansion of existing or designation of new ROWs have the potential to result in the displacement of existing housing, necessitating the construction of replacement housing, constituting a significant impact. In general, transportation projects included in the 2016 RTP/SCS would attempt to utilize existing ROWs to the maximum extent feasible. However, development of some highway, arterial, and transit projects included in the 2016 RTP/SCS would result in the disturbance and/or loss of residential and business uses. In particular, the 2016 RTP/SCS includes system expansion projects such as new freeway lane miles and new transit track miles that have the potential to result in the loss of land currently used for residential and business purposes. In past regional transportation plans, SCAG has envisioned a system of truck-only lanes extending from the San Pedro Bay Ports to downtown Los Angeles along the I-710, connecting to an

²¹ Southern California Association of Governments. Accessed 1 November 2015. *5th Cycle Regional Housing Needs Assessment Final Allocation, 1/1/2014-10/1-2021*. Available at: <http://www.scag.ca.gov/Documents/5thCyclePFinalRHNAplan.pdf>

²² Southern California Association of Governments. Accessed 1 November 2015. *RHNA & Housing*. Available at: www.scag.ca.gov/programs/Pages/Housing.aspx

²³ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

east-west segment, and finally reaching the I-15 in San Bernardino County (the East-West Freight Corridor). Significant progress towards a regional freight corridor system has continued. As part of the 2016 RTP/SCS, SCAG includes a refined concept for the east-west corridor component of the system and connections to an initial segment of I-15.²⁴ After adoption of the 2016 RTP/SCS, it is anticipated that additional study of alignments will be conducted, including an alternatives analysis completed as part of a full environmental review at the subsequent project-level.

The East-West Freight Corridor would carry between 58,000 and 78,000 trucks per day.²⁵ These are trucks that would be removed from adjacent general-purpose lanes and local arterial roads. These facilities, depending on the alignment, potentially would traverse through lands currently used for residential and business purposes. The final alignment would likely be adjacent to or concurrent with existing alignments, so the adverse effects on displacing homes and businesses would be minimized. Additional goods movement projects included in the Plan such as grade separations also have the potential to displace homes or businesses as many of the areas where grade separations are proposed would be in developed urban areas.

Geographic information systems (GIS) was used to analyze where major freeway, rail, and transit projects, such as those described above, would intersect areas used for residential development and business uses. A 500-foot potential impact zone was drawn around the freeway, rail and transit projects in the 2016 RTP/SCS to compute the number of acres that could potentially be affected by the construction and operation of major transportation projects in the Plan. **Table 3.11.3-1, *Land Uses Located within 500 Feet of the Plan's Major Transportation Projects***, in Section 3.11, ***Land Use and Planning***, shows the current land uses that are located within 500 feet of either side of the Plan's major transportation projects.²⁶

As indicated in **Table 3.11.3-1**, many types of land uses would be impacted by the Plan's transportation projects including residential. In total, the 2016 RTP/SCS includes approximately over 78,800 lane miles including freeways, toll roads, major and minor arterials, collectors, high-occupancy toll (HOT), and high-occupancy vehicle (HOV) lanes.²⁷ These additional transportation facilities could displace homes and businesses in the region, constituting a significant impact requiring the consideration of mitigation measures.

Additionally, as previously analyzed, land use strategies included in the 2016 RTP/SCS would have a potential to displace substantial amounts of existing housing, necessitating the construction or replacement housing elsewhere. While this PEIR analyzes land use impacts on the communities at a regional level, it is possible that certain communities may be affected by the growth and land use strategies associated with the 2016 RTP/SCS, as well as potential displacement of substantial amounts of existing housing and construction or replacement housing elsewhere. The Plan includes land use

²⁴ Southern California Association of Governments. December 2015. *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*. Los Angeles, CA.

²⁵ Southern California Association of Governments. December 2015. *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy: Goods Movement Appendix*. Los Angeles, CA.

²⁶ Major Transportation Projects include but are not limited to projects that involve ground disturbing activities and projects outside of existing rights-of-way such as projects that require new rights-of-way, adding traffic lanes, and grade separation.

²⁷ Southern California Association of Governments. December 2015. *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy: Highways & Arterials Appendix*. Los Angeles, CA.

strategies that would target the region's growth in the next 25 years in HQTAs, existing suburban town centers, and more walkable, mixed-use communities. Supported by other public amenities and transit services, housing in these areas tends to command higher premiums and may be attractive to more affluent residents and unaffordable to current residents in these areas. Therefore, substantial amounts of existing housing for current residents in some communities in the region may be replaced. However, this analysis should be viewed together with the proposed land use strategies to accommodate 47 percent of the region's future household growth in HQTAs.²⁸

As the region's population is increasingly using transit and showing more interest in living and working in areas with active transportation opportunities or other transit-rich neighborhood and communities, it is anticipated that changes could occur in existing communities. As such, the potential for "gentrification," or the displacement of lower-income residents, could occur if new development brings higher-income residents into a neighborhood. Neighborhood residents in areas of low income and/or enclaves of marginalized minorities may not benefit from planned transit investment, stations, and other amenities (e.g., walkways and bikeways) that come with this new neighborhood revitalization. More affluent and less diverse residents have the potential to displace them because new development near transit areas could be popular and unaffordable. Hence, the potential to either indirectly or directly induce substantial population growth and displace a community in such an area could occur.

Despite the proposed land use strategies that could influence more housing developments in urbanized areas, the Plan would have the potential to displace substantial amounts of existing housing, necessitating the construction or replacement housing elsewhere, requiring the consideration of mitigation measures.

IMPACT PHE-3: Potential to displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Significant Impact

As indicated in Table 3.11.3-1 and discussed above, all types of land uses, including residential uses, would be affected by Plan projects, resulting in the potential to displace substantial numbers of people, necessitating the construction of replacement housing elsewhere, constituting a significant impact. Additional residential land uses would be affected by the growth associated with the 2016 RTP/SCS. Displacement of affordable housing in some areas in the region could occur, and this could have an impact on communities as these types of units may not be replaced by affordable housing in the same areas. Therefore, the Plan would have the potential to displace substantial numbers of people, necessitating the construction of replacement housing elsewhere, constituting a potentially significant impact requiring the consideration of mitigation measures.

²⁸ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

3.14.5 CUMULATIVE IMPACTS

IMPACT PHE-1: Potential to induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

Significant Cumulative Impact

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with related development and infrastructure projects within the SCAG region and surrounding areas, would have the potential to result in an increase in land use density and development over the next 25 years. When considered in combination with other land use changes and infrastructure development in the SCAG region and surrounding counties, the Plan would have the potential to influence substantial population growth in the SCAG region and in areas near the SCAG region, thus constituting a significant cumulative impact with regard to the potential for inducing substantial population growth in an area, either directly or indirectly.

IMPACT PHE-2: Potential to displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere.

Significant Cumulative Impact

Although the 2016 RTP/SCS includes a set of regional land use strategies that are intended to guide future land development patterns to focus new growth in HQTAs, existing suburban town centers, and walkable mixed-use communities, population growth will take place regardless of whether the transportation projects included in the 2016 RTP/SCS are implemented. By 2040, the SCAG region is anticipated to add an additional 3.8 million people regardless of the 2016 RTP/SCS. Improved mobility and accessibility from implementation of the Plan's transportation investments and strategies, integrated with land use strategies, could result in a population increase in areas within and beyond the SCAG region. Therefore, the Plan would result in significant cumulative impacts with regard to the potential for inducing substantial population growth in an area, either directly or indirectly, requiring the consideration of mitigation measures.

IMPACT PHE-3: Potential to displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Significant Cumulative Impact

Implementation of the Plan would also have the potential to displace substantial amounts of existing housing and substantial numbers of people, necessitating the construction of replacement housing elsewhere, including outside the region. The construction of transportation projects that require the expansion of existing or designation of new ROWs have the potential, when considered in combination with other land use changes and infrastructure development in the SCAG region and surrounding counties, to result in the displacement of existing housing, necessitating the construction of

replacement housing. These factors may cause people to move outside the region for both housing and/or employment needs. As indicated in the Table 3.11.3-1 and discussed above, all types of land uses, including residential uses, would be impacted by Plan projects. Therefore, the Plan would result in significant cumulative impacts with regard to the potential to displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere, requiring the consideration of mitigation measures.

3.14.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to population, housing, and employment are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT PHE-1: Potential to induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

SCAG Mitigation Measures

SCAG has no control over the amount of growth the region would experience during the implementation of the 2016 RTP/SCS. The regional growth and land use change forecasted in the 2016 RTP/SCS would be implemented by local jurisdictions through local plans and individual development projects. The 2016 RTP/SCS has been developed to accommodate forecasted regional growth, and failing to do so would be inconsistent with the applicable federal and state requirements for RTPs. In addition, precluding growth would conflict with the requirements to provide sufficient housing for the region's population contained in SB 375. As discussed above, Government Code Section 65080(b)(2)(B)(ii) requires that the RTP/SCS must accommodate all the population of the region, including all economic segments of the population, over the course of the planning period of the regional transportation plan. In order to avoid impacts from inducing substantial population growth in an area either directly or indirectly, SCAG shall implement the following mitigation measures:

MM-LU-1(a)(1) through MM-LU-1(a)(8).

MM-PHE-1(a)(1): SCAG shall work with local agencies to encourage and assist in implementation of growth strategies to create an urban form designed to focus development in HQTAs in accordance with the policies, strategies, and investments contained in the 2016 RTP/SCS, enhancing mobility and reducing land consumption.

MM-PHE-1(a)(2): SCAG's Sustainability Program shall be used to coordinate and provide information and resources to local agencies relating to changes in land use to accommodate future population growth while maintaining the quality of life in the region.

Project-Level Implementation Measures

MM-LU-1(b).

IMPACT PHE-2: Potential to displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere.

SCAG Mitigation Measures

MM-PHE-2(a)(1): SCAG's Sustainability Program shall be used to build consensus in the region relating to changes in land use to accommodate future population growth while maintaining the quality of life in the region.

MM-PHE-2(a)(2): SCAG shall work with neighboring planning agencies and MPOs to ensure that plans and strategies can accommodate future population growth beyond SCAG's borders.

Project-Level Implementation Measures

MM-PHE-2(b). Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects related to displacement that are within the jurisdiction and responsibility of Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to minimize the displacement of existing housing and people and to ensure compliance with local jurisdiction's housing elements of their general plans, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Evaluate alternate route alignments and transportation facilities that minimize the displacement of homes and businesses. Use an iterative design and impact analysis where impacts to homes or businesses are involved to minimize the potential of impacts on housing and displacement of people.
- Prioritize the use existing ROWs, wherever feasible.
- Develop a construction schedule that minimizes potential neighborhood deterioration from protracted waiting periods between right-of-way acquisition and construction.

IMPACT PHE-3: Potential to displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

SCAG Mitigation Measures

MM-PHE-2(a)(1) and MM-PHE-2(a)(2).

Project-Level Implementation Measures

MM-PHE-2(b).

3.14.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT PHE-1: Potential to induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

Implementation of mitigation measures MM-LU-1(a)(1) through MM-LU-1(a)(8), MM-PHE-1(a)(1) and MM-PHE-1(a)(2), and MM-PHE-1(b) would reduce impacts related to inducing substantial increases in population under the 2016 RTP/SCS. However, direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT PHE-2: Potential to displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere.

Implementation of Mitigation Measures MM PHE-2(a)(1), MM PHE-2(a)(2), and MM-PHE-2(b) would reduce potential impacts related to the displacement of existing housing. However, not all of the projects included in the 2016 RTP/SCS would be constructed in existing ROWs. As a result, a substantial amount of existing housing would likely be displaced due to development associated with projects in the 2016 RTP/SCS. Therefore, direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT PHE-3: Potential to displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Implementation of Mitigation Measures MM-PHE-2(a)(1), MM-PHE-2(a)(2), and MM-PHE-2(b) would reduce potential impacts related to displacement of substantial numbers of people requiring the construction of replacement housing elsewhere. However, not all of the projects included in the 2016 RTP/SCS would be constructed in existing ROWs. A substantial number of people would likely be displaced due to development associated with projects in the 2016 RTP/SCS. Therefore, direct, indirect, and cumulative impact would remain significant and unavoidable.

3.15 PUBLIC SERVICES

This section of the Program Environmental Impact Report (PEIR) describes the public services in the Southern California Association of Governments (SCAG) region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Plan,” or “Project”) on public services, identifies mitigation measures for the impacts, and evaluates the residual impacts. Public services were evaluated in accordance with Appendix G of the 2015 State California Environmental Quality Act (CEQA) Guidelines. Public services within the SCAG region were evaluated at a programmatic level of detail in relation to the general plans of the six counties and the 191 cities within the SCAG region, a review of related literature germane to the SCAG region, as well as a review of SCAG’s 2012 RTP/SCS PEIR.¹

Southern California is home to significant natural disasters, including earthquakes, wildfires, flooding, and mudslides. Although natural disasters, such as earthquakes and hurricanes, have produced significant regional casualties and property damage, none had the serious disruption to national travel and the national economy as the September 11, 2001, terrorist attacks. The 9/11 attacks created a new awareness of the vulnerabilities of transportation fleets and facilities. As concern about the threat of terrorism and consequences of natural disasters has grown, government (at all levels) has taken new measures to secure the welfare of its citizens. Transportation and transit agencies throughout the United States are taking increasing steps to protect their facilities against the threats of crime, terrorist activity, and natural disasters. The complexity of the SCAG region, with a range of potential terrorism targets, presents significant challenges in coordinating and implementing effective homeland security programs. The unexpected and complex nature of these natural and human-caused incidents require extensive coordination, collaboration, and flexibility among all of the agencies and organizations involved in planning, mitigation, response, and recovery.

The provision of public services in the SCAG region is accomplished through cooperation among a range of federal, state, regional, and local government agencies and nongovernmental organizations. Given the focus of the RTP/SCS on transportation planning and sustainable community strategies, the evaluation of public services focuses here emergency preparedness, emergency response, and security related to major modes of travel and protection and support of the communities in the SCAG region. The Governor’s Office of Emergency Services (CalOES) is responsible for overall state agency response to disasters and ensuring the state’s readiness to respond to and recover from all hazards and to assist local governments in their emergency response preparedness, response, recovery, and mitigation. The provision of emergency preparedness, emergency response services is provided through federal, state, and local entities including the Transportation Security Administration (TSA), the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), the California Department of Forestry and Fire Protection (CAL FIRE), the California Highway Patrol (CHP), and County and City fire, emergency response, and security departments. Although the RTP/SCS does not include planning guidelines related to provision of schools, it does consider the relationship of transportation projects and goods movement in relation to schools; therefore this analysis describes the key regulations related to funding and siting of schools, and characterizes the distribution of schools in the SCAG region.

¹ Southern California Association of Governments. April 2012. *Final Program Environmental Report: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*. Available at: <http://rtppscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

Definitions

California Department of Forestry and Fire Protection (CAL FIRE): CAL FIRE is an emergency response and resource protection department that protects lives, property, and natural resources from fire; responds to emergencies of all types, and protects and preserves timberlands, wildlands, and urban forests throughout the State of California, through cooperative efforts via contracts and agreements between state, federal, and local agencies to respond to emergencies including wildland and structure fires, earthquakes, floods, hazardous material spills, medical aids, and terrorist attacks.²

California Emergency Management Agency (EMA): The EMA was established as part of the Governor's Office in 1950 as the State Office of Civil Defense. Then called the Governor's Office of Emergency Services, it coordinated overall state agency response to major disasters in support of local government. The EMA is responsible for assuring the state's readiness to respond to and recover from natural, human-made, and war-caused emergencies, and for assisting local governments in their emergency preparedness, response, and recovery efforts. The EMA serves as the central contact point in the state for any emergency or imminent disaster. It coordinates the notification of appropriate state administering agencies that may be required to respond, as well as the emergency activities of all state agencies in the event of an emergency. In doing so, the EMA does not focus on security specifically, but rather more broadly on addressing all potential incidents that could impact the state, such as earthquakes, fires, floods, and terrorist attacks. Furthermore, EMA coordinates with federal agencies, such as the DHS and FEMA, as well as other state and local agencies such as the CHP. California's vision, mission, and principles for emergency management, as well as goals and objectives are located in its publication "Strategic Plan 2010-2015 – Keeping California Safe."³

California Highway Patrol (CHP): The CHP was created in 1929 to provide uniform traffic law enforcement throughout the state.⁴ The primary purpose of the CHP is to assure the safe, convenient, and efficient transportation of people and goods on the state's highway system in accordance with CHP's mission to provide the highest level of safety, service, and security.

County Offices of Emergency Services (OES): The County OESs provide emergency management and preparedness services to the unincorporated areas of the six counties within the SCAG region. Each OES is responsible for alerting and notifying appropriate agencies when disaster strikes, coordinating all agencies that respond, ensuring resources are available and mobilized in times of disaster, developing plans and procedures for response to and recovery from disasters, and developing and providing preparedness materials for the public. These responders include fire departments, police and sheriff department, hospitals, ambulance services, and transportation agencies. Coordination among public and private agencies within various cities and counties make the most use of all available resources in the event of any emergency. While each city and county has its own security procedures, the policies are generally similar. Mutual Aid agreements between cities, counties, and private organizations help to maximize resources and reduce the human suffering associated with disaster situations.

² California Department of Forestry and Fire Protection (CAL FIRE). Accessed 21 September 2015. *What is CAL FIRE?* Available at: http://www.calfire.ca.gov/communications/downloads/fact_sheets/WhatisCALFIRE.pdf

³ California Emergency Management Agency. Accessed 21 September 2015. *Strategic Plan 2010-2015 – Keeping California Safe*. Available at: http://www.battle-creek.net/docs/fire/CalEMA_StrategicPlan_2010.pdf

⁴ State of California. Accessed 18 September 2015. *About Us: Welcome to the California Highway Patrol*. Available at: <https://www.chp.ca.gov/home/about-us>

Federal Emergency Management Agency (FEMA): FEMA is a federal agency that has served America since 1979 to support U.S. citizens and first responders to ensure that the nation works together to build, sustain, and improve its capacity to prepare for, protect against, respond to, recover from, and mitigate all hazards.⁵ FEMA coordinates the federal government's role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made, including acts of terror. FEMA is part of the DHS.

Governor's Office of Emergency Services (CalOES): CalOES is the state agency charged with the responsibility to assist local government in preparing for and responding to any type of natural or manmade disaster in California. CalOES protects the lives and property, build capabilities, and supports communities for a resilient California. CalOES has six goals relevant to public services: (1) anticipate and enhance prevention and detection capabilities to protect the state from all hazards and threats; (2) strengthen California's ability to plan, prepare for, and provide resources to mitigate the impacts of disasters, emergencies, crimes, and terrorist events; (3) effectively respond to and recover from both human-caused and natural disasters; (4) enhance the administration and delivery of all state and federal funding, and maintain fiscal and program integrity; (5) develop a united and innovative workforce that is trained, experienced, knowledgeable, and ready to adapt and respond; and (6) strengthen capabilities in public safety communication services and technology enhancements.

Master Mutual Aid Agreements: FEMA has encouraged federal, state, local, and tribal governments to enter into agreements to assist one another.

Mutual Aid Agreements (MAA): Immediately following the 1994 Northridge earthquake, city and county emergency managers in the CalOES coastal, southern, and inland regions developed a coordinated emergency management concept called the Emergency Managers Mutual Aid (EMMA) system. The purpose of EMMA is to support disaster operations in affected jurisdictions by providing professional emergency management personnel from unaffected areas to support local jurisdictions, Operational Areas, and regional emergency operations during proclaimed emergencies; providing a system, including an organization, information, and forms necessary to coordinate the formal request, reception, assignment, and training of assigned personnel; establishing a structure to maintain this document (the Emergency Managers Mutual Aid Plan) and its procedures; providing for the coordination of training for emergency managers, including Standardized Emergency Management System (SEMS/NIMS) training, emergency management course work, exercises, and disaster response procedures; and promoting professionalism in emergency management.

National Incident Management System/Standardized Emergency Management System (NIMS): The NIMS is a tool for states, counties and local jurisdictions to respond to catastrophic events through better communication and coordination. NIMS provides a consistent nationwide template to enable Federal, state, local, and tribal governments and private sector and nongovernmental organizations to work together effectively and efficiently to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity, including acts of catastrophic terrorism.

National Preparedness System (NPS): The NPS, also a part of FEMA, is a part of NIM. The NPS is intended to be used by individuals, families, communities, the private and nonprofit sectors, faith-based

⁵ Federal Emergency Management Agency. Accessed 18 September 2015. *About the Agency*. Available at: <http://www.fema.gov/about-agency>

organizations, and local, state, tribal, territorial, insular area, and federal governments to achieve the National Preparedness Goal.

Transportation Management Centers (TMCs): The California Department of Transportation (Caltrans), in conjunction with the CHP, has created TMCs to rapidly detect and respond to incidents while managing the resulting congestion. For the SCAG region, Caltrans Districts 7, 8, 11, and 12 all have TMCs.

Security: the protection of persons or property from intentional damage or destruction caused by vandalism, criminal activity or terrorist attacks.

Transportation Security Administration (TSA): The TSA is a component of the DHS and is responsible for security of the nation's transportation systems. The TSA is responsible for security at airports in the SCAG region. With state, local, and regional partners, the TSA oversees security for highways, railroads, buses, mass transit systems, and ports. A vast majority of its resources are dedicated to aviation security and is primarily tasked with screening passengers and baggage.

Unified Coordination Group (UCG): Unified Coordination Group (UCG) is a temporary Federal multi-agency coordination center established locally to facilitate field-level domestic incident management activities related to prevention, preparedness, response and recovery when activated by the Secretary of Homeland Security. The JFO provides a central location for coordination of federal, state, local, tribal, nongovernmental and private-sector organizations with primary responsibility for activities associated with threat response and incident support.

United States Coast Guard: The Coast Guard is both a federal law enforcement agency and a military force that operates as part of the DHS in times of peace to enforce the nation's laws at sea, protecting the marine environment, guarding the nation's vast coastlines and ports, and performing vital lifesaving missions. In times of war, or at the direction of the president, the Coast Guard serves as part of the Navy Department, defending the nation against terrorism and foreign threats. Since September 2001, the United States Coast Guard has assumed a dynamic role in protecting major ports. In addition, over 3,500 volunteer Coast Guard Auxiliary members assist in many Coast Guard mission areas, including Boating Safety and Search and Rescue.

United States Department of Defense (DOD): In the case of a large-scale emergency, the DOD is authorized to provide resources when response and recovery requirements are beyond the capabilities of civilian authorities and these efforts do not interfere with the DOD's core mission or ability to respond to operational contingencies. Requests for Defense Support to Civilian Authorities (DSCA) are made through the local, county, and state authorities as a request for assistance to the federal coordinating official in the appropriate lead federal agency and is normally accompanied by, or submitted after a request from the governor for a disaster declaration from the president. The California National Guard may be activated as part of the DSCA and can provide law enforcement support, crisis management, and consequence management services. Activation of the National Guard for local support during emergencies is done by the governor via CalOES.

United States Department of Homeland Security (DHS): The DHS was established after the September 11, 2001, terrorist attacks as an office to oversee and coordinate a comprehensive national strategy to

safeguard the country against terrorism and respond to any future attacks.⁶ In 2003, DHS formally became a Cabinet-level department to further coordinate and unify national homeland security efforts. The vision of DHS is to ensure a homeland that is safe, secure, and resilient against terrorism and other hazards.

3.15.1 REGULATORY FRAMEWORK

The federal government sets public service standards for transportation-related security services and educational services that are closely linked to interstate commerce, such as aircraft, locomotives, and trucks. The state sets public service standards for fire response, police protection, public education, and security services. The provision of new public service facilities associated with population growth and development projects are generally subject to local general plan policies.

Federal

Tariff Act of 1790

The Tariff Act of 1790 was signed by President George Washington on August 10, 1790, to authorize the construction of 10 vessels (the Revenue Cutter Service) to enforce federal tariff and trade laws and to prevent smuggling.^{7,8} In 1915, the Revenue Cutter Service merged with the U.S. Life-Saving Service, and was officially renamed the U.S. Coast Guard, the only maritime service dedicated to saving life at sea and enforcing the nation's maritime laws. In the 1900s, the Coast Guard also became responsible for maritime navigation, merchant marine licensing, and merchant vessel safety. In 2003, the Coast Guard was transferred to the Department of Homeland Security, where it currently serves.

Aviation and Transportation Security Act

The Aviation and Transportation Security Act (Public Law 107-71) was passed by the 107th Congress and signed on November 19, 2001, to establish the TSA in order to prevent terrorist acts associated with transportation systems after the September 11, 2001, terrorist attacks.⁹ The TSA is a component of the DHS and is responsible for security of the nation's transportation systems. With state, local, and regional partners, the TSA oversees security for highways, railroads, buses, mass transit systems, and ports. A vast majority of its resources are dedicated to aviation security and is primarily tasked with screening passengers and baggage.

⁶ U.S. Department of Homeland Security. Accessed 18 September 2015. *Creation of the Department of Homeland Security*. Available at: <http://www.dhs.gov/creation-department-homeland-security>

⁷ Northrup, Cynthia Clark, and Elaine C. Prange Turney, eds. 2003. *Encyclopedia of Tariffs and Trade in U.S. History: Volume III. The Texts of the Tariffs*. Westport, CT: Greenwood Press.

⁸ United States Coast Guard. Accessed 11 September 2015. *The Coast Guard: America's Oldest Maritime Defenders*. Available at: <http://www.gocoastguard.com/about-the-coast-guard/learn-the-history>

⁹ U.S. Department of Homeland Security, Transportation Security Administration. Accessed 11 September 2015. *Mission*. Available at: <https://www.tsa.gov/about/tsa-mission>

Elementary and Secondary Education Act of 1965 and No Child Left Behind Act of 2001

Since the Elementary and Secondary Education Act (ESEA) of 1965 (Public Law 89-10) was signed into law by President Lyndon B. Johnson, local school districts throughout the nation have received federal monies through grants to state educational agencies to improve the quality of elementary and secondary education. ESEA also offered new grants to districts serving low-income students and for text and library books, created special education centers, and created scholarships for low-income collect students. In 2002, Congress reauthorized ESEA and President George W. Bush signed the law under a new name: No Child Left Behind (NCLB), which put in place measures that exposed achievement gaps among traditionally underserved and vulnerable students and their peers, and started an important national dialogue on educational improvement. As with ESEA, NCLB requires local school districts that have received federal funding to meet federal requirements and receive oversight.

Homeland Security Act of 2002

The DHS was established on November 25, 2002, by the Homeland Security Act of 2002 (6 U.S. Code [USC] 101). The DHS is charged with the responsibility of protecting the territory of the United States from terrorist attacks and responding to natural disasters. The primary mission of the Department is to (1) prevent terrorist attacks within the United States; (2) reduce the vulnerability of the United States to terrorism; and (3) minimize the damage, and assist in the recovery, from terrorist attacks that do occur within the United States. There are five homeland security missions:¹⁰

1. Prevent terrorism and enhancing security
2. Secure and manage borders
3. Enforce and administer immigration laws
4. Safeguard and secure cyberspace
5. Ensure resilience to disasters

Executive Order 12127 – Federal Emergency Management Agency

On April 1, 1979, President Jimmy Carter signed Executive Order 12127 to create FEMA, a federal agency committed to protecting and serving the American people pursuant to its mission to support our citizens and first responders to ensure that as a nation we work together to build, sustain and improve our capability to prepare for, protect against, respond to, recover from and mitigate all hazards.¹¹ In March 2003, FEMA became a department of the DHS. The primary mission of FEMA is to reduce the loss of life and property and protect the nation from all hazards, including natural disasters, acts of terrorism, and other human-made disasters, by leading and supporting the nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation. FEMA has five mission areas. These have been identified in the National Preparedness Goal, released in September 2011. The National Preparedness Goal states: “A secure and resilient nation with the

¹⁰ U.S. Department of Homeland Security. Accessed 18 September 2015. *Our Mission*. Available at: <http://www.dhs.gov/our-mission>

¹¹ Federal Emergency Management Agency. Accessed 11 September 2015. *FEMA: About the Agency*. Available at: <http://www.fema.gov/about-agency>

capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk.”

These risks include events such as natural disasters, disease pandemics, chemical spills and other manmade hazards, terrorist attacks and cyber-attacks.

FEMA’s five mission areas are as follows:

- **Prevention.** Prevent, avoid or stop an imminent, threatened or actual act of terrorism.
- **Protection.** Protect our citizens, residents, visitors, and assets against the greatest threats and hazards in a manner that allows our interests, aspirations, and way of life to thrive.
- **Mitigation.** Reduce the loss of life and property by lessening the impact of future disasters.
- **Response.** Respond quickly to save lives, protect property and the environment, and meet basic human needs in the aftermath of a catastrophic incident.
- **Recovery.** Recover through a focus on the timely restoration, strengthening and revitalization of infrastructure, housing and a sustainable economy, as well as the health, social, cultural, historic and environmental fabric of communities affected by a catastrophic incident.

The NIMS is administered under FEMA. The NIMS is a tool for states, counties, and local jurisdictions to respond to catastrophic events through better communication and coordination. NIMS provides a consistent nationwide template to enable federal, state, local, and tribal governments and private sector and nongovernmental organizations to work together effectively and efficiently to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity, including acts of catastrophic terrorism.

California has a similar management system called the Standard Emergency Management System (SEMS) which is mandated under California Government Code Section §8607(a). State of California Executive Order S205 requires the state to integrate, to the extent appropriate, the NIMS, into the state’s SEMS.

National Response Framework (Presidential Policy Directive 8: National Preparedness (PPD-8, NRF)

The National Response Framework (NRF) is an essential component of the National Preparedness System mandated in Presidential Policy Directive 8: National Preparedness (PPD-8).¹² PPD-8 is aimed at strengthening the security and resilience of the United States through systematic preparation for the threats that pose the greatest risk to the security of the Nation. PPD-8 defines five mission areas—Prevention, Protection, Mitigation, Response, and Recovery—and mandates the development of a series of policy and planning documents to explain and guide the Nation’s collective approach to ensuring and enhancing national preparedness. The NRF presents the guiding principles that enable all response partners to prepare for and provide a unified national response to disasters and emergencies. It

¹² U.S. Department of Homeland Security. May 2013. *National Response Framework*. Available at: http://www.fema.gov/media-library-data/20130726-1914-25045-1246/final_national_response_framework_20130501.pdf

establishes a comprehensive, national, all-hazards approach to domestic incident response. The National Response Plan was replaced by the NRF effective March 22, 2008 and updated in May 2013. The NRF defines the principles, roles, and structures that organize how we respond as a nation. The NRF:

- Describes how communities, tribes, states, the federal government, private-sectors, and nongovernmental partners work together to coordinate national response;
- Describes specific authorities and best practices for managing incidents; and
- Builds upon the NIMS, which provides a consistent template for managing incidents.

State

California Education Code

School facilities and services are subject to the rules and regulations of the California Education Code and governance of the State Board of Education (SBE). The SBE is the 11-member governing and policy making body of the California Department of Education (CDE) that sets K–12 education policy in the areas of standards, instructional materials, assessment, and accountability. The CDE and the State Superintendent of Public Instruction are responsible for enforcing education law and regulations; and for continuing to reform and improve public elementary school, secondary school, and child care programs, as well as adult education and some preschool programs. The CDE's mission is to provide leadership, assistance, oversight, and resources so that every Californian has access to an education that meets world-class standards.¹³ The core purpose of the CDE is to lead and support the continuous improvement of student achievement, with a specific focus on closing achievement gaps.¹⁴

Community Facilities Act of 1982, as amended

The Community Facilities Act of 1982 (Section 53324 of the Government Code), also commonly known as the Mello-Roos Act, enables certain public agencies to designate a Mello-Roos Community Facilities District, which allows for the financing of public improvements and services. These include basic infrastructure, police protection, fire protection, ambulance services, schools, parks, libraries, museums, and other cultural facilities. Mello-Roos Community Facilities Districts are usually created to finance improvements and services when no other funding sources are available, and require a two-thirds majority vote of residents living within the proposed boundaries. They are used especially often (but not exclusively) in new development areas. Upon approval, a special tax lien is placed against each property in the district, and residents pay a special tax each year. This tax is not based on property value, but on formulas that take into account physical characteristics such as square footage and structure size.¹⁵

¹³ California State Board of Education. Accessed 21 September 2015. *Role and Responsibilities*. Available at: <http://www.cde.ca.gov/eo/mn/rr/>

¹⁴ California State Board of Education. Accessed 21 September 2015. *Belief and Purpose*. Available at: <http://www.cde.ca.gov/eo/mn/mv/>

¹⁵ California Tax Data. Accessed 21 September 2015. *What is Mello-Roos?* Available at: www.californiataxdata.com

California Government Code Section 65995

California Government Code Section 65995 is found in Title 7, Chapter 4.9. California Government Code Section 65995 authorizes school districts to collect impact fees from developers of new residential and commercial/industrial building space. In 1998, the California legislature passed Senate Bill (SB) 50, that amended Government Code Section 65995 in 1998. Under the provisions of SB 50, schools can collect fees to offset costs associated with increasing school capacity as a result of development. The development associated with the Plan would be subject to applicable fees determined by the local school districts per California Government Code Section 65995. The local school districts determine fees in accordance with California Government Code Section 65995, which can be adjusted every two years. The California Government Code establishes three types of school fees for developers, which are commonly referred to as the Level 1, Level 2 and Level 3 Fees.

Level 1 Fee. The Level 1 Fee is assessed if the school district can establish a reasonable relationship between the new development and the assessment of fees required to pay for facilities needed to accommodate future students (Section 66001).

Level 2 Fee. If state funding is available, the Level 2 Fee is assessed if a school district (i) makes a timely application to the State Allocation Board (“SAB”) for new construction funding, (ii) conducts a School Facility Needs Analysis, and (iii) satisfies at least two of the four requirements set forth in Section 65995.5(b)(3) (*e.g.*, district has “substantial enrollment” or has reached maximum bonding capacity) (Section 65995.5).

Level 3 Fee. If state funding is no longer available, the Level 3 Fee can be assessed, thereby allowing a school district to impose a developer fee up to 100 percent of the School Facility Program new construction project costs (Section 65995.7).

Leroy F. Green School Facilities Act of 1998

The Leroy F. Greene School Facilities Act of 1998 (Chapter 12.5 of the Education Code), was signed into law on August 27, 1998. It placed a \$9.2 billion state bond measure (Proposition 1A), which included grants for modernization of existing schools and construction of new schools, on ballot at the November 3, 1998, election. Under SB 50, a program for funding school facilities largely based on matching funds was created. Its construction grant provides funding on a 50/50 state and local match basis, while its modernization grant provides funding on a 60/40 basis. Districts that are unable to provide some, or all, of the local match requirement and area able to meet the financial hardship provisions may be eligible for additional state funding.¹⁶ In addition, SB 50 allows governing boards of school districts to establish fees to offset costs associated with school facilities made necessary by new construction. Pursuant to Government Code Section 65995, the payment of these fees by a developer serves to fully mitigate all potential project impacts on school facilities from implementation of a project to less than significant levels.

¹⁶ State of California, Office of Public School Construction. Accessed 21 September 2015. *School Facility Program Handbook*. Available from: http://www.documents.dgs.ca.gov/OPSC/Publications/Handbooks/SFP_Hdbk.pdf

California Fire Code

Title 24, Part 9 of the California Code of Regulations (CCR) is the California Fire Code. Title 24, Part 9 of the CCR sets forth regulations regarding building standards, fire protection and notification systems, fire protection devices such as fire extinguishers and smoke alarms, high-rise building standards, and fire suppression training. The 2007 California Fire Code is the incorporation of the 2006 International Fire Code of the International Code Council with necessary California amendments. Development under the Plan would be subject to applicable regulations of the California Fire Code.

Local

County and City General Plan Safety Element and Public Services and Facilities Element

In addition to federal and state regulations, cities and counties in the SCAG region may also provide regulatory protection and advisement regarding public services. California law requires that a general plan include seven elements (land use, open space, conservation, housing, circulation, noise, and safety). Many jurisdictions incorporate policies related to public services into the Safety Element. Other jurisdictions choose to prepare a separate (optional) element dealing with public services and facilities issues.

California Code of Regulation Section 65302(g) specifically provides that a city may adopt the county's safety element if the county's element "is sufficiently detailed containing appropriate policies and programs for adoption by a city." the safety element must include methods to reduce the potential risk of fires, floods, earthquakes, landslides, and other hazards. Other locally relevant safety issues, such as emergency response, hazardous materials spills, and crime reduction, may also be included. Some local jurisdictions have also incorporated their hazardous waste management plans into their safety elements. In addition, the safety element may be used to establish programs and policies that promote neighborhood, institutional, governmental, and business safety. The safety element must identify and map urban fringe and rural-residential areas that are prone to wildfires, adequate evacuation routes and peak load water supplies to reduce fire hazards. The policies of the safety element form the basis of adopted fire safe ordinances and strategic fire defense system zoning. Several jurisdictions have also adopted a Public Services and Facilities Element that establishes goals, objectives, policies and standards for public services and utilities, including emergency response standards.

The safety elements and public services and facilities elements of the county general plans within the six-county SCAG region establish the following fire protection service and police protection service standards at a County level:

Imperial County

Fire Response Standards: The Imperial County General Plan does not establish fire response standards for unincorporated areas.¹⁷ Incorporated cities within Imperial County have established fire response

¹⁷ County of Imperial Planning/Building Department. Accessed 11 September 2015. *General Plan: Seismic and Public Safety Element*. Available at: <http://www.icpds.com/?pid=837>

standards. For instance, the City of El Centro's standard fire response time is approximately 7 to 10 minutes for emergencies and 10 to 15 minutes for non-emergencies.¹⁸

Police Response Standards: The Imperial County General Plan does not establish police response standards for unincorporated areas.¹⁹ Incorporated cities within Imperial County have established police response standards. For instance, the El Centro Police Department's goal is to have 1.75 police officers per 1,000 population.²⁰

Los Angeles County

Fire Response Standards: According to the Safety Element of the Santa Clarita Valley Area Plan, the Los Angeles County Fire Department (LACFD) has adopted a goal of responding to calls in urban areas within five minutes, in suburban areas within eight minutes, and in rural areas within 12 minutes (Policy S-3.3.1).²¹ Incorporated cities within Los Angeles County have also established fire response standards.

Police Response Standards: To effectively and efficiently fulfill all of its functions, the Fire Department requires a staff level of one deputy sheriff per each 1,000 population.²² According to the Safety Element of the Santa Clarita Valley Area Plan, the County Sheriff's Department strives to maintain one officer per 1,000 people. Incorporated cities within Los Angeles County have also established police response standards.

Orange County

Fire Response Standards: In accordance with the Insurance Services Office (ISO) suggested standards, ultimate fire protection rating shall be maintained by General Plan land use categories as follows: (1) ISO 3 for all urban developments including Residential (1C and 1B), Commercial (2A and 2B), Employment (3.0) and Public Facilities (4.0) which are within 5 miles from a fire station and less than 1,000 feet from a hydrant; and (2) ISO 4 for Rural Residential (1A) which are within 5 miles from a fire station and less than 100 feet from a hydrant. For areas greater than 5 miles or 1,000 feet, the ISO suggested standard is 9. Fire/paramedic facilities shall be sited in locations so as to assure efficient fire rescue and paramedic response for the service area. General criteria for site selection shall include:²³

- (a) Call response time: for 80 percent of the service area, first fire engine to reach the emergency scene within 5 minutes and paramedic to reach the scene within 8 minutes.

¹⁸ City of El Centro. Accessed 21 September 2015. *El Centro General Plan: Safety Element*. Available at: <http://www.cityofelcentro.org/userfiles/file/SafetyElement.pdf>

¹⁹ County of Imperial Planning/Building Department. Accessed 11 September 2015. *General Plan: Seismic and Public Safety Element*. Available at: <http://www.icpds.com/?pid=837>

²⁰ City of El Centro. Accessed 21 September 2015. *El Centro General Plan: Safety Element*. Available at: <http://www.cityofelcentro.org/userfiles/file/SafetyElement.pdf>

²¹ Los Angeles County. Accessed 21 September 2015. *Santa Clarita Valley Area Plan, 2012*. Available at: http://planning.lacounty.gov/assets/upl/data/pd_santa-clarita-area-plan-2012.pdf

²² County of Los Angeles Department of Regional Planning. March 2015. *Public Review Draft: March 2015*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_draft-march2015.pdf

²³ OC Development Services. Accessed 21 September 2015. *Orange County General Plan: Chapter V. Public Services & Facilities Element*. Available at: <http://ocplanning.net/civicax/filebank/blobload.aspx?blobid=8639>

- (b) Land use compatibility: stations shall be located in commercial or industrial, or open space zones in order to avoid disturbance to residential areas wherever possible.
- (c) Street access: stations shall be located adjacent to arterial highways with controlled traffic signalization

Incorporated cities within Orange County have also established fire response standards.

Police Response Standards: The adequacy of Sheriff service for land use proposals is determined through the Environmental Impact Report (EIR), Fiscal Impact Report (FIR), and Annual Monitoring Report (AMR) review processes.²⁴ Incorporated cities within Orange County have also established police response standards.

Riverside County

Fire Response Standards: According to the Riverside County Fire Department Strategic Plan 2009-2029, the Riverside County Fire Department considers National Fire Protection Association (NFPA) Standard 1710 as a guideline for fire station location methodology, which calls for an engine company within 4:00 minutes of travel time to fire incidents and EMS calls, and a full first-alarm group within 8:00 minutes, all for a minimum of 90 percent of annual incidents.²⁵ Incorporated cities within Riverside County have also established fire response standards. For instance, in the City of Corona, the targeted level of service is a 5-minute or less response time (General Plan Policy 9.2.1).²⁶

Police Response Standards: The Riverside County Sheriff's Department has established a goal of maintaining 1.5 sworn officers per 1,000 population, as recommended by the ICMA (Riverside County Integrated Project (RCIP)).^{27,28} According to EIR No. 441 for the 2003 RCIP General Plan, the Riverside County Sheriff's Department has established the following criteria for its staffing requirements in unincorporated areas of Riverside County:²⁹

- One sworn officer per 1,000 population (Mitigation Measure 4.15.C for EIR No. 441 specifies the use of a 1.5-officer per 1,000 population standard for new development mitigation purposes)

²⁴ OC Development Services. Accessed 21 September 2015. *Orange County General Plan: Chapter V. Public Services & Facilities Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=8639>

²⁵ Management Partners, Incorporated. Accessed 21 September 2015. *Riverside County Fire Department Strategic Plan 2009-2029*. Available at: <http://www.rvcfire.org/stationsAndFunctions/AdminSppt/StrategicPlanning/Documents/StrategicPlan2009.pdf>

²⁶ City of Corona. Accessed 21 September 2015. *City of Corona General Plan*. Available at: <http://www.discovercorona.com/CityOfCorona/media/Media/CommunityDevelopment/GeneralPlan/GenPlan.pdf>

²⁷ ESA. Accessed 21 September 2015. *Devers-Mirage 115 kV Subtransmission System Split Project (A.08-01-029) Draft Environmental Impact Report*. Available at: http://www.cpuc.ca.gov/Environment/info/esa/devers-mirage/deir/ch4_13_public_services.pdf

²⁸ Riverside County Integrated Project. Accessed 21 September 2015. *General Plan Final Program Environmental Impact Report*. State Clearinghouse No. 2002051143. Available at: <http://planning.rctlma.org/Portals/0/genplan/content/eir/volume1.html>

²⁹ County of Riverside. Accessed 21 September 2015. *County of Riverside Environmental Impact Report No. 521: Public Review Draft*. Section 4.17: Public Facilities. Available at: http://planning.rctlma.org/Portals/0/genplan/general_plan_2014/EnvironmentalImpactReport/04-17_PublicFacilities_2014-04-07.pdf

- One supervisor and one support staff employee per seven officers
- One patrol vehicle per three sworn officers
- One school resource officer per school

Incorporated cities within Riverside County have also established police response standards. For instance, the City of Riverside endeavors to provide minimum response times of seven minutes on all Priority 1 calls and 12 minutes on all Priority 2 calls (Policy PS-7.5).³⁰

San Bernardino County

Fire Response Standards: The San Bernardino County General Plan does not establish fire response standards for unincorporated areas.³¹ Incorporated cities within San Bernardino County have established fire response standards. For instance, the City of Victorville has established a goal to have the first on scene unit arrive within five minutes.³²

Police Response Standards: The San Bernardino County General Plan does not establish police response standards for unincorporated areas.³³ Incorporated cities within San Bernardino County have established police response standards.

Ventura County

Fire Response Standards: The Ventura County Fire Protection District's goal is to maintain an average emergency response time under five minutes in urban areas and under seven minutes in rural areas.³⁴ Incorporated cities within Ventura County have also established fire response standards. For instance, the City of Fillmore has established a desired ratio of 1.5 firefighters per 1,000 population.³⁵

Police Response Standards: The Ventura County General Plan does not establish police response standards for unincorporated areas.³⁶ Incorporated cities within Ventura County have established police

³⁰ City of Riverside. Accessed 21 September 2015. *Riverside General Plan 2025: Public Safety Element*. Available at: http://www.riversideca.gov/planning/gp2025program/GP/10_Public_Safety_Element.pdf

³¹ County of San Bernardino Land Use Services Division. Accessed 21 September 2015. *County of San Bernardino 2007 General Plan*. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

³² City of Victorville. Accessed 21 September 2015. *City of Victorville General Plan 2030*. Available at: <http://www.ci.victorville.ca.us/uploadedFiles/CityDepartments/Development/GeneralPlan.pdf>

³³ County of San Bernardino Land Use Services Division. Accessed 21 September 2015. *County of San Bernardino 2007 General Plan*. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

³⁴ Ventura County Planning Division. Accessed 21 September 2015. *Ventura County General Plan: Public Facilities & Services Appendix*. Available at: http://www.ventura.org/rma/planning/pdf/plans/GENERAL_PLAN_Public_Facilities_and_Services_Appendix_May_8_%202007_edition.pdf

³⁵ City of Fillmore, California. Accessed 21 September 2015. *General Plan 1988-2010 – Chapter VII: Public Facilities Element*. Available at: <http://www.fillmoreca.com/docs/gpu9.pdf>

³⁶ Ventura County Planning Division. Accessed 21 September 2015. *Ventura County General Plan: Public Facilities & Services Appendix*. Available at: http://www.ventura.org/rma/planning/pdf/plans/GENERAL_PLAN_Public_Facilities_and_Services_Appendix_May_8_%202007_edition.pdf

response standards. For instance, the City of Fillmore has established a desired level of one patrol officer per 1,000 population.³⁷

Local planning policies related to education services are established in each jurisdiction's general plan, usually in a Public Services Element. In general, jurisdictions have policies in place that state that public services must be provided at the same time (or in advance of) need for that service. In addition to these general policies, jurisdictions may have more specific policies tailored to performance objectives, as well as development fees.

3.15.2 EXISTING CONDITIONS

Fire Protection Services

Fire protection within the SCAG region includes a variety of federal, state, county, city, and other local fire protection agencies. Primary fire protection services occur at the community level, with city and county fire departments and fire protection districts providing this service. Also serving are a variety of volunteer fire companies. In addition, fire protection agencies provide fire protection services within state and federal lands. These agencies include, but are not limited to, federal fire agencies (Bureau of Land Management, National Park Service, National Forest Service, Department of Defense, etc.), state forestry department (CAL FIRE), tribal fire departments, airport and harbor fire departments, and in some instances business-sponsored fire departments (i.e., refineries, etc.).

Each agency provides fire services within its own area of responsibilities, but each can call upon other agencies for fire support through mutual aid agreements. Generally, fire departments take proactive and preventative measures to provide fire suppression and emergency response services for all private, institutional, and public facilities within their area of responsibility. There are over 100 county, city, or other independent fire entities that provide emergency response services in the SCAG region (Table 3.15.2-1, *Fire Protection Service Providers for Jurisdictions within SCAG Counties*). County service is for both unincorporated areas, cities that contract with the county for fire protection service and independent fire protection districts.

Within the SCAG region, fire response standards range from a 5-minute or less emergency response time in urban areas to a 12-minute response time in rural Los Angeles County.^{38,39}

³⁷ City of Fillmore, California. Accessed 21 September 2015. *General Plan 1988-2010 – Chapter VII: Public Facilities Element*. Available at: <http://www.fillmoreca.com/docs/gpu9.pdf>

³⁸ City of Corona. Accessed 21 September 2015. *City of Corona General Plan*. Available at: <http://www.discovercorona.com/CityOfCorona/media/Media/CommunityDevelopment/GeneralPlan/GenPlan.pdf>

³⁹ Los Angeles County. Accessed 21 September 2015. *Santa Clarita Valley Area Plan, 2012*. Available at: http://planning.lacounty.gov/assets/upl/data/pd_santa-clarita-area-plan-2012.pdf

**TABLE 3.15.2-1
FIRE PROTECTION SERVICE PROVIDERS FOR JURISDICTIONS WITHIN SCAG COUNTIES**

County	Jurisdictions Served By		
	County Fire Department	City Fire Department	Fire Protection Districts or Other Independent Fire Agencies
Imperial	2	6	3
Los Angeles	59	30	1
Orange	24	11	1
Riverside	20	7	4
San Bernardino	7	18	15*
Ventura	7	4	—

NOTE:

*2012 data.

Numbers do not include various federal, State, and specialty fire departments, such as Bureau of Land Management, National Park Service, Department of Defense, California Forestry Department (wild lands), private or public airport fire departments, business fire departments (i.e., refineries, Indian Tribal lands, etc.) that might aid county, city, and independent fire departments through mutual aid agreements, and vice versa. Includes cities and unincorporated county areas served by county fire departments/authority. Some districts service city and adjoining unincorporated areas. Five cities (Apple Valley, Barstow, Chino, Chino Hills, 29 Palms) served by independent fire protection districts. City of La Habra served by Los Angeles County Fire Department.

SOURCE:

Imperial County Fire Department. Accessed 11 May 2015. Website. Available at: http://www.co.imperial.ca.us/fire/01-05-15_006.htm May 11, 2015.

Los Angeles County Fire Department. Accessed 10 July 2015. Website. Available at: https://www.fire.lacounty.gov/wp-content/uploads/2014/02/LACFD_Strategic-Plan_2012_web.pdf

Orange County Fire Authority Accessed 10 July 2015. Website. Available at: <http://ocgov.com/residents/law/safety/fire>

Riverside County Fire Department. Accessed 10 July 2015. Website. Available at:

<http://www.rvcfire.org/stationsAndFunctions/AdminSppt/StrategicPlanning/Documents/StrategicPlan2009.pdf>

Riverside County Fire Department. Accessed 10 July 2015. Website. Available at:

<http://www.rvcfire.org/ourDepartment/ServiceArea/Pages/default.aspx>

Riverside County Fire Department. Accessed 10 July 2015. Website. Available at:

<http://www.rvcfire.org/affiliationsAndLinks/OtherFDAgencies>

San Bernardino County Fire Department. Accessed 10 July 2015. Website. Available at:

<http://www.sbcfire.org/admin/AnnualReports.aspx>

City of San Bernardino Fire Department. Accessed 11 May 2015. Website. Available at:

http://sbcity.org/cityhall/fire/sbfd_facts.asp

Ventura County Fire Department. Accessed 11 May 2015. Website. Available at:

<http://fire.countyofventura.org/AboutVCFD/tabid/60/Default.aspx>

Local Agency Formation Commission of Los Angeles County. Accessed 10 July 2015. Website. Available at:

http://www.lalafco.org/index.php?option=com_content&view=article&id=81&Itemid=200

FireDepartment.net. Accessed 20 July 2015. Website. Available at:

<http://www.firedepartment.net/directory/california/imperial-county>

In 2014, CAL FIRE employed 2,400 seasonal firefighters, 2,750 local government volunteer firefighters, and 4,300 inmates and wards that provided 196 fire crews to fight fires throughout the state.⁴⁰ Within the SCAG region, county fire departments staffed over 6,000 firefighters in 2014,⁴¹ including 2,861

⁴⁰ California Department of Forestry and Fire Protection (CAL FIRE). Accessed 21 September 2015. *CAL FIRE Fire and Emergency Response*. Available at: http://calfire.ca.gov/communications/downloads/fact_sheets/FireandEmergencyResponse.pdf

⁴¹ Note: annual data not available for Imperial County Fire Department, which requires at least 62 firefighters on-staff – Source: Imperial County Fire Department & Office of Emergency Services. Accessed 17 September 2015. *Imperial County Fire Department Organizational Chart*. Available at: http://www.co.imperial.ca.us/fire/icfd_webpage_8-4-15_003.htm

firefighters trained in infectious disease response in the Los Angeles County Fire Department,⁴² 1,011 Orange County Fire Authority firefighters,⁴³ 1,160 career firefighters and 250 volunteer reserve firefighters in the Riverside County Fire Department,⁴⁴ 639 San Bernardino County Fire Department fire suppression personnel,⁴⁵ and 383 Ventura County Fire Protection District safety personnel.⁴⁶ Within the large city of Los Angeles (471-square-mile jurisdiction), a total of 1,018 uniformed firefighters (including 270 serving as firefighters/paramedics), are always on duty at fire department facilities citywide.⁴⁷ In comparison, the City of Riverside Fire Department employs 211 full-time firefighters over a primary response area of over 81 square miles.⁴⁸

Police Protection Services

Law enforcement within the SCAG region takes into account a variety of federal, state, county, city, and other local law enforcement agencies (Table 3.15.2-2, *Police Service Providers for Jurisdictions within SCAG Counties*). As with fire protection services, primary law enforcement is at the community level, with city police and sheriff's departments providing this service. Additionally, there are more specialized law enforcement agencies that assist in law enforcement at the community or resource level in the SCAG region. These specialized agencies include, but are not limited to, CHP, school police, airport and harbor police, transit police, tribal police, park rangers (federal, state, county, and city), and a wide variety of federal agencies (FBI, ATF, etc.). Each agency has its own responsibilities, some of which may overlap with other law enforcement agencies. State park rangers may call upon sheriff's deputies for assistance. Transit police might call upon city police to aid them. In general, law enforcement agencies provide first response to all emergencies, perform preliminary investigations, and provide basic patrol services in their service area. County service is for both unincorporated areas and cities that contract with the county for law enforcement services.

Within the SCAG region, police response standards range from 1 sworn officer per 1,000 population to 1.75 sworn officers per 1,000 population.^{49,50}

⁴² Los Angeles County Fire Department. Accessed 17 September 2015. *Strategic Plan Annual Report 2012-2014*. Available at: http://www.fire.lacounty.gov/wp-content/uploads/2015/05/LACFD-Annual-Report_2014_R7.pdf

⁴³ Orange County Fire Authority. Accessed 17 September 2015. *2014 Statistical Annual Report*. Available at: <http://www.ocfa.org/Uploads/Transparency/OCFA%20Annual%20Report%202014.pdf>

⁴⁴ Riverside County Fire Department in Cooperation with CAL FIRE. Accessed 17 September 2015. *2014 Annual Report*. Available at: <http://www.rvcfire.org/ourDepartment/PIOEducation/Documents/2014%20AR.pdf>

⁴⁵ San Bernardino County Fire. Accessed 17 September 2015. *Annual Report: July 2014-June 2015*. Available at: <http://www.sbcfire.org/admin/AnnualReports.aspx>

⁴⁶ Ventura County Fire Protection District. Accessed 17 September 2015. *2014 Annual Report*. Available at: <http://fire.countyofventura.org/AboutVCFD/AnnualReports/tabid/83/Default.aspx>

⁴⁷ Los Angeles Fire Department. Accessed 17 September 2015. *Welcome to the Los Angeles Fire Department: LAFD Overview*. Available at: <http://www.lafd.org/about/lafd-overview>

⁴⁸ City of Riverside. Accessed 17 September 2015. *Fire Department: Operations*. Available at: <https://www.riversideca.gov/fire/operations.asp>

⁴⁹ City of El Centro. Accessed 21 September 2015. *El Centro General Plan: Safety Element*. Available at: <http://www.cityofelcentro.org/userfiles/file/SafetyElement.pdf>

⁵⁰ County of Los Angeles Department of Regional Planning. March 2015. *Public Review Draft: March 2015*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_draft-march2015.pdf

**TABLE 3.15.2-2
POLICE SERVICE PROVIDERS FOR JURISDICTIONS WITHIN SCAG COUNTIES**

County	County Sheriff's Department	City Police Department
Imperial	1	7
Los Angeles	43	46
Orange	14	21
Riverside	18	11
San Bernardino	14	10
Ventura	6	5

NOTE:

Includes cities and unincorporated county areas served by county sheriff's departments. Includes cities that contract with other cities for police services (i.e., Santa Fe Springs with Whittier, etc.). Does not include specialty police agencies such as school districts, airports, ports, etc.

SOURCE:

Los Angeles County Chief Executive Office. Accessed 10 July 2015. Website. Available at:

<http://ceo.lacounty.gov/IGR/PDF/ccs.pdf>

Orange County Sheriff's Department. Accessed 11 May 2015. Website. Available at: <http://ocsd.org/patrol>

Riverside County Sheriff's Department. Accessed 10 July 2015. Website. Available at:

<http://www.riversidesheriff.org/department/>

San Bernardino County. Accessed 10 July 2015. Website. Available at:

http://www.sbcounty.gov/Uploads/CAO/Budget/2012-2013-0/County/Recommended/2012-13-0-Coun/LawandJustice/CountyTrialCou/SheriffCoroner/Sheriff_-_Law_Enforcement_Contract.pdf

Ventura County Sheriff's Department. Accessed 11 May 2015. Website. Available at: <http://www.vcsd.org/overview.php>

Schools

Although the California public school system is subject to state requirements, the California Department of Education relies on local control for the management of school districts. In allocating resources among the schools of the district, school district governing boards and district administrators must follow the law, but also set the educational priorities for their schools. As of the 2014–2015 school year, there were more than 1,000 school districts in California.

According to the California Department of Education, there are approximately 3.1 million students enrolled in schools in the SCAG region, ranging from kindergarten to 12th grade, with approximately 138,000 teachers (Table 3.15.2-3, *Kindergarten through Grade 12 Enrollment and Teachers in the SCAG Region for the 2014–2015 School Year*).⁵¹ The number of K–12 school districts range from a low of 17 in Imperial County to a high of 89 in Los Angeles County, with a corresponding range of school from a low of 67 in Imperial County to over 2,000 in Los Angeles County (Table 3.15.2-4, *Public and Private Schools in the SCAG Region*). Three counties have University of California campuses, and all but one county have one or more California State University campuses (Table 3.15.2-4).

⁵¹ California Department of Education, Educational Demographics Unit. Accessed 26 August 2015. *Enrollment in California public schools by county 2014–2015 [Data Query] and Number of teachers in California public schools by county 2014–2015 [Data Query]*. Available at: <http://dq.cde.ca.gov/dataquest/>

**TABLE 3.15.2-3
KINDERGARTEN THROUGH GRADE 12 ENROLLMENT AND TEACHERS IN THE SCAG REGION
FOR THE 2014–2015 SCHOOL YEAR**

County	Enrollment K–12	Teachers
Imperial	37,192	1,686
Los Angeles	1,539,260	72,393
Orange	497,116	20,926
Riverside	425,883	18,245
San Bernardino	410,696	18,411
Ventura	141,899	6,562
SCAG Region	3,052,046	138,223
California	6,235,520	295,025

SOURCE:

California Department of Education, Educational Demographics Unit. Accessed 26 August 2015. Enrollment in California public schools by county 2014-2015 [Data Query] and Number of teachers in California public schools by county 2014-2015 [Data Query]. Available at: <http://dq.cde.ca.gov/dataquest/>

**TABLE 3.15.2-4
PUBLIC AND PRIVATE SCHOOLS IN THE SCAG REGION**

County	Public Schools				UC System ⁵	Cal State System ⁶	Private Schools (Active) ⁷	
	K–12 ^{1,2}		Community College ^{3,4}				K–12	College
	Districts	Schools	Districts	Schools				
Imperial	17	67	1	1	—	—	5	—
Los Angeles	89	2,274	11	21	1	5	265	61
Orange	29	605	4	9	1	1	158	25
Riverside	25	500	4	6	1	—	89	5
San Bernardino	34	561	5	6	—	1	81	9
Ventura	22	231	1	3	—	1	34	4
Total	216	4,238	22	46	3	8	632	104

SOURCE:

¹ California Department of Education. Accessed 13 May 2015. DataQuest. Available at: <http://dq.cde.ca.gov/dataquest/content.asp>

² California Department of Education. Accessed 13 May 2015. School Directory. Available at: <http://www.cde.ca.gov/re/sd/index.asp>

³ Los Angeles Almanac. Accessed 13 May 2015. *Directory of Public Community Colleges, Los Angeles County*. Available at <http://www.laalmanac.com/education/ed38.htm>

⁴ California Community Colleges Chancellor's Office. Accessed 13 May 2015. *Find a Community College*. Available at: <http://californiacommunitycolleges.cccco.edu/maps/map.asp>

⁵ University of California. Accessed 13 May 2015. Website. Available at: <http://www.universityofcalifornia.edu/campuses/welcome.html>

⁶ California State University. Accessed 13 May 2015. *The 23 Outstanding Campuses of the CSU*. Available at: http://www.calstate.edu/datastore/campus_map.pdf

⁷ Findthebest.com, Inc. Accessed 30 June 2015. *Compare Private Colleges in California*. Available at: <http://colleges.startclass.com/d/b/Private/California>

Other Public Service Agencies Engaged in Emergency Preparedness and Security

Federal

FEMA

The six counties of the SCAG region are within FEMA Region IX, which covers the American Samoa territory; the states of Arizona, California, Hawaii, and Nevada; Guam; the Commonwealth of the Marianas Islands; the Federated States of Micronesia; and the Republic of the Marshall Islands. FEMA has 10 regional offices, each headed by a regional administrator. The regional office for Region IX is in Oakland, California. In Southern California, FEMA Region IX specifically plans for hazards such as major earthquakes and wildfires. Each of FEMA's regional offices maintains a Regional Response Coordination Center (RRCC). When activated, RRCCs are multiagency coordination centers generally staffed by ESFs in anticipation of or immediately following an incident. Operating under the direction of the FEMA regional administrator, the staff within the RRCCs coordinates federal regional response efforts and maintains connectivity with FEMA headquarters and with state EOCs, state and major urban area fusion centers, federal executive boards, and other federal and state operations and coordination centers that potentially contribute to the development of situational awareness. The Unified Coordination Group (UCG) assumes responsibility for coordinating federal response activities at the incident level once unified coordination is established, freeing the RRCC to deal with new incidents should they occur.⁵²

TSA

TSA responsibilities in the SCAG region are focused on protection of people and commerce, including deployment at the 57 airports in the SCAG region.

NIMS

The SCAG region is under the jurisdiction of Region IX: Oakland.⁵³ The State of California adopted NIMS in 2005 by Executive Order S-2-05, and all the Counties and most of the tribes and cities in the SCAG region are involved in NIMS through the Offices of Emergency Services/Offices of Emergency Management.⁵⁴

United States Coast Guard

The Eleventh Coast Guard District encompasses the states of California, Arizona, Nevada, and Utah, the coastal offshore waters, and the offshore waters of Mexico and Central America down to South America.⁵⁵ The Eleventh District now includes 48 units and employs 2,600 active duty, reserve, and

⁵² Federal Emergency Management Agency, U.S. Department of Homeland Security. February 2011. *FEMA National Incident Support Manual*. Available at: http://www.fema.gov/media-library-data/20130726-1821-25045-8641/fema_national_incident_support_manual_03_23_2011.pdf

⁵³ Federal Emergency Management Agency, U.S. Department of Homeland Security. Accessed 21 September 2015. *FEMA Regional NIMS Contacts*. Available at: <http://www.fema.gov/fema-regional-nims-contacts#>

⁵⁴ State of California. Accessed 21 September 2015. *2015 NIMS Update*. Available at: <http://www.caloes.ca.gov/cal-oes-divisions/planning-preparedness/national-incident-management-system>

⁵⁵ U.S. Department of Homeland Security, United States Coast Guard. Accessed 14 September 2015. *Eleventh Coast Guard District*. Available at: <http://www.uscg.mil/D11/>

civilian employees. These resources carry out Search and Rescue, Homeland Security, Law Enforcement, Marine Safety, and Aids to Navigation missions over 3.3 million square miles of water. The Coast Guard has assumed a dynamic role in protecting the District's major ports, which include two Tier One ports in the SCAG region: Los Angeles and Long Beach.

State

California Department of Transportation (Caltrans)

The SCAG region is located within the jurisdiction of Caltrans Districts 7 (Los Angeles and Ventura counties), 8 (Riverside and San Bernardino counties), 11 (Imperial County), and 12 (Orange County). Caltrans, in conjunction with the California Highway Patrol (CHP), has TMCs to rapidly detect and respond to incidents while managing the resulting congestion. With the help of intelligent transportation system technologies, such as electronic sensors in the pavement, freeway call boxes, video cameras, ramp meter sensors, earthquake monitors, motorist cellular calls, and commercial traffic reports; as well as Caltrans highway crews, 911 calls and officers on patrol, the TMC provides coordinated transportation management for general commutes, special events and incidents affecting traffic. The TMCs are operated within each Caltrans district. For the SCAG region, Districts 7, 8, 11, and 12 all have TMCs.

Local

County Offices of Emergency Services

Counties and cities are generally the first responders to any security or emergency situation. These responders include fire departments, police and sheriff department, hospitals, ambulance services and transportation agencies. Coordination among public and private agencies within various cities and counties make the most use of all available resources in the event of any emergency.

While each city and county has its own security procedures, the policies are generally similar. Mutual Aid agreements between cities, counties, and private organizations help to maximize resources and reduce the human suffering associated with disaster situations. Each SCAG county has a department in charge of security and emergency response (Table 3.15.2-5, *County Offices of Emergency Services*).

**TABLE 3.15.2-5
COUNTY OFFICES OF EMERGENCY SERVICES**

County	Office Information	County	Office Information
Imperial ¹	Office of Emergency Services 1078 Dogwood Road Heber, CA 92249 (760) 482-2400 rosahernandez@co.imperial.ca.us	Riverside ⁴	Office of Emergency Services (951) 955-4700 (951) 955-4700
Los Angeles ²	Office of Emergency Management Phone: (323) 980-2260 Fax: (323) 881-6897	San Bernardino ⁵	Office of Emergency Services 1743 Miro Way Rialto, CA 92376 Phone: (909) 356-3998 Fax: (909) 356-3965
Orange ³	Emergency Operations Center 2644 Santiago Canyon Road Silverado, CA 92676 (714) 628-7054 OAdmin@ocsd.org	Ventura ⁶	Ventura County Sheriff's Office of Emergency Services 800 South Victoria Ave. #L3450 Ventura, CA 93009 (805) 654-2551

SOURCE:

¹ Imperial County. Accessed 23 October 2015. *Imperial County Fire Department & Office of Emergency Services Est. 1963*. Available at: http://www.co.imperial.ca.us/fire/01-05-15_007.htm

² Los Angeles County Chief Executive Office. Accessed 23 October 2015. *Contact Us: County of Los Angeles Chief Executive Office, Office of Emergency Management*. Available at: <http://lacoa.org/contactus.htm>

³ Orange County Sheriff's Department, CA. Accessed 23 October 2015. Available at: <http://ocsd.org/divisions/fieldops/emb/contact>

⁴ Riverside County Fire Department. Accessed 23 October 2015. *Contact Us*. Available at: <http://www.rvcfire.org/Pages/ContactUs.aspx>

⁵ San Bernardino County Fire. Accessed 23 October 2015. *Office of Emergency Services: Contacts/Directory*. Available at: <http://www.sbcfire.org/oes/contacts.aspx>

⁶ Ventura County Sheriff's Office. Accessed 23 October 2015. *Office of Emergency Services*. Available at: <http://www.vcsd.org/oes.php>

3.15.3 THRESHOLDS OF SIGNIFICANCE

The potential for the 2016 RTP/SCS to result in impacts related to public services was analyzed in relation to the question contained in Appendix G of the State CEQA Guidelines. The Plan would normally be considered to have a significant impact related to public services if it would:

- Cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:
 - Fire protection and emergency response
 - Public protective security
 - Schools
 - Parks (see Section 3.16, *Recreation*)

Methodology

The 2016 RTP/SCS includes coordinated regional strategies for transportation investments and land use and related development that are aimed to increase mobility, promote sustainability, and improve the regional economy, consistent with project population growth. The Regional Travel Demand Model (RTDM) used for this analysis captures pass-through traffic that does not have an origin or destination in the region, but does impact the region, so that too is included in the project analysis. Although development is anticipated to occur within the region even without the 2016 RTP/SCS, this Plan includes regional land use growth policies and strategies that would likely influence growth distribution patterns throughout the region. To address this, the analysis in the PEIR covers overall impacts of transportation projects and land development strategies described in the 2016 RTP/SCS. In addition, this PEIR considers cumulative impacts from other local projects (e.g., development projects that have been approved, or included in the policy growth forecast provided by member agencies in the SCAG region, which could result in additional impacts inside and outside the region. The methodology for determining the significance of public services impacts compares the existing conditions to future (2040) conditions, as required in CEQA Section 15126.2(a). This analysis evaluates the potential for significant impacts of the 2016 RTP/SCS to public services in accordance with Appendix G of the State CEQA Guidelines and guidelines established by federal and state public agencies; Ventura, Los Angeles, Orange, San Bernardino, Riverside, and Imperial Counties; and major cities within the SCAG region.

The analysis evaluates fire protection facilities, police facilities, educational facilities, and other public facilities that could be affected by the implementation of the projects, programs, and policies identified in the 2016 RTP/SCS. To assess potential impacts to public services within the SCAG region, a geographic information system (GIS) was used to analyze major highway, transit, and freight rail projects in the 2016 RTP/SCS. Land use patterns in the SCAG region were compared with the location of transportation projects included in the Plan and anticipated development resulted from land use strategies of the Plan to determine the degree of potential impact on population growth in existing urban, suburban, and other areas in the region. The results of the GIS analysis determined whether the Plan could directly affect service ratios, response times, or other performance objectives for public services in the SCAG region, requiring new or physically altered governmental facilities. Indirect impacts were evaluated based on the land use pattern assumptions that protected lands would remain protected and new growth would be focused in urbanized areas in high-quality transit areas (HQTAs) (near transit services), underdeveloped opportunity urban areas, suburban town centers .

Impacts to police, fire and emergency services were evaluated with SCAG policy growth forecast data related to projected population, housing, and employment growth⁵⁶ and available data on existing public services within the SCAG region. Impacts to public service facilities were evaluated with SCAG data related to projected population growth and available data on public services within the SCAG region. The methodology for determining the significance of these impacts applies the significance criteria above to the expected future (2040) demand for public service facilities and compares future demand with the Plan to the existing capacity.

⁵⁶ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

3.15.4 IMPACT ANALYSIS

IMPACT PS-1: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection and emergency response services.

Significant Impact

Implementation of the transportation projects and land use strategies reflected in the 2016 RTP/SCS would result in the potential to cause substantial physical impacts associated with the provision of new or physically altered fire stations that would be required to maintain acceptable service ratios and response time for fire protective services, constituting a significant impact. There are several types of transportation projects included within the 2016 RTP/SCS that, upon completion, would require different levels of fire protection and emergency response services. For instance, the improvements to, and increased use of, non-motorized transportation methods such as bicycle routes and associated facilities, are anticipated to require minimal amounts of additional fire protection and emergency response services for safety. In contrast, additional fire personnel would be needed to adequately respond to emergencies and routine calls, particularly on new or expanded transportation facilities. New light rail transit (LRT) and commuter rail routes/extensions in Los Angeles, Orange, Riverside, and San Bernardino counties, as well as other transit-related projects, would involve the construction of transit stations. These transit stations, upon completion, would require fire protection and emergency response services. Increased use of transit would involve an increased need for fire protection and emergency response services for protection and rescue services.

The 2016 RTP/SCS also includes land use strategies that might influence development patterns in the region for the next 25 years. The Plan's land use strategies focus new growth in HQTAs, existing suburban town centers and walkable, mixed-use communities. According to the Plan, focusing new growth in HQTAs is an important aspect of the proposed land use strategies. As described in **Section 2.0, Project Description**, the region is expected to add approximately 3.8 million new people, approximately 1.5 million new households, and approximately 2.4 million new jobs during the next 25 years. "While HQTAs account for only 3 percent of total land area in SCAG region, they are planned and project to accommodate [approximately] 46 percent of the region's future household growth, and 50 percent of the future employment growth."⁵⁷ Moreover, the transportation projects included in the Plan that involve transit, passenger rail, and active transportation are concentrated in urban and suburban areas, including Palm Springs, Riverside, San Bernardino, Anaheim, Irvine, the Los Angeles Basin, the San Gabriel Valley, the San Fernando Valley, Santa Clarita, Palmdale, and Lancaster. As these urban and suburban areas experience a potentially higher density in terms of a higher housing/job ratio and more densified, mixed-use development, additional fire protection and emergency response services would be required to meet emergency response standards. Such increased density in these

⁵⁷ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

areas would have the potential to exceed the capacity of existing fire stations to provide adequate response, thus requiring either the expansion of existing station to accommodate greater number of personnel or the construction of new stations, which are more strategically located stations, capable of reducing response time within a denser urban pattern of development. In addition, fire protection and emergency response services may need to be able to expand where development occurs in the wildland urban interface in response to increased wildfire risk.

Throughout the SCAG region, emergency service providers have historically accommodated increases in demand (with increased staff and facilities funded through general funds of each jurisdiction). New or expanded transportation facilities would have a potential to increase the demand for emergency personnel and facilities potentially without increasing funding or identifying new available funding sources, resulting in a potentially significant impact related to fire protection and emergency response services. Densified development in some areas of the region would potentially increase demand for fire protection and emergency response services. Frequently tax revenues associated with development pays for increased services, however, tax revenue is not always sufficient.

The 2016 RTP/SCS would potentially contribute to substantial adverse physical impacts associated with the provision of new or physically altered fire protection and emergency response facilities in order to maintain acceptable service ratios, requiring the consideration of mitigation measures.

IMPACT PS-2: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for public protective security services.

Significant Impact

Implementation of the transportation projects and land use strategies reflected in in the 2016 RTP/SCS would have a potential to cause substantial physical impacts associated with the provision of new or physically altered public protective security services (including sheriff, police, CHP, and OES) that would be required to maintain acceptable service ratios and response time for public protective security services, constituting a significant impact. DHS and TSA staff are generally deployed at transportation facilities; therefore, the 2016 RTP/SCS would not be expected to require new or expanded facilities beyond those developed as elements of the transportation projects.

However, there are several types of projects like new or expanded transportation projects included in the 2016 RTP/SCS that, upon completion, would require different levels of public protective security services. Additional police personnel would be needed to adequately respond to emergencies and routine calls, particularly on new or expanded transportation facilities. New LRT and commuter rail routes/extensions in Los Angeles, Orange, Riverside, and San Bernardino counties, as well as other transit-related projects, would involve the construction of new transit stations. These new transit stations, upon completion, would require public protective security services. In some cases, such as with Metro, the governing transit authority provides security as an element of the project, which would result in a less than significant impact to public protective security services. Moreover, one of the goals

of the 2016 RTP/SCS is to maximize mobility and accessibility for all people and goods in the region, and to accomplish that, the Plan includes transportation investments (e.g., “64 percent of total operations and maintenance” and “20 percent of capital investments” on transit),⁵⁸ and land use strategies to encourage more people to use transit services. These strategies would likely add new transit facilities and increase the use of existing and new transit, thereby resulting in an increased need for public protective security services for protection and rescue services. However, the improvements to, and increased use of, non-motorized transportation methods such as bicycle routes and associated transportation facilities, are anticipated to require minimal amounts of additional police and emergency services for security and safety.

The 2016 RTP/SCS also includes land use strategies that focus new growth in HQTAs, existing suburban town centers and encourage more walkable, mixed-use communities. According to the Plan, it is projected that approximately 46 percent of the new household growth and 50 percent of the new employment growth would be planned in HQTAs.⁵⁹ These HQTAs are concentrated in suburban and urban areas, including Palm Springs, Riverside, San Bernardino, Anaheim, Irvine, the Los Angeles Basin, the San Gabriel Valley, the San Fernando Valley, Santa Clarita, Palmdale, and Lancaster. As these suburban and urban areas experience more people working and living there, additional police services would be required. As a result, anticipated development patterns that are influenced by the land use strategies of the 2016 RTP/SCS would have a potential to result in additional needs for public protective security services, usually in direct proportion to densified environment.

The population in the SCAG region is anticipated to increase by approximately 3.8 million people over the next 25 years, with or without the Plan.^{60,61} Based on the police response standards within the SCAG region that range from 1 sworn officer per 1,000 population to 1.75 sworn officers per 1,000 population, the projected growth for 2040, and an assumption of current adequate staffing, the number of sworn officers needed within the SCAG region to maintain acceptable service ratios is anticipated to increase by approximately 3,500, ranging from approximately 58 new sworn officers in Imperial County to approximately 1,472 new sworn officers in Los Angeles County.⁶² The transportation projects and land use strategies in the 2016 RTP/SCS focus development in urbanized portions of the region, specifically in HQTAs and other existing infrastructure such as transit. As more people are interested in and choosing to live and work in HQTAs where there will be more compact, walkable, and bikeable communities, it is likely that a densified development would increase the demand for sworn officers. This would likely increase the staffing of sworn officers and create a potential need to construct new stations that would have the potential to result in physical alterations and related significant effects on the environment.

⁵⁸ Southern California Association of Governments. December 2015. *Draft 2016 RTP/SCS: Chapter 6*.

⁵⁹ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

⁶⁰ Southern California Association of Governments. Accessed 11 September 2015. *Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County*. Available at: <http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>

⁶¹ SCAG locally reviewed policy forecast model (as of October 5, 2015).

⁶² Southern California Association of Governments. Accessed 11 September 2015. *Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County*. Available at: <http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>

Throughout the SCAG region, emergency service providers have historically accommodated increases in demand (with increased staff and facilities funded through general funds of each jurisdiction). As analyzed above, new or expanded transportation facilities included in the 2016 RTP/SCS may increase the demand for emergency personnel and facilities potentially without increasing funding, resulting in a significant impact related to police protection services. Anticipated development patterns that would be influenced by land use strategies included in the 2016 RTP/SCS would also likely increase demand for public protective security services. Though tax revenues associated with development pays for increased services, tax revenue is not always sufficient.

Therefore, the 2016 RTP/SCS would potentially contribute to substantial adverse physical impacts associated with the provision of new or physically altered public protective security facilities in order to maintain acceptable service ratios, requiring the consideration of mitigation measures.

IMPACT PS-3: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for school services.

Significant Impact

Implementation of the transportation projects and land use strategies with the related development patterns reflected in the 2016 RTP/SCS would result in potential to cause substantial physical impacts associated with the provision of new or physically altered schools that would be required to maintain acceptable service ratios and response time for school services, constituting a significant effect. Population in the SCAG region is anticipated to increase by approximately 3.8 million people over the next 25 years, with or without the Plan.^{63,64} Based on the 2014–2015 enrollment of approximately 3.1 million students in the SCAG region (approximately 16.4 percent of an overall 2014 population of 18.5 million), and considering the projected growth scenario for 2040, the number of children enrolled in K–12 schools is anticipated to increase by approximately 589,000 students.⁶⁵ The land use strategies included in the 2016 RTP/SCS direct new growth to existing urbanized communities within the SCAG region. For example, as projected by the 2016 RTP/SCS, HQTAs are planned to accommodate 46 percent of the region's future household growth. It is anticipated that this increase in population and households in already existing communities and HQTAs would require construction or expansion of new schools in the region to accommodate the increased growth as well as densified development (e.g., more families living and/or working there). Therefore, the 2016 RTP/SCS would potentially contribute to substantial adverse physical impacts associated with the provision of new or physically altered school

⁶³ Southern California Association of Governments. Accessed 11 September 2015. *Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County*. Available at: <http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>

⁶⁴ SCAG locally reviewed policy forecast model (as of October 5, 2015)

⁶⁵ Southern California Association of Governments. Accessed 11 September 2015. *Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County*. Available at: <http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>

facilities in order to maintain acceptable service ratios, requiring the consideration of mitigation measures.

IMPACT PS-4: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for park services.

Parks are evaluated in Section 3.16, *Recreation*.

3.15.5 CUMULATIVE IMPACTS

Related projects considered within each county in combination with the 2016 RTP/SCS include development projects and the Mesquite Lake Specific Plan in Imperial County; development (including mixed-use) projects, the town of Centennial, the Newhall Ranch Specific Plan, the Northlake Specific Plan, and the City of Los Angeles' Mobility Plan 2035 in Los Angeles County; the Orange County Affordable Housing Implementation Program – Ranch Plan, development projects, airport and utility expansion projects, recreation projects, the Anaheim Canyon Specific Plan, and the expansion of the James A. Musick Jail in Orange County; development projects, the Riverside Community Hospital Specific Plan, the California Baptist University Specific Plan in Riverside County; the Glen Hellen Specific Plan and the Specific Plan for Hacienda at Fairview Valley in San Bernardino County; and new fire stations, utility expansion projects, and subdivision projects in Ventura County.

IMPACT PS-1: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services and emergency response.

Significant Cumulative Impact

The 2016 RTP/SCS would contribute to cumulative significant impacts in the region when considered with related projects in regard to fire protection and emergency response services because many areas already have insufficient fire protection and emergency response service, and implementation of the 2016 RTP/SCS would have the potential to further exacerbate existing needs and expanded needs from related projects. The related transportation projects and growth development patterns would also require the provision of new or physically altered governmental facilities to provide adequate fire response times in the vicinity of new development, resulting in a significant cumulative impact requiring the consideration of mitigation measures.

IMPACT PS-2: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for public protective security services.

Significant Cumulative Impact

The 2016 RTP/SCS would also contribute to cumulative significant impacts in the region when considered with related projects in the region in regard to public protective security services because implementation of the Plan would likely require the provision of new or physically altered governmental facilities to provide adequate public protective security service ratios in response to implementation of the transportation projects included in the Plan and growth development patterns for accommodating anticipated population growth that the region would face in the next 25 years. Many areas already have insufficient public protective security services, and implementation of the 2016 RTP/SCS would likely further exacerbate existing needs and expanded needs from related projects, resulting in a significant cumulative impact requiring the consideration of mitigation measures

IMPACT PS-3: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for school services.

Less than Significant Cumulative Impact

The 2016 RTP/SCS would not be expected to contribute to cumulative significant impacts in the region when considered with related projects in regard to school services because such changes would be addressed by planning efforts in jurisdictions. The state requires schools to be funded for school-age children by payment of school district fees in association with the related projects that involve population growth that can cause a potential strain on services, resulting in less than significant cumulative impact. The consideration of mitigation measures is not required.

3.15.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to public services are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by the Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT PS-1: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services.

SCAG Mitigation Measures

MM-PS-1(a)(1): SCAG shall facilitate minimizing future impacts to fire protection and emergency response services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts to promote Fire Management and Emergency Response Planning such as Toolbox Tuesday Training series and sharing of associated online Training materials. Lead Agencies, such as county and city planning departments, shall be consulted during this update process.

MM-PS-1(a)(2): SCAG shall utilize its strengths and organization to assist planners, first responders, and recovery teams in a supporting role, in three key areas, before a major emergency and during the recovery period:

- Provide a policy forum to help develop regional consensus and education on security policies and emergency responses.
- Assist in expediting the planning and programming of transportation infrastructure repairs from major disasters.
- Encourage integration of transportation security measures into transportation projects early in the project development process by leveraging SCAG's relevant plans, programs, and processes, including regional ITS architecture. SCAG also participated in the development of the draft Southern California Catastrophic Earthquake Preparedness Plan.⁶⁶

MM-PS-1(a)(3): SCAG shall facilitate minimizing future impacts to fire protection services through information sharing regarding Fire-wise Land Management (data regarding fire-resistant vegetation, fire-resistant materials, locations where development is potentially hazardous in regard to wildfire, and management of brush and other fire risks in the immediate vicinity of development in areas with high fire threat) with county and city planning departments.

Project-Level Mitigation Measures

Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b).

⁶⁶ California Emergency Management Agency. 2010. *Southern California Catastrophic Earthquake Response Plan*. Available at: [http://www.caloes.ca.gov/PlanningPreparednessSite/Documents/SoCalCatastrophicConops\(Public\)2010.pdf](http://www.caloes.ca.gov/PlanningPreparednessSite/Documents/SoCalCatastrophicConops(Public)2010.pdf)

MM-PS-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects from the need for new or physically altered governmental facilities in order to maintain acceptable response times for fire protection and emergency response services that are within the jurisdiction and responsibility of fire departments, law enforcement agencies, and local jurisdictions. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures consistent with the Community Facilities Act of 1982, the goals and policies established within the applicable adopted county and city general plans and the performance objectives established in the adopted county and city general plans, to provide sufficient structures and buildings to accommodate fire and emergency response, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency, taking into account project and site-specific considerations as applicable and feasible:

- Where the project has the potential to generate the need for expanded emergency response services which exceed the capacity of existing facilities, provide for the construction of new facilities directly as an element of the project or through dedicated fair share contributions toward infrastructure improvements.
- During project-level review of government facilities projects, require implementation of Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b) to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities, through the imposition of conditions required to be followed to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of new or expanded public service facilities.

IMPACT PS-2: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for public protective security services.

SCAG Mitigation Measures

MM-PS-1(a)(2).

MM-PS-2(a)(1): SCAG shall facilitate minimizing future impacts to public protective security services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts to promote public protective security services planning such as Toolbox Tuesday Training series and sharing of associated online training materials.

Lead Agencies, such as county and city planning departments, shall be consulted during this update process.

MM-PS-2(a)(2): SCAG shall help to enhance the region's ability to deter and respond to acts of terrorism, human-caused or natural disasters through regionally cooperative and collaborative strategies. SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies.

MM-PS-2(a)(3): SCAG shall help to enhance the region's ability to deter and respond to terrorist incidents, human-caused or natural disasters by strengthening relationship and coordination with transportation. This will be accomplished by the following:

- SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies.
- SCAG shall encourage all SCAG elected officials are educated in NIMS.
- SCAG shall work with partner agencies, federal, state and local jurisdictions to improve communications and interoperability and to find opportunities to leverage and effectively utilize transportation and public safety/security resources in support of this effort.

MM-PS-2(a)(4): SCAG shall encourage and provide a forum for local jurisdictions to develop mutual aid agreements for essential government services during any incident recovery.

Project-Level Mitigation Measures

Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b).

MM-PS-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects from the need for new or physically altered governmental facilities in order to maintain acceptable service ratios for police protection services that are within the jurisdiction and responsibility of law enforcement agencies and local jurisdictions. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures consistent with the Community Facilities Act of 1982, the goals and policies established within the applicable adopted county and city general plans and the standards established in the safety elements of county and city general plans to maintain police response performance objectives, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency, taking in to account project and site-specific considerations as applicable and feasible, including:

- Coordinate with public security agencies to ensure that there are adequate governmental facilities to maintain acceptable service ratios, response times or other performance objectives for public protective security services and that any required additional construction of buildings is incorporated in to the project description.

- Where current levels of services at the project site are found to be inadequate, provide fair share contributions towards infrastructure improvements and/or personnel.
- During project-level review of government facilities projects, require implementation of Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b) to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities, through the imposition of conditions required to be followed to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of new or expanded public service facilities.

IMPACT PS-3: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for school services.

SCAG Mitigation Measures

MM-PS-3(a): SCAG shall facilitate minimizing future impacts to school services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts to promote school planning, such as Toolbox Tuesday Training series and sharing of associated online Training materials. Lead Agencies, such as county and city planning departments, shall be consulted during this update process.

Project-Level Mitigation Measures

Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b).

MM-PS-3(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects from the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives that are within the jurisdiction and responsibility of school districts and local jurisdictions. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures consistent with Community Facilities Act of 1982, the California Education Code, and the goals and policies established within the applicable adopted county and city general plans to ensure that the appropriate school district fees are paid in accordance with state law, as applicable and feasible. Such measures may include the following,

or other comparable measures identified by the Lead Agency, taking in to account project and site-specific considerations as applicable and feasible:

- Where construction or expansion of school facilities is required to meet public school service ratios, require school district fees, as applicable.
- During project-level review of government facilities projects, require implementation of Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b) to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities, through the imposition of conditions required to be followed to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of new or expanded public service facilities.

3.15.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT PS-1: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services.

Implementation of Mitigation Measures MM-PS-1(a)(1) through MM-PS-1(a)(3), MM-PS-1(b), MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b) would reduce direct, indirect, and cumulative impacts to below the level of significance.

IMPACT PS-2: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for public protective security services.

Implementation of Mitigation Measures MM-PS-1(a)(2), MM-PS-2(a)(1) through MM-PS-2(a)(4), and MM-PS-2(b) and Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b) would reduce direct, indirect, and cumulative impacts to below the level of significance.

IMPACT PS-3: Potential to cause substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for school services.

Implementation of Mitigation Measures MM-PS-3(a), MM-PS-3(b), MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b) and compliance with state requirements for school district fees would reduce these direct and indirect impacts to below the level of significance.

3.16 RECREATION

This section of the Program Environmental Impact Report (PEIR) describes the recreation resources in the Southern California Association of Governments (SCAG) region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Plan,” or “Project”) on recreation, identifies mitigation measures for the impacts, and evaluates the residual impacts. Recreation was evaluated in accordance with Appendix G of the 2015 State California Environmental Quality Act (CEQA) Guidelines. Recreation within the SCAG region was evaluated at the programmatic level of detail, in relation to the general plans of the six counties and 191 cities within the SCAG region; the management plans for the four national forests in the SCAG region, Angeles National Forest, San Bernardino National Forest, Los Padres National Forest, and Cleveland National Forest; the California Recreational Trails Plan of 2002; a query of the California Protected Areas Database for local and regional parkland; a review of related literature germane to the SCAG region; as well as a review of SCAG’s 2012 RTP/SCS PEIR.¹

Publicly managed parks and recreation facilities are an important part of the California lifestyle and the high quality of life tied to a beautiful natural environment in communities built to encourage active healthy living.² According to a study conducted by California State Parks in 2005, two-thirds of Californians consider outdoor recreation important to their quality of life.³ In the most recent California State Parks survey (2012) on public opinions and attitudes on outdoor recreation in California, the park facilities and services that Californians thought were most important to them were wilderness-type areas where no vehicles or development are allowed; play areas for young children; areas for environmental and outdoor education programs; picnic sites for large groups; recreation facilities at lakes, rivers, and reservoirs; and single-use trails.⁴ The six-county SCAG region includes approximately 150 miles of California’s approximately 840-mile coastline, including wide sandy beaches such as San Buenaventura State Beach, Port Huenene State Beach Park, and Point Mugu State Park in Ventura County; Point Dume State Beach, Will Rogers Beach, Santa Monica State Beach Park, Venice Beach, Manhattan Beach, Cabrillo Beach Park, and Long Beach in Los Angeles County; and Seal Beach, Sunset County Beach, Huntington Beach, Newport Beach, Laguna Beach, and Doheny State Beach in Orange County.⁵ In addition to four national forests, the region contains two national parks—Joshua Tree National Park and the southern portion of Death Valley National Park—as well as several national wildlife refuges including Hopper National Wildlife Refuge in Ventura County; Seal Beach National Wildlife Refuge in Orange County; Havasu National Wildlife Refuge in San Bernardino County; Coachella Valley National Wildlife Refuge in Riverside County, and Sonny Bono Salton Sea National Wildlife Refuge

¹ Southern California Association of Governments. April 2012. Final Program Environmental Report: *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*. Available at: <http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx>

² California State Parks. Accessed 14 September 2015. *The State Park System 2002*. Available at: <http://www.parks.ca.gov/pages/795/files/state%20park%20system%20plan%202002%20part%20i%20final%2020-07.pdf>

³ State of California Resources Agency, California State Parks. Accessed 14 September 2015. *The Health and Social Benefits of Recreation: An Element of the California Outdoor Recreation Planning Program*. Available at: http://www.parks.ca.gov/pages/795/files/health_benefits_081505.pdf

⁴ California State Parks. Accessed 14 September 2015. *Complete Findings for the Survey on Public Opinions and Attitudes on Outdoor Recreation in California 2012: An Element of the California Outdoor Recreation Planning Program*. Available at: <http://www.parks.ca.gov/pages/795/files/2012%20spoa.pdf>

⁵ GreenInfo Network. 2015. *California Protected Areas: Data Portal*. Available at: <http://www.calands.org/>

in Imperial County.^{6,7} There are 48 California state parks, 268 county parks, and over 3,300 city parks and open space areas in the SCAG region.^{8,9}

Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for recreation are provided.

Level of Service (LOS): In the context of recreation of service, LOS refers to the amount of “service” each park, open land, trail, or other facility provides to its constituents.¹⁰ Conventional recreation and park LOS analysis—often called the “NRPA standards” method because it was published by the National Recreation and Parks Association (NRPA)—is based on capacity only. NRPA standards suggest providing a certain number of facilities or acres of parkland per 1,000 population. The County of Los Angeles General Plan and Orange County General Plan have established a standard for parklands of four acres of local parkland and six acres of regional parkland per 1,000 county residents in unincorporated areas; the Imperial County General Plan has established a standard of five net acres of overall parkland per 1,000 county residents in unincorporated areas; the San Bernardino County General Plan has established a standard of 14.5 acres of undeveloped lands and/or trails per 1,000 county residents and 2.5 acres of regional parkland per 1,000 county residents; and Ventura County has not established numeric parkland standards. As stated in SCAG’s 2008 Regional Comprehensive Plan, SCAG is encouraging communities to utilize a new paradigm such as composite-values LOS analysis with a ranking from “A” to “F” that takes into account existing open space plans and policies, community preference, accessibility by underrepresented groups and underserved populations, multimodal transportation access (within one-half mile), multifunction open spaces, multiagency initiatives to cover broad geographic areas, and Compass Blueprint areas instead of simply acres of parkland per 1,000 population.¹¹

⁶ U.S. Department of the Interior, National Park Service. Accessed 11 September 2015. *California Parks*. Available at: <http://www.nps.gov/state/ca/index.htm>

⁷ U.S. Fish and Wildlife Service. Accessed 11 September 2015. *NWRS – Refuge Locator Map – California*. Available at: <http://www.fws.gov/refuges/refugelocatormaps/california.html>

⁸ California Department of Parks and Recreation. Accessed 11 September 2015. *Find a Park by County*. Available at: <http://www.parks.ca.gov/parkindex>

⁹ GreenInfo Network. 2015. *California Protected Areas: Data Portal*. Available at: <http://www.calands.org/>

¹⁰ The American Planning Association’s Professional Institute, American Institute of Certified Planners. Accessed 11 May 2015. *Planning Essentials Symposium: Replacing Conventional Park Level of Service (LOS) Analysis with the ‘Composite Values’ Approach*. Available at: <https://www.planning.org/practicingplanner/print/2007/fall/values.htm?print=false>

¹¹ Southern California Association of Governments. Accessed 14 September 2015. *2008 Regional Comprehensive Plan, Open Space & Habitat Chapter*. Available at: http://www.scag.ca.gov/Documents/f2008RCP_OpenSpaceHabitat.pdf

Local Park: A park that is considered to serve the local community (within a two-mile service radius of the park) is generally 20 acres or less in size.^{12,13} For instance, the Los Angeles County General Plan has refined local parks into the following categories:¹⁴

Park Node: Plazas, rest areas, playgrounds, landmarks, public art installations, etc.

Size: One-quarter acre or less

Service Area: No service radius area

Pocket Park: Passive park amenities including picnic areas and seating areas; and active park amenities including children's play apparatus

Size: Less than three acres

Service Area: Up to one-quarter mile radius of the park

Neighborhood Park: Passive park amenities including informal open play areas, children's play apparatus, group picnic areas with overhead shelters, and barbecues; active park amenities including practice sports fields, basketball, tennis, and volleyball courts; and park facilities including public restrooms, and onsite parking and information kiosks

Size: Three to 10 acres

Service Area: One-half mile radius of the park

Community Park: Passive park amenities including informal open play areas, children's play apparatus, family and group picnic areas with overhead shelters, and barbecues; active sports activities including light sports fields, basketball courts and tennis courts, aquatics complexes, skate parks, soccer arenas, roller hockey, community gardens, and dog parks; and park facilities including public restrooms, concession buildings, community buildings, maintenance buildings, and on-site parking and information kiosks

Size: 10 to 20 acres

Service Area: 1 to 2-mile radius around the park

¹² Los Angeles County Department of Regional Planning. Accessed 25 November 2014. *Los Angeles County General Plan Revised Draft: Chapter 10: Parks and Recreation Element*. Available online at:

http://planning.lacounty.gov/assets/upl/project/gp_2035_redlined-final-20141125.pdf

¹³ Orange County Public Works Development Services. Accessed 14 September 2015. *General Plan: Chapter VII. Recreation Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960>

¹⁴ Los Angeles County Department of Regional Planning. Accessed 25 November 2014. *Los Angeles County General Plan Revised Draft: Chapter 10: Parks and Recreation Element*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_redlined-final-20141125.pdf

Regional Park: A park greater than 20 acres in size is generally considered a regional park. A regional park may have a service radius of over 25 miles.^{15,16} For instance, the Los Angeles County General Plan has refined regional parks into the following categories:¹⁷

Community Regional Park: Passive park amenities including open play areas, children's play apparatus, group picnic areas with overhead shelters, and barbecues; active sports activities including lighted sports fields, basketball courts, and tennis courts; additional amenities including multiple sports facilities, aquatics centers, fishing lakes, community buildings, gymnasiums, and scenic views and vistas; and park facilities including public restrooms, concession buildings, community buildings, maintenance buildings, and on-site parking and information kiosks

Size: 20 to 100 acres

Service Area: Up to 20-mile radius around the park

Regional Park: Passive park amenities including group picnic areas with overhead shelters and barbecues; and additional park amenities including lakes, wetlands, auditoriums, water bodies for swimming, fishing and boating, and sports fields

Size: Greater than 100 acres

Service Area: 25-mile or greater radius around the park

Single Use Facility: Passive features including wilderness parks, nature preserves, botanical gardens and nature centers; and active uses including performing arts, water parks, golf driving ranges, and golf courses

Size: No size criteria

Service Area: No assigned service radius area

Trails/Linear Parks: SCAG, Los Angeles County, and San Bernardino County define trails as linear parks that provide community access to increased health and fitness activities in the increasingly urbanized region.

3.16.1 REGULATORY FRAMEWORK

The federal government sets public recreation standards for protection of publicly owned recreation areas; scenic, historic, and recreational trails; national forests, and recreational fisheries from conversion to non-compatible land uses that may include transportation projects through the recreational resource. The state sets recreation standards for protection of public parkland and establishment of new parkland to meet the needs of a growing population as a result of development project. The provision of new parkland and recreational facilities is generally subject to local general plan policies.

¹⁵ Los Angeles County Department of Regional Planning. Accessed 25 November 2014. *Los Angeles County General Plan Revised Draft: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_2035_redlined-final-20141125.pdf

¹⁶ Orange County Public Works Development Services. Accessed 25 November 2014. *General Plan: Chapter VII. Recreation Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960> Main website: <http://ocplanning.net/planning/generalplan2005>

¹⁷ Los Angeles County Department of Regional Planning. Accessed 25 November 2014. *Los Angeles County General Plan Revised Draft: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_2035_redlined-final-20141125.pdf

Federal

Section 4(f) of the U.S. Department of Transportation Act of 1966 (U.S. DOT Act)

Section 4(f) of the U.S. DOT Act (Public Law 89-670) was enacted as a means of protecting publicly owned public parks, recreation areas, and wildlife/waterfowl refuges as well as historic sites of local, state, or national significance, from conversion to transportation uses.

The provision states that the Secretary of the U.S. DOT may approve a transportation project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge, or land from an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, recreation area, refuge or site) only if:¹⁸

- There is no feasible and prudent alternative to using that land, and
- The program or project includes all possible planning to minimize harm to the Section 4(f) property.
- or -
- The Section 4(f) use is *de minimis*.

National Trails System Act

The National Trails System Act (Public Law 90-543) was established by Congress in 1968 to establish a network of scenic, historic, and recreational trails. The act defined four categories of national trails: recreation trails, scenic trails, historic trails, and connecting or side trails. Trails within park, forest, and other recreation areas administered by the Secretary of the Interior or the Secretary of Agriculture or in other federally administered areas may be established and designated as “National Recreation Trails” by the appropriate Secretary. Since the National Trails System Act was enacted, the list of qualifying national scenic trails and national historic trails has grown from the initial two trails (the Appalachian National Scenic Trail and Pacific Crest National Scenic Trail) to the current list, which includes 11 national scenic trails and 19 historic trails. In addition, more than 1,000 national recreation trails have been designated nationwide, 91 of which are located in California.

National Forests Land Management Plans

Each of the four Southern California national forests (Cleveland National Forest, Los Angeles National Forest, San Bernardino National Forest, and Los Padres National Forest) is included in the Southern California National Forests Vision. The Southern California National Forests Vision (forest plans) has created individual land management plans for each of the four Southern California national forests. The land management plans include strategic programmatic direction for managing the land in each national forest and its resources for the next 10 to 15 years. The plans include sections on resource management, public use and enjoyment, facilities operation and maintenance, commodity and commercial uses, and fire management.

¹⁸ U.S. Department of Transportation, Federal Highway Administration. Accessed 11 May 2015. *Environmental Review Toolkit: Section 4(f) Program Overview*. Available at: <http://www.environment.fhwa.dot.gov/4f/>

Executive Order 12962—Recreational Fisheries

The objective of Executive Order 12962, dated June 7, 1995, is the conservation, restoration and enhancement of aquatic systems to provide for increased recreational fishing. Under the executive order, federal agencies shall improve the quantity function, sustainable productivity and distribution of U.S. aquatic resources for recreational fishing opportunities by:

- Developing and encouraging government-private sector partnerships
- Identifying recreational fishing opportunities
- Implementing sound aquatic conservation and restoration practices
- Providing access and promoting awareness
- Supporting outreach programs
- Implementing laws
- Establishing cost-share programs
- Evaluating the effects of federally funded, permitted, or authorized actions on aquatic resources and recreational fishing
- Assisting private landowners to conserve and enhance aquatic resources

State

Quimby Act of 1965

The Quimby Act was established by the California State Legislature in 1965 and codified as California Government Code Section 66477. The Quimby Act allows the legislative body of a city or county, by ordinance, to require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative tract map or parcel map. Under the Quimby Act, requirements for parkland dedications are not to exceed three acres of parkland per 1,000 persons residing within a subdivision, and in-lieu fee payments shall not exceed the proportionate amount necessary to provide three acres of parkland, unless the amount of existing neighborhood and community parkland exceeds that limit.

California Public Park Preservation Act of 1971

The California Public Park Preservation Act of 1971 (Public Resources Code Section 5400-5409) states that any public agency that acquires public parkland must either continue to operate the property as a public park, or, must pay compensation or land that is sufficient to acquire substantially equivalent substitute parkland and facilities or provide substitute parkland of comparable characteristics. The Act is the primary legislation for protecting and preserving public parkland.

California Recreational Trails Plan of 2002

The California Department of State Parks (California State Parks) is a trustee agency that owns and operates all state parks and participates in land use planning that affects state parklands. Pursuant to California Public Resources Code Section 5070, the California Recreational Trails Act, California State Parks has prepared the California Recreational Trails Plan in 1978, which was updated in 2002, with

reports highlighting progress on the plan that are submitted to the State Legislature every two years.¹⁹ The California Recreational Trails Plan establishes 12 designated trail corridors that pass through the SCAG region with the intent of forming a statewide trail system that links mountain, valley, and coastal communities to recreational, cultural, and natural resources throughout the state.²⁰

Regional

County and City General Plans

The most comprehensive land use planning, including that for recreational facilities, in the SCAG region is provided by county and city general plans, which local governments are required by state law to prepare as a guide for future development. The SCAG region spans six counties and 191 cities, all of which have general plans containing policies related to provision of recreational resources. Open space and recreation resources are normally addressed in two mandatory elements of the general plan: land use and open space. The land use element normally focuses on the distribution of recreation facilities and programs and an inventory of open space land, including those lands that provide opportunities for recreational activities. In contrast, the open space element focuses on open space for outdoor recreation including, but not limited to:

- Areas of outstanding scenic, historical, and cultural value
- Areas particularly suited for park and recreational purposes, including access to lakeshores, beaches, and rivers and streams
- Areas that serve as links between major recreational and open-space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors

The six county general plans address the majority of the regional open space, beyond that provided by the national forest, national parks, and wildlife refuges:

- **Imperial County:** Parks and Recreation Element²¹ and Conservation and Open Space Element²² of County General Plan and Open Space and Recreation Elements of City General Plans

¹⁹ California Department of Parks and Recreation. Accessed 25 June 2015. *Trails Plan – 2011 Progress Report*. Available at: http://www.parks.ca.gov/?page_id=25677

²⁰ California Department of Parks and Recreation. Accessed 25 June 2015. *California Recreational Trails Plan Trail Corridors*. Available at: http://www.parks.ca.gov/?page_id=25680

²¹ County of Imperial Planning & Development Services Department. Accessed 11 September 2015. *Imperial County General Plan: Parks and Recreation Element*. Available at: [http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-\(2008\).pdf](http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-(2008).pdf)

²² County of Imperial Planning & Development Services Department. Accessed 11 September 2015. *Imperial County General Plan: Conservation and Open Space Element*. Available at: <http://www.icpds.com/CMS/Media/Conservation-and-Open-Space-Element.pdf>

- **Los Angeles County:** Chapter 9: Conservation and Natural Resources Element²³ and Chapter 10: Parks and Recreation Element²⁴ of County General Plan and Open Space and Recreation Elements of City General Plans
- **Orange County:** Chapter VI. Resources Element²⁵ and Chapter VII. Recreation Element²⁶ of County General Plan and Open Space and Recreation Elements of City General Plans
- **Riverside County:** Chapter 5: Multipurpose Open Space Element and Chapter 10: Healthy Communities Element²⁷ of County General Plan and Open Space and Recreation Elements of City General Plans
- **San Bernardino County:** Chapter VI. Open Space Element²⁸ of County General Plan and Open Space and Recreation Elements of City General Plans
- **Ventura County:** Resources Appendix²⁹ and Public Services and Facilities Appendix³⁰ of County General Plan and Open Space and Recreation Elements of City General Plans

Each city in the SCAG region has its own respective general plan that helps provide guidance for the growth and development of the city and contains measures to maintain and/or enhance open space within each of the cities jurisdictions. Each city's general plan varies in level of detail and necessary measures to preserve open space. Although city general plans are not required to contain parks and recreation sections, cities often choose to include this section to provide measures to maintain and/or enhance city parks and recreation areas.

Additional plans and ordinances at the master plan level, city-level, and specific plan level may also apply within the SCAG region.

²³ Los Angeles County Department of Regional Planning. Accessed 11 September 2015. *Public Review Draft March 2015 Text-Only Version: Los Angeles County General Plan*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_draft-march2015.pdf

²⁴ Los Angeles County Department of Regional Planning. Accessed 11 September 2015. *Public Review Draft March 2015 Text-Only Version: Los Angeles County General Plan*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_draft-march2015.pdf

²⁵ Orange County Public Works Development Services. Accessed 24 November 2014. *General Plan: Chapter VI. Resources Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960>

²⁶ Orange County Public Works Development Services. Accessed 24 November 2014. *General Plan: Chapter VII. Recreation Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960> Main website: <http://ocplanning.net/planning/generalplan2005>

²⁷ Riverside County Planning Department. Accessed 9 December 2014. *Riverside County General Plan – Current*. Available at: <http://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx>

²⁸ County of San Bernardino Land Use Service Division. Amended 24 April 2014. *County of San Bernardino 2007 General Plan*. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

²⁹ County of Ventura Resource Management Agency, Planning Division. Accessed 11 September 2015. *Ventura County General Plan: Resources Appendix*. Available at: <http://www.ventura.org/rma/planning/pdf/plans/General-Plan-Resources-Appendix-6-28-11.pdf>

³⁰ County of Ventura Resource Management Agency, Planning Division. Accessed 14 September 2015. *Ventura County General Plan: Public Facilities & Services Appendix*. Available at: http://www.ventura.org/rma/planning/pdf/plans/GENERAL_PLAN_Public_Facilities_and_Services_Appendix_May_8_%202007_edition.pdf

Zoning

City and county zoning codes provide the set of detailed requirements that implement general plan policies at the level of the individual parcel. Zoning codes present standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction. Since 1971, state law has required the city or county zoning code to be consistent with the jurisdiction's general plan.

3.16.2 EXISTING CONDITIONS

This section provides the environmental setting for the discussion of recreation in the SCAG region, which encompasses an area of more than 38,000 square miles within the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. This vast area includes millions of acres of open space and recreational land and a population close to 19 million people.³¹ This section includes information on the following baseline conditions of the existing regional recreation parks and open space and community, neighborhood and local parks in the SCAG region.

Regional and Local Parks and Recreation Facilities

Community open space includes all forms of open space in or serving the needs of people in the region's communities. Community open space traditionally has meant parks and other recreation areas that are located in or near enough to serve local communities. In today's region, community open space includes community gardens, dedicated natural lands, urban forests, greenbelts, trail systems, and bikeways. This new mix of community open spaces is the product of interrelated planning decisions on a local and regional level and a reflection of new and old needs of the region's communities.

There are over 1.4 million acres of land of existing protected open space areas, regional parks, recreation facilities, and local parks in the SCAG region (Table 3.16.2-1, *Recreational Areas and Protected Open Space by County in Acres*; and Figure 3.16.2-1, *Regional and Local Recreation and Open Space*). The SCAG region is home to the Angeles National Forest, the first national forest in California and the second in the nation, hosting in excess of 4 million visitors per year, making it one of the most visited national forests in the nation. The SCAG region is also home to Griffith Park, one of the nation's most popular urban parks, with more than 12 million users annually.³²

³¹ SCAG projections for 2020 indicate a population total of 19,390,870.

³² Raya, Richard, and Victor Rubin. Accessed 14 September 2015. *Safety, Growth, and Equity: Parks and Open Space*. Available at: http://www.policylink.org/sites/default/files/SafetyGrowthEquity-ParksOpenSpace_final.pdf

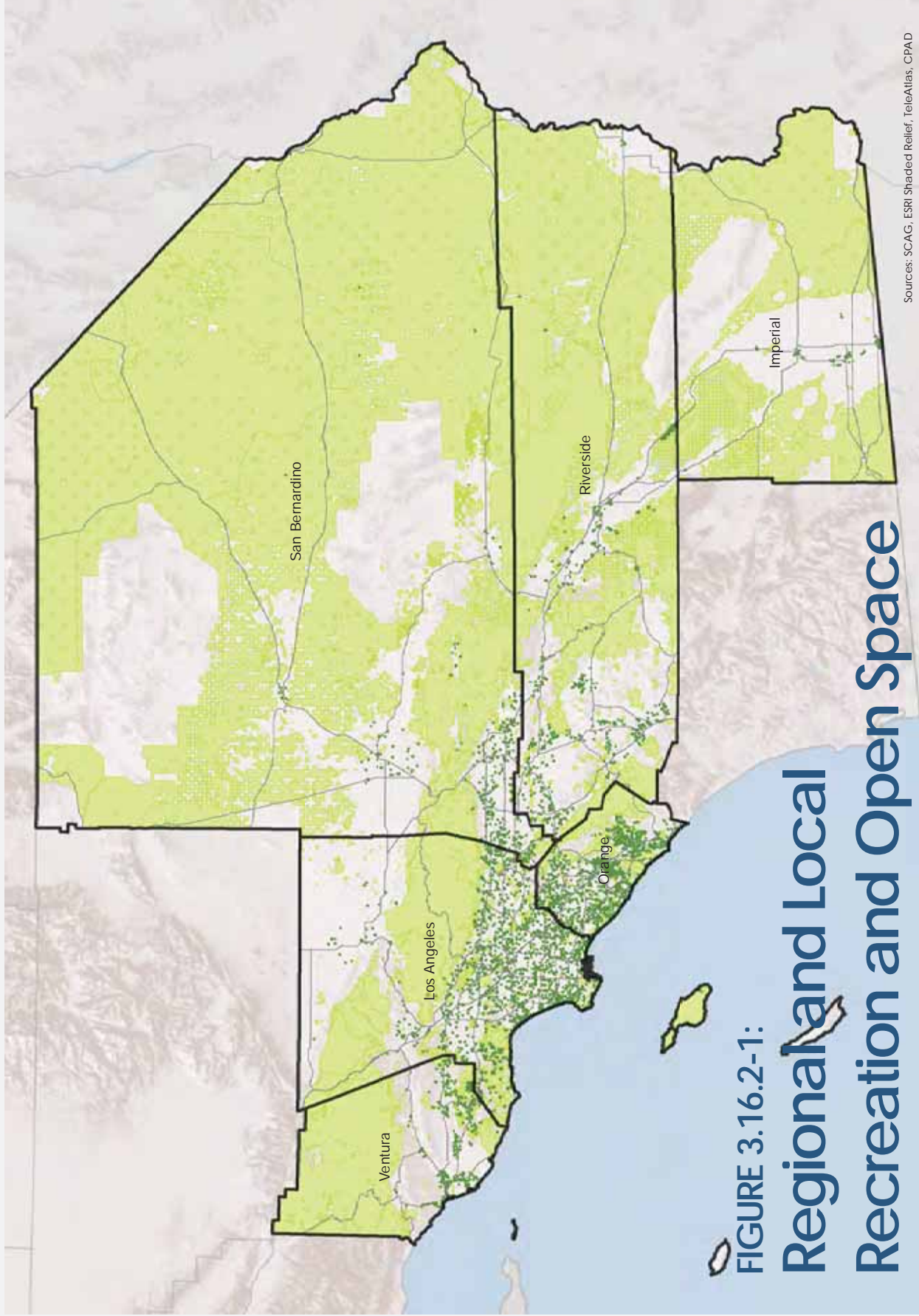


FIGURE 3.16.2-1:

Regional and Local Recreation and Open Space

- Local Parks, Recreational Facilities, and Open Space Areas
- Regional Parks, Recreational Facilities, and Open Space Areas

Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CPAD



**TABLE 3.16.2-1
RECREATIONAL AREAS AND PROTECTED OPEN SPACE BY COUNTY IN ACRES**

County	Regional Parkland and Protected Open Space (Over 20 Acres)	Local Parkland and Protected Open Space (20 Acres or Less)	Total Acres
Imperial County	1,538,331.9	278.4	1,538,610.3
Los Angeles County	870,804.5	8,182.2	878,986.7
Orange County	132,867.1	4,868.5	137,735.6
Riverside County	2,827,375.8	4,908.5	1,832,284.3
San Bernardino County	8,374,699.7	2,277.6	2,376,977.3
Ventura County	638,095.0	2,009.2	640,104.2
Total	14,382,173.9	22,524.2	14,404,698.1

NOTE:

CPAD data contains open lands owned in fee, from small parks to large wilderness areas. “No Public Access” areas were excluded from the dataset; this data shows publicly accessible recreational areas and protected open space.

SOURCE:

GreenInfo Network. 2015. *CPAD: California Protected Areas: Data Portal*. Available at: <http://www.calands.org/>

A vast amount of the SCAG region is covered by open space, including four national forests and several thousand acres of undeveloped local and regional parks, all of which are used for passive recreation in the region. Each of the six counties in the SCAG region has a recreation element and/or an open space element within its general plan that emphasizes the importance of passive and active recreation and its benefits to the communities within each county. Federal, state, and county recreation facilities are used to promote community health. Examples of these programs include the Policies for Livable, Active Communities and Environments (PLACE) Program in Los Angeles County, which promotes the development of healthy, safe, and active environments for Los Angeles County residents;³³ and the Partnership for a Healthy Ventura County, which is a collaboration between the Ventura County Department of Public Health and the Ventura County Parks and Recreation Department and the community members served by the departments.³⁴ Programs similar to these exist throughout the SCAG region and some of the additional 191 cities in the SCAG region have parallel programs utilizing recreation facilities to promote healthy activities.

There are four national forests, two national parks, and 48 California State Parks in the SCAG region, ranging from 24 state parks in Los Angeles County to two state parks in Imperial County.³⁵ There are 268 county parks in the SCAG region, with 14 in Imperial County,³⁶ 177 in Los Angeles County,³⁷ 36 in Orange County,³⁸ eight in Riverside County,³⁹ 10 in San Bernardino County,⁴⁰ and 23 in Ventura County.⁴¹ The

³³ County of Los Angeles Department of Public Health. Accessed 14 September 2015. *PLACE Program: Policies for Livable, Active Communities and Environments*. Available at: <http://www.publichealth.lacounty.gov/place/index.htm>

³⁴ The Partnership for a Healthy Ventura County. Accessed 14 September 2015. Website. Available at: <http://healthyventuracounty.org/>

³⁵ California Department of Parks and Recreation. Accessed 11 September 2015. *Find a Park by County*. Available at: <http://www.parks.ca.gov/parkindex>

³⁶ Imperial County Planning & Development Services. Accessed 11 September 2015. *County Parks*. Available at: <http://www.icpds.com/?pid=1058>

³⁷ County of Los Angeles Department of Parks and Recreation. Accessed 11 September 2015. *Parks*. Available at: <http://parks.lacounty.gov/wps/portal/dpr/Parks/>

³⁸ OCparks. Accessed 11 September 2015. *OCparks*. Available at: <http://ocparks.com/>

³⁹ Riverside County Regional Park and Open Space District. Accessed 11 September 2015. *Riverside County Parks: Parks*. Available at: <http://www.rivcoparks.org/parks/>

multitude of Specimen Gardens and Arboreta in the region include the Cal State University Northridge Botanic Garden, Chavez Ravine Arboretum, Descanso Gardens, Huntington Botanical Gardens, Los Angeles County Arboretum and Botanic Garden, Meldred E. Mathias Botanical Garden, Rancho Santa Ana Botanic Garden, John R. Rodman Arboretum, South Coast Botanic Garden, and Wrigley Botanical Gardens in Los Angeles County; the Fullerton Arboretum and Sherman Library and Gardens in Orange County; the College of the Desert Arboretum, Living Desert Zoo and Gardens, Moorten Botanical Garden and Cactarium, and University of California Riverside Botanic Gardens in Riverside County; and Conejo Valley Botanical Garden in Ventura County.⁴²

As established by the Parks and Recreation Element of the Los Angeles County General Plan 2035 Update and the Recreation Element of the Orange County General Plan, the standard for parklands is four acres of local parkland and six acres of regional parkland per 1,000 county residences in unincorporated areas of the Los Angeles and Orange Counties;^{43,44} the Parks and Recreation Element of the Imperial County General Plan has established a standard of five net acres of overall parkland per 1,000 county residents in unincorporated areas;⁴⁵ the Open Space Element of the San Bernardino County General Plan has established a standard of 14.5 acres of undeveloped lands and/or trails per 1,000 county residents and 2.5 acres of regional parkland per 1,000 county residents;⁴⁶ and Riverside and Ventura Counties have not established numeric parkland standards.^{47,48} Los Angeles County is home to over half of the population in the SCAG region. Despite the over 14 million acres designated for open space and park and recreation uses, there remains a deficiency of such lands in large areas of the SCAG region. Based on the *Complete Findings for the Survey on Public Opinions and Attitudes on Outdoor Recreation in California 2012*, the California State Parks determined that the Southern California region has a high demand for picnicking, unpaved trails, and pool and beach facilities and activities, demonstrating a future need for trails and swimming facilities.⁴⁹

⁴⁰ San Bernardino County. Accessed 11 September 2015. *Regional Parks*. Available at: <http://cms.sbcounty.gov/parks/Parks.aspx>

⁴¹ County of Ventura. Accessed 11 September 2015. *County of Ventura Regional Recreation System Map*. Available at: <http://www.ventura.org/parks-department/parks-system-map>

⁴² GreenInfo Network. Accessed 14 September 2015. *California Protected Areas: Data Portal*. Available at: <http://www.calands.org/>

⁴³ Los Angeles County Department of Regional Planning. Accessed 14 September 2015. *Public Review Draft March 2015 Text-Only Version: Los Angeles County General Plan*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_draft-march2015.pdf

⁴⁴ Orange County Public Works Development Services. Accessed 14 September 2015. *General Plan: Chapter VII. Recreation Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960>

⁴⁵ County of Imperial Planning & Development Services Department. Accessed 11 September 2015. *Imperial County General Plan: Parks and Recreation Element*. Available at: [http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-\(2008\).pdf](http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-(2008).pdf)

⁴⁶ County of San Bernardino Land Use Service Division. Accessed 14 September 2015. *County of San Bernardino 2007 General Plan*. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

⁴⁷ Riverside County Planning Department. Accessed 14 September 2015. *Riverside County General Plan – Current*. Available at: <http://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx>

⁴⁸ County of Ventura Resource Management Agency, Planning Division. Accessed 14 September 2015. *Ventura County General Plan: Public Facilities & Services Appendix*. Available at: http://www.ventura.org/rma/planning/pdf/plans/GENERAL_PLAN_Public_Facilities_and_Services_Appendix_May_8_%202007_edition.pdf

⁴⁹ California State Parks. Accessed 14 September 2015. *Complete Findings for the Survey on Public Opinions and Attitudes on Outdoor Recreation in California 2012: An Element of the California Outdoor Recreation Planning Program*. Available at: <http://www.parks.ca.gov/pages/795/files/2012%20sopa.pdf>

All 191 cities in the SCAG region have general plans that contain an open space element. Within these open space elements are measures for the protection and enhancement of existing open space in each respective city. In addition to the open space elements, several cities have elements within their general plans that address local parks and recreation. These elements contain measures and policies for the protection and enhancement of city parks and facilities.

Based on the acres of recreational areas and publicly accessible protected open space (shown in **Table 3.16.2-1**), local parkland standards established within county and city general plans, and the 2014 population in each county, there is a deficiency in local parkland in the two counties of the SCAG region that have local parkland standards (Los Angeles and Orange Counties), a surplus in regional parkland and publicly accessible protected open space in the three counties of the SCAG region that have regional parkland standards (Los Angeles, Orange, and San Bernardino Counties), and a surplus in Imperial County, which has a combined local and regional parkland standards (**Table 3.16.2-2, *Recreation and Open Space Surpluses and Deficiencies by County***).

Public parks and open space serve all residents in the SCAG region. Different types of parks are found throughout the SCAG region including regional parks, community arboretums, designated open spaces, national parks, and local parks. However, the existing parks are not located in an equal distribution throughout the SCAG region. Some areas in the SCAG region have more open space and higher densities of city parks than others. The integration of an effective regional transportation system as proposed in the SCAG 2016 RTP/SCS would allow residents from any area within the SCAG region to have improved access to the many parks available to visit in the region. Improvements to the regional transportation system would improve public access to parks and open space, which, alongside reductions in greenhouse gases and improvements in air quality would contribute to the overall health and well-being of the residents in the SCAG region.

**TABLE 3.16.2-2
RECREATION AND OPEN SPACE SURPLUSES AND DEFICIENCIES BY COUNTY**

	Imperial County ²	Los Angeles County ³	Orange County ⁴	Riverside County ⁵	San Bernardino County ⁶	Ventura County ⁷
2014 population ¹	180,672	10,041,797	3,113,991	2,279,967	2,085,669	842,967
Local parkland standard (acres per 1,000 population)	n/a	4	4	n/a	n/a	n/a
Acres local parkland/open space per 1,000 population	1.5	0.8	1.6	2.2	1.1	2.4
Local parkland surplus/deficiency	n/a	3.2 deficiency	2.4 deficiency	n/a	n/a	n/a
Regional parkland standard (acres per 1,000 population)	n/a	6	6	n/a	2.5	n/a
Acres regional parkland/ open space per 1,000 population	8,514.5	86.7	42.7	1,240.1	4,015.4	757.0
Regional parkland surplus/deficiency	n/a	2.8 surplus	36.7 surplus	n/a	4,012.9 surplus	n/a
Local and regional parkland combination standard (acres per 1,000 population)	5	n/a	n/a	n/a	n/a	n/a
Acres local and regional parkland/open space per 1,000 population	8,516.0	87.5	44.2	803.6	1,139.7	759.3
Local and regional parkland surplus/deficiency	8,516.0 surplus	n/a	n/a	n/a	n/a	n/a

SOURCE:

¹ Southern California Association of Governments. Accessed 11 September 2015. *Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County*. Available at:

<http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>

² Imperial County Planning & Development Services Department. Accessed 11 September 2015. *Imperial County General Plan: Parks and Recreation Element*. Available at: [http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-\(2008\).pdf](http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-(2008).pdf)

³ Los Angeles County Department of Regional Planning. March 2015. *Public Review Draft March 2015 Text-Only Version: Los Angeles County General Plan*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_draft-march2015.pdf

⁴ Orange County Public Works Development Services. July 2014. *General Plan: Chapter VII. Recreation Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960>.

⁵ Riverside County Planning Department. 9 December 2014. *Riverside County General Plan – Current*. Available at: <http://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx>

⁶ County of San Bernardino Land Use Service Division. Amended 24 April 2014. *County of San Bernardino 2007 General Plan*. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

⁷ County of Ventura Resource Management Agency, Planning Division. Amended 8 May 2007. *Ventura County General Plan: Public Facilities & Services Appendix*. Available at: http://www.ventura.org/rma/planning/pdf/plans/GENERAL_PLAN_Public_Facilities_and_Services_Appendix_May_8_%202007_edition.pdf

Linear facilities (such as trails and greenbelts) and large regional recreational areas may serve several neighborhoods but are also a unique amenity for the entire area.⁵⁰ Approximately 85 percent of Californians live within 10 miles of the 27 designated Trail Corridors of the California Recreational Trails

⁵⁰ Governor’s Office of Planning and Research. Accessed 14 September 2015. *State of California General Plan Guidelines 2003*. Available at: http://opr.ca.gov/docs/General_Plan_Guidelines_2003.pdf

Plan, which provide both regional and local recreation opportunities.⁵¹ The California Recreational Trails Plan establishes the following designated Trail Corridors that pass through the SCAG region with the intent of forming a statewide trail system that links mountain, valley, and coastal communities to recreational, cultural, and natural resources throughout the state:⁵²

- **Backbone Trail Corridor** (from Pacific Coast Highway at Thornhill Broome Beach in Ventura County through the Santa Monica Mountains to Pacific Coast Highway at Will Rogers State Historic Park in Los Angeles County)⁵³
- **California Coastal Trail Corridor** (from the California-Mexico border northwest along the California coastline through Orange, Los Angeles, and Ventura Counties to the California-Oregon border)
- **California Desert Trail Corridor** (from the California-Mexico border through Imperial, Riverside, and San Bernardino Counties into Nevada)
- **Condor Trail Corridor** (from the Los Angeles–Ventura County line at the Santa Clarita River west through Ventura County into Santa Barbara County)
- **Cuesta to Sespe Trail Corridor** (through the southern section of the Los Padres National Forest from the Cuesta Grade north of San Luis Obispo southeast through Ventura County to the end of the Sespe River outside of Filmore at Highway 126)
- **Juan Bautista de Anza (National Historic) Trail Corridor** (from the San Francisco Bay Area southeast through Ventura, Los Angeles, San Bernardino, Riverside, San Diego, and Imperial Counties to the California-Mexico border)
- **Los Angeles River Trail Corridor** (from Long Beach harbor in Los Angeles County north along the Los Angeles River corridor to Pacific Crest Trail in the Angeles National Forest)
- **Pacific Crest (National Scenic) Trail Corridor** (from Canada south through Washington State, Oregon, into California, through Los Angeles, San Bernardino, Riverside, and San Diego Counties into Mexico)
- **Rim of the Valley Trail Corridor** (a loop corridor from the foothills of the San Gabriel Mountains in Los Angeles County through the Santa Susana Mountains into Ventura County south to the Santa Monica Mountains in Los Angeles County and east near Mulholland Parkway to downtown Los Angeles, then north through Pasadena back into the foothills in La Canada Flintridge)
- **San Gabriel River Trail Corridor** (from Alamitos Bay in Los Angeles County northeast along the San Gabriel River corridor to Pacific Crest Trail in the Angeles National Forest)
- **Santa Ana River Trail Corridor** (from Balboa in Orange County northeast along the Santa Ana River corridor through Riverside and San Bernardino counties to the Pacific Crest Trail in the San Bernardino National Forest)
- **Santa Clara River Trail/Parkway** (from the South Forks Trail in Ventura County east along the Santa Clara River to the community of Newhall in Los Angeles County)

⁵¹ California Department of Parks and Recreation. Accessed 14 September 2015. *California Recreational Trails Plan & Progress Report*. Available at: http://www.parks.ca.gov/?page_id=23443

⁵² California Department of Parks and Recreation. Accessed 25 June 2015. *California Recreational Trails Plan Trail Corridors*. Available at: http://www.parks.ca.gov/?page_id=25680

⁵³ National Park Service, U.S. Department of the Interior. Accessed 14 September 2015. *Santa Monica Mountains: Backbone Trail System*. Available at: <http://www.nps.gov/samo/planyourvisit/loader.cfm?csModule=security/getfile&pageID=23898>

Other local trails that are maintained by cities and counties include Schabarum-Skyline Trail (Los Angeles County Department of Parks and Recreation),⁵⁴ Bayview Trail, Upper Newport Bay Nature Preserve (Orange County Parks),⁵⁵ Victoria Avenue Bike Trail (City of Riverside, Riverside County),⁵⁶ Orange Blossom Bike Trail (City of Redlands, San Bernardino County),⁵⁷ and Ojai Valley Trail (Ventura County Parks Department).⁵⁸ There are at least 365 county-maintained trails⁵⁹ and several city-maintained trails in Los Angeles County, but no existing local maintained trails in Imperial County, where trails within the County are located within state and federal parks.

3.16.3 THRESHOLDS OF SIGNIFICANCE

The potential for the 2016 RTP/SCS to result in significant impacts related to recreation was analyzed in relation to the two questions contained in Appendix G of the State CEQA Guidelines. The Plan would be considered to have the potential for significant impacts if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Methodology

The 2016 RTP/SCS lists transportation projects and includes strategies for integrating land use development patterns with transportation investments that emphasize system preservation and enhancement, active transportation, mode choices, accessibility, and mobility. These land use distribution patterns are designed to accommodate the region's growth projections. The Regional Travel Demand Model (RTDM) used for this analysis captures pass-through traffic that does not have an origin or destination in the region, but does impact the region, so that too is included in the project analysis. Although population growth and development are anticipated to occur even without the 2016 RTP/SCS, this Plan includes regional land use growth policies and strategies that would likely influence growth, including distribution patterns, throughout the region. To address this, the analysis in this PEIR covers overall region-wide impacts of major transportation projects listed in the Plan and land development strategies described in the 2016 RTP/SCS.⁶⁰

⁵⁴ County of Los Angeles Department of Parks and Recreation. Accessed 10 July 2015. *Trails: Schabarum-Skyline Trail*. Available at: <http://trails.lacounty.gov/Trail/53/Schabarum-Skyline-Trail>

⁵⁵ Orange County Parks. Accessed 10 July 2015. *Interactive Parks Map*. Available at: <http://ocparks.com/gov/occr/ocparks/map.asp?afilter=on> PDF Map available at: <http://ocparks.com/civicax/filebank/blobdload.aspx?BlobID=8223>

⁵⁶ City of Riverside. Accessed 10 July 2015. *Parks, Recreation, & Community Services: Biking Trails Along Victoria Avenue*. Available at: http://www.riversideca.gov/park_rec/trails-victoria.asp

⁵⁷ City of Redlands. Accessed 10 July 2015. *Redlands Existing Bike Trails*. Available at: <http://www.cityofredlands.org/gis/ExistingBikeTrails>

⁵⁸ County of Ventura. Accessed 10 July 2015. *Ojai Valley Trail, Ventura/Ojai*. Available at: <http://www.ventura.org/trails/ojai-valley-trail-ventura/ojai>

⁵⁹ County of Los Angeles Department of Parks and Recreation. Accessed 10 July 2015. *Trails: List of Trails*. Available at: <http://trails.lacounty.gov/Trail/List>

⁶⁰ Major Transportation Projects include but are not limited to projects that involve ground disturbing activities and projects outside of existing rights-of-way such as projects that require new rights-of-way, adding traffic lanes, and grade separation.

The methodology for determining the significance of recreation impacts compares the existing conditions to future (2040) conditions, as required in CEQA Section 15126.2(a). This analysis evaluates the potential for significant impacts of the 2016 RTP/SCS to recreation in accordance with Appendix G of the State CEQA Guidelines and guidelines established by the Bureau of Land Management (BLM); California Department of Parks and Recreation; and Ventura, Los Angeles, Orange, San Bernardino, Riverside, and Imperial Counties.

To assess potential impacts to recreation within the SCAG region, a geographic information system (GIS) was used to analyze whether major highway, transit, and freight rail projects documented in the 2016 RTP/SCS would directly impact existing recreation resources. Baseline conditions were established for the acreage of local and regional parkland per 1,000 population in each county to determine existing park level of service, and the 2040 anticipated population growth forecast was used to calculate the quantity of parkland needed to meet future recreation needs. The results of the GIS analysis determine whether major transportation projects included in the Plan could directly affect existing local and regional parkland in the SCAG region. Indirect impacts were evaluated based on the land development patterns after a review of the Plan's land use strategies, as well as the assumptions that protected recreation areas (such as national forests) would remain protected and new development would be discouraged in natural habitat areas and be redirected away from high value habitat areas to be concentrated in existing urbanized areas such as high-quality transit areas (HQTAs) (near transit projects) and urban opportunity areas, as well as existing suburban town centers.

3.16.4 IMPACT ANALYSIS

IMPACT REC-1. Potential to increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

Significant Impact

Implementation of the transportation projects and land use patterns anticipated by the strategies in the 2016 RTP/SCS would have the potential to increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated, constituting a potentially significant impact. The 2016 RTP/SCS provides transportation improvements to accommodate the anticipated population increase of approximately 3.8 million persons from 2014 to 2040, over the 25-year planning horizon. The 2016 RTP/SCS would encourage new growth in urbanized areas such as HQTAs and other livable corridors and neighborhood mobility areas sometimes within the HQTAs above their existing planned density levels; therefore, it would be expected to result in increased use of existing neighborhood parks and other recreational facilities such that substantial physical deterioration facilities may be anticipated. Regional parks have a service area of a 1-hour driving distance; therefore, the distribution of density would likely remain within the service area, and these parks would not experience an accelerated rate of deterioration of facilities. Based on the assumption that a 1-hour drive would provide access to regional parks within a 45-mile radius around HQTAs, most of the SCAG region is adequately served (**Figure 3.16.4-1, *Regional Recreation and Open Space Areas within a 45-Mile Radius of 2040 HQTAs***, and **Table 3.16.4-1, *Acres of Regional Recreation and Open Space Areas within a 45-Mile Radius of HQTAs in 2040***).

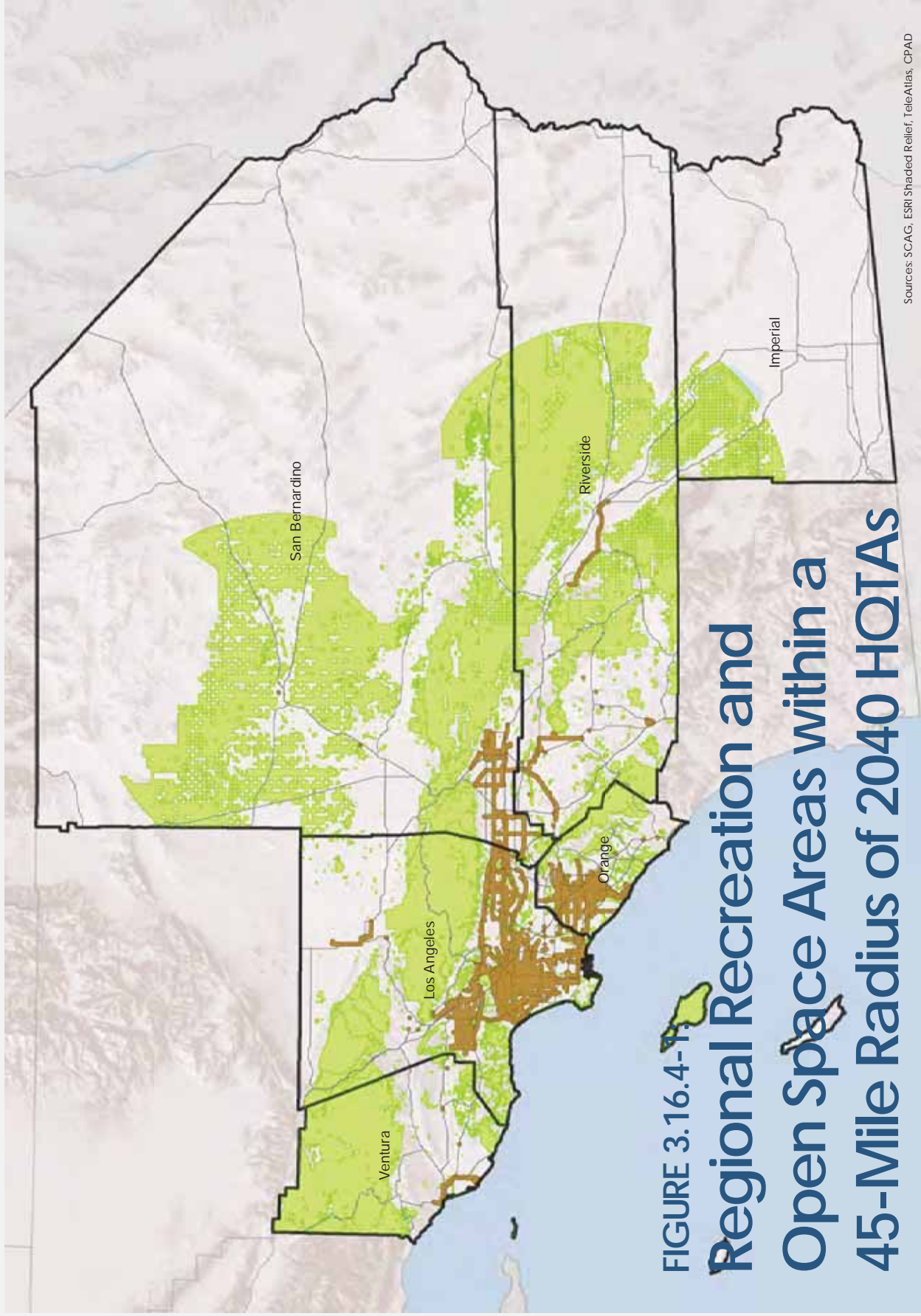


FIGURE 3.16.4-F
Regional Recreation and
Open Space Areas within a
45-Mile Radius of 2040 HQTAs

- 2040 HOTA
- Regional Recreation and Open Space (within 45-Miles)

Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CPAD



**TABLE 3.16.4-1
ACRES OF REGIONAL RECREATION AND OPEN SPACE AREAS
WITHIN A 45-MILE RADIUS OF HQTAs IN 2040**

	Imperial County ¹	Los Angeles County ²	Orange County ³	Riverside County ⁴	San Bernardino County ⁵	Ventura County ⁶
Regional parkland standard (acres per 1,000 population)	n/a	6	6	n/a	2.5	n/a
2040 population ⁷	282,000	11,514,000	3,461,000	3,168,000	2,731,000	966,000
Acres of Regional parkland/open space within 45-mile radius of 2040 HQTAs ⁸	285,926.7	889,975.4	131,058.9	1,630,611.2	2,389,479.9	636,732.3
Acres regional parkland/ open space per 1,000 population within 45-mile radius of 2040 HQTAs	1,013.9	77.3	37.9	514.7	874.9	659.1
Regional parkland surplus/deficiency within 45-mile radius of 2040 HQTAs	n/a	71.3 acre surplus	31.9 acre surplus	n/a	872.5 acre surplus	n/a

SOURCE:

¹Imperial County Planning & Development Services Department. Accessed 11 September 2015. *Imperial County General Plan: Parks and Recreation Element*. Available at: [http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-\(2008\).pdf](http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-(2008).pdf)

²Los Angeles County Department of Regional Planning. March 2015. *Public Review Draft March 2015 Text-Only Version: Los Angeles County General Plan*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_draft-march2015.pdf

³Orange County Public Works Development Services. July 2014. *General Plan: Chapter VII. Recreation Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960>.

⁴Riverside County Planning Department. 9 December 2014. *Riverside County General Plan – Current*. Available at: <http://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx>

⁵County of San Bernardino Land Use Service Division. Amended 24 April 2014. *County of San Bernardino 2007 General Plan*. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

⁶County of Ventura Resource Management Agency, Planning Division. Amended 8 May 2007. *Ventura County General Plan: Public Facilities & Services Appendix*. Available at: http://www.ventura.org/rma/planning/pdf/plans/GENERAL_PLAN_Public_Facilities_and_Services_Appendix_May_8_%2007_edition.pdf

⁷SCAG locally reviewed policy forecast model (as of October 5, 2015)

⁸GreenInfo Network. Accessed 16 November 2015. *California Protected Areas Data Portal*. Available at: <http://www.calands.org/>

Park accessibility is defined in the 2016 RTP/SCS as the percentage of park acreage reachable within a 45-minute travel time via (1) automobile, (2) local bus, and (3) all travel options. Los Angeles County and Orange County have identified an existing deficiency in local parkland per 1,000 persons that would have the potential to be directly exacerbated by the increased use of designated local parks and recreational facilities in HQTAs, based on the assumption that a 45-minute drive would provide access to regional parks within a 30-mile radius around HQTAs, most of the SCAG region is adequately served by regional parks (Figure 3.16.4-2, *Local Recreation and Open Space within a 30-Mile Radius of 2040 HQTAs*, and Table 3.16.4-2, *Acres of Local Recreation and Open Space Areas within a 30-Mile Radius of HQTAs in 2040*).

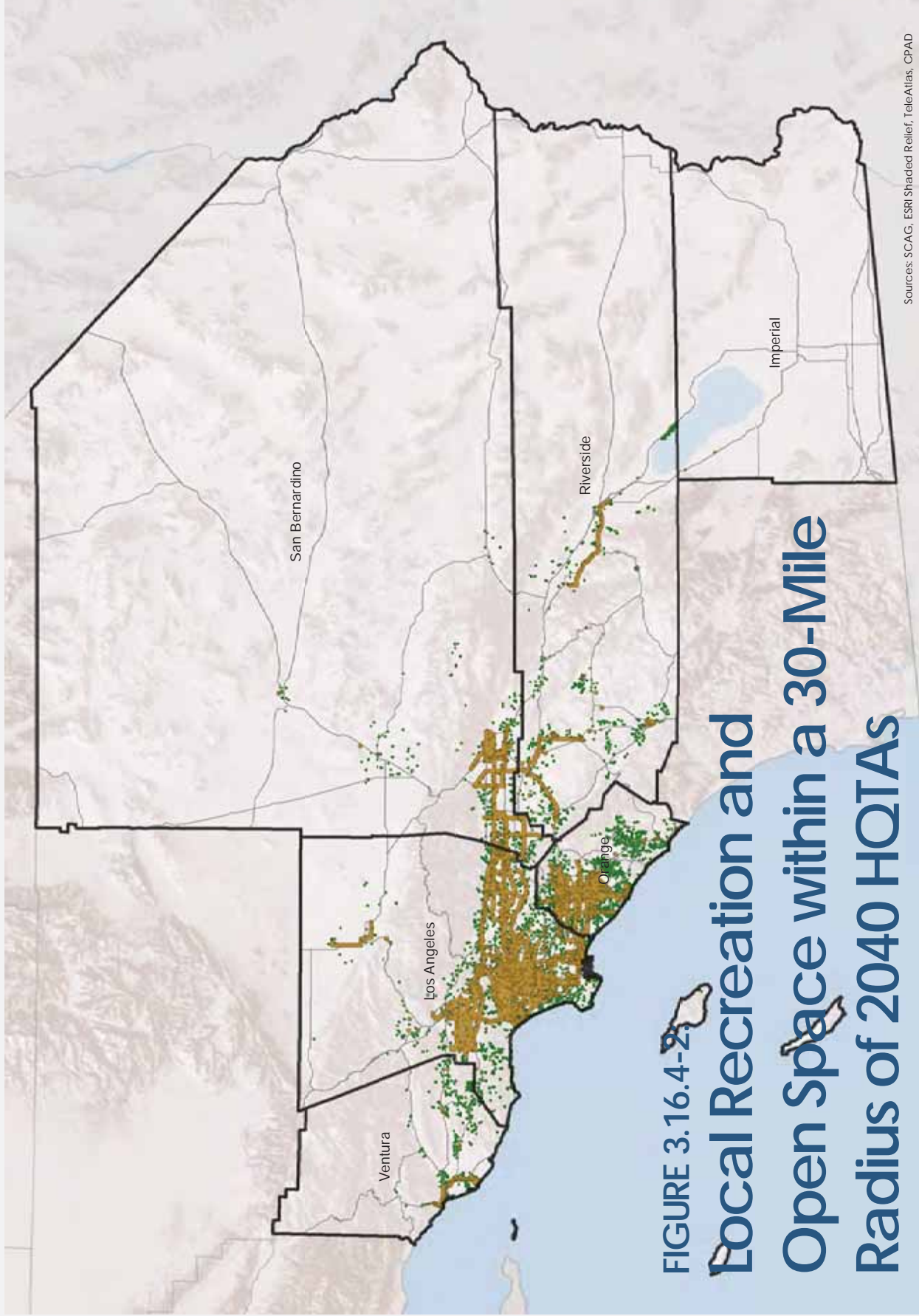
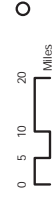


FIGURE 3.16.4-2
Local Recreation and
Open Space within a 30-Mile
Radius of 2040 HQTAs

- 2040 HOTA
- Local Recreation and Open Space (within 30-Miles)

Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CPAD



**TABLE 3.16.4-2
ACRES OF LOCAL RECREATION AND OPEN SPACE AREAS
WITHIN A 30-MILE RADIUS OF HQTAs IN 2040**

	Imperial County ¹	Los Angeles County ²	Orange County ³	Riverside County ⁴	San Bernardino County ⁵	Ventura County ⁶
Local parkland standard (acres per 1,000 population)	n/a	4	4	n/a	n/a	n/a
2040 population ⁷	282,000	11,514,000	3,461,000	3,168,000	2,731,000	966,000
Acres of Local parkland/open space within 30-mile radius of 2040 HQTAs ⁸	23.3	8,123.7	4,845.6	4,843.1	2,198.4	1,998.6
Acres local parkland/ open space per 1,000 population within 30-mile radius of 2040 HQTAs	0.1	0.7	1.4	1.5	0.8	2.1
Local parkland surplus/deficiency within 30-mile radius of 2040 HQTAs	n/a	3.3 acre deficiency	2.6 acre deficiency	n/a	n/a	n/a

SOURCE:

¹Imperial County Planning & Development Services Department. Accessed 11 September 2015. *Imperial County General Plan: Parks and Recreation Element*. Available at: [http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-\(2008\).pdf](http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-(2008).pdf)

²Los Angeles County Department of Regional Planning. March 2015. *Public Review Draft March 2015 Text-Only Version: Los Angeles County General Plan*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_draft-march2015.pdf

³Orange County Public Works Development Services. July 2014. *General Plan: Chapter VII. Recreation Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960>.

⁴Riverside County Planning Department. 9 December 2014. *Riverside County General Plan – Current*. Available at: <http://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx>

⁵County of San Bernardino Land Use Service Division. Amended 24 April 2014. *County of San Bernardino 2007 General Plan*. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

⁶County of Ventura Resource Management Agency, Planning Division. Amended 8 May 2007. *Ventura County General Plan: Public Facilities & Services Appendix*. Available at: http://www.ventura.org/rma/planning/pdf/plans/GENERAL_PLAN_Public_Facilities_and_Services_Appendix_May_8_%202007_edition.pdf

⁷SCAG locally reviewed policy forecast model (as of October 5, 2015).

⁸GreenInfo Network. Accessed 16 November 2015. *California Protected Areas Data Portal*. Available at: <http://www.calands.org/>

Accessibility to parks is a public health concern and is addressed under Environmental Justice in the 2016 RTP/SCS.⁶¹ Urbanized areas, such as the communities of Westlake and Southeast Los Angeles in the City of Los Angeles, are significantly park poor, with less than half an acre of park space per 1,000 residents, many of which are also low-income areas.⁶² Construction of transportation projects as well as development in underutilized urban (opportunity) areas and edges of the existing urbanized areas that would be anticipated as a result of land use strategies of the Plan would have a potential to impact open spaces and recreational lands (and possibly recreational facilities), through the acquisition of land and development of transportation projects and urban uses. These activities would have the potential to further increase the use at remaining facilities and reduce the ratio of parks-to-people in these areas.

⁶¹ This Draft PEIR does not analyze environmental justice. However, environmental justice is an important subject to the region and is analyzed in the Draft Plan (2016 RTP/SCS) and the associated Environmental Justice Appendix.

⁶² Los Angeles Department of City Planning. March 2015. *Plan for a Healthy Los Angeles: A Health and Wellness Element of the General Plan*. Available at: <http://planning.lacity.org/cwd/gnlpln/PlanforHealthyLA.pdf>

Except for the High Speed Rail (HSL) projects, which would impact open space in Los Angeles County, potentially including underground portions of the Angeles National Forest, the majority of transit and roadway improvements included in the 2016 RTP/SCS are generally located in urbanized areas, and therefore, are not likely to result in direct significant impacts to vacant/undisturbed lands or large tracts of land designated as open space. Additionally, transportation projects included in the Plan that could result in potentially significant impacts to recreational facilities would include closures to gaps in the highway network through areas that currently serve as open space lands, closures to gaps in the high-occupancy vehicle (HOV) lane network and the addition of freeway-to-freeway direct HOV connectors, and a connected network of express/high-occupancy toll (HOT) lanes.

Section 2.0, *Project Description*, of this PEIR also describes land use strategies. These strategies would target growth in urbanized areas such as HQTAs that provide walkable, bikeable, and/or transit-oriented land patterns. Under the 2016 RTP/SCS, although HQTAs account for only 3 percent of total land areas, they would and are projected to accommodate 46 percent of the region's future household growth and 50 percent of the future employment growth,⁶³ with the remainder of the new growth located outside the HQTAs, possibly on previously vacant/undeveloped urban land, open space and recreational lands, or farmland. Many of the urbanized areas in the SCAG region are currently deficient in local park space.^{64,65} Although land use strategies included in the Plan encourage additional parks and other regional and local biking and walking amenities, many of the areas where density would be expected to increase would be areas without sufficient park space, resulting in increased use and deterioration of existing neighborhood and regional parks.

However, this analysis should be read together with the Plan's strategies for active transportation, including expansion of regional greenway network, regional and local bikeway network, and short-trip strategies to improve sidewalk quality and use complete street to roadway improvements. These strategies that are integrated with land use pattern such as HQTAs, livable corridors, neighborhood mobility areas, as well as with innovative technologies such as neighborhood electric vehicles. While the 2016 RTP/SCS has the potential to result in a significant impact on existing neighborhood and regional parks or other recreational facilities, it includes strategies to create new neighborhood and regional recreational facilities and opportunities.

Implementation of the transportation projects and land use patterns anticipated by the strategies in the 2016 RTP/SCS would have the potential to increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated, constituting a potentially significant impact requiring the consideration of mitigation measures.

⁶³ Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

⁶⁴ In 2015, The Trust for Public Land's survey of parks within the 100 most populous U.S. cities calculated that the percent of population with walkable park access was only 45.2 percent in the City of Riverside, 54.1 percent in the City of Los Angeles, 59.7 percent in the City of Anaheim, 69.6 percent in the City of Santa Ana, and 79.5 percent in the City of Long Beach.

⁶⁵ The Trust for Public Land. Accessed 16 November 2015. *2015 City Park Facts*. Available at: https://www.tpl.org/sites/default/files/files_upload/2015-City-Park-Facts-Report.pdf

IMPACT REC-2. Potential to include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Significant Impact

Implementation of the transportation projects and land use patterns anticipated by the strategies in the 2016 RTP/SCS would have the potential to include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment, constituting a potentially significant impact. The 2016 RTP/SCS includes linear recreation facilities, such as a regional greenway network, a regional bikeway network, and local bikeway networks, the construction of which might have an adverse physical effect on the environment.

However, the Plan encourages increased residential and commercial development in HQTAs that may necessitate the construction or expansion of recreation facilities within or in nearby accessible locations to the HQTAs, which are typically urban areas. Development of recreation facilities in urban areas normally converts underutilized or blighted property to the benefit of the community and would not be expected to have an adverse physical effect on the environment.⁶⁶

As discussed in **Section 3.14, *Population, Housing, and Employment***, the total population in the SCAG region is expected to increase by approximately 3.6 million persons from 2014 to 2040, independent of the projects considered in the 2016 RTP/SCS. However, the land use development pattern of the 2016 RTP/SCS assumes a significant increase in small-lot, single- and multi-family housing that is expected to mainly occur in infill locations near transit infrastructure (HQTAs and transit priority areas [TPAs]), which are typically urban areas. Park development and expansion in urban areas is normally beneficial, although there may be limited instances where impacts will occur during construction of the park. As there is a potential for the linear recreational facilities considered in the Plan to result in adverse physical effects on the environment, impacts in regard to the construction or expansion of recreational facilities which might have an adverse physical effect on the environment would be significant, and consideration of mitigation measures is required.

3.16.5 CUMULATIVE IMPACTS

IMPACT REC-1. Potential to increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

Significant Cumulative Impact

Implementation of the 2016 RTP/SCS would have the potential to contribute cumulative impacts in regard to the increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. Overall, the impacts to recreation facilities and open space as a result of the transportation projects and anticipated

⁶⁶ National Trails Training Partnership. Accessed 26 October 2015. *Impacts of Trails and Trail Use*. Available at: <http://www.americantrails.org/resources/adjacent/sumadjacent.html>

development potentially influenced by the 2016 RTP/SCS would increase the need for local parkland within HQTAs and would be expected to incrementally contribute to indirect cumulative impacts to recreation facilities in regard to the accelerated substantial deterioration of existing facilities and, in combination with other projects in the SCAG region.

IMPACT REC-2. Potential to include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Significant Cumulative Impact

Implementation of the 2016 RTP/SCS would also have the potential to require the construction or expansion of recreational facilities, constituting a potentially significant cumulative impact. In combination with other projects in the SCAG region, implementation of the 2016 RTP/SCS would indirectly contribute (through population growth in areas with insufficient park access) to a deficiency in local/neighborhood parkland that would require the construction or expansion of recreational facilities which may have an adverse physical effect on the environment, requiring the consideration of mitigation measures.

3.16.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to recreation are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by the Lead Agency for transportation and development projects, as applicable and feasible.

IMPACT REC-1. Potential to increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

SCAG Mitigation Measures

MM-REC-1(a)(1): SCAG shall facilitate reducing future impacts as a result of increased use of existing neighborhood and regional parks or other facilities from population growth through cooperation with member agencies, information sharing, and program development in order to ensure consistency with planning for expansion of and new neighborhood parks within or in nearby accessible locations to HQTAs in funding opportunities and programs administered by SCAG. Lead Agencies, such as county and city planning departments, shall be consulted during this process.

MM-REC-1(a)(2): SCAG shall work with local jurisdictions to facilitate planning freeway caps, which are decks built over freeway trenches to create new public spaces, by continuing to provide technical assistance and planning support through its Sustainability Program for freeway cap planning projects and other adaptive urban park planning activities. SCAG shall make past documentation on freeway cap

plans available on SCAG's Sustainability Program website to serve as examples for future freeway cap planning projects and activities.

Project-Level Mitigation Measures

MM-REC-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on the integrity of recreation facilities, particularly neighborhood parks in the vicinity of HQTAs, that are within the jurisdiction and responsibility of other public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures capable of avoiding or reducing significant impacts on the use of existing neighborhood and regional parks or other recreational facilities to ensure compliance with county and city general plans and the Quimby Act, as applicable and feasible. Such measures may include the following, or other comparable measures identified by the Lead Agency:

- Prior to the issuance of permits, where projects require the construction or expansion of recreational facilities or the payment of equivalent Quimby fees, consider increasing the accessibility to natural areas and lands for outdoor recreation from the proposed project area, in coordination with local and regional open space planning and/or responsible management agencies.
- Prior to the issuance of permits, where projects require the construction or expansion of recreational facilities or the payment of equivalent Quimby fees, encourage patterns of urban development and land use which reduce costs on infrastructure and make better use of existing facilities, using strategies such as:
 - Increasing the accessibility to natural areas for outdoor recreation
 - Promoting infill development and redevelopment to revitalize existing communities
 - Utilizing "green" development techniques
 - Promoting water-efficient land use and development
 - Encouraging multiple uses
 - Including trail systems and trail segments in General Plan recreation standards
- Prior to the issuance of permits, where construction and operation of projects would require the acquisition or development of protected open space or recreation lands, demonstrate that existing neighborhood parks should be expanded or new neighborhood parks developed such that there is no net decrease in acres of neighborhood park area available per capita in the HQTA.
- Where construction or expansion of recreational facilities is included in the project or required to meet public park service ratios, require implementation of Mitigation Measures MM-AES-1(b), MM-AES-3(b), MM-AES-4(b), MM-AF-1(b), MM-AF-2(b), MM-BIO-1(b), MM-BIO-2(b), MM-BIO-3(b), MM-CUL-1(b), MM-CUL-2(b), MM-CUL-3(b), MM-CUL-4(b), MM-GEO-1(b), MM-GEO-1(b), MM-HYD-1(b), MM-USS-3(b), MM-USS-4(b), and MM-USS-6(b) to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities, through the imposition of conditions required to be followed to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of new or expanded public service facilities.

IMPACT REC-2. Potential to include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

SCAG Mitigation Measures

MM-REC-2(a): SCAG shall facilitate reducing future impacts as a result of the construction or expansion of recreational facilities which might have an adverse physical effect on the environment through cooperation with member agencies, information sharing, and program development in order to ensure consistency with planning for construction and expansion of parks to minimize adverse physical effects on the environment in funding opportunities and programs administered by SCAG. Lead Agencies, such as county and city planning departments, shall be consulted during this update process.

Project-Level Mitigation Measures

See MM-REC-1(b).

3.16.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT REC-1. Potential to increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

The implementation of mitigation measures MM-REC-1(a)(1), MM-REC-1(a)(2), MM-REC-1(a)(3), MM-REC-1(a)(4), and MM-REC-1(b) would reduce impacts related to the increased use of existing neighborhood parks and recreational facilities in the HQTAs where almost half of the new growth that is forecasted to occur in the region in the next 25 years under the regional land use strategies included in the 2016 RTP/SCS. However, because only two of the six counties in the SCAG region have established local parkland standards, and due to the large volume of transportation projects in the Plan that could occur over time and in large geographic areas and anticipated more compact development in the region, it is possible that impacts to recreational lands would not be mitigated in every instance, and the direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT REC-2. Potential to include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

The implementation of mitigation measures MM-REC-2(a) and MM-REC-1(b) would reduce impacts related to the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. However, because approval of projects is at the discretion of the Lead Agency, who can provide a variance that allows for overriding considerations, it is possible that impacts to recreational lands would not be mitigated in every instance, and the direct, indirect, and cumulative impacts would remain significant and unavoidable.

TRANSPORTATION, TRAFFIC, AND SAFETY

This section of the Program Environmental Impact Report (PEIR) describes transportation, traffic, and safety in the SCAG region; discusses the potential impacts of the proposed 2016-2040 Regional Transportation Plan/Sustainable Communities Strategies (“2016 RTP/SCS,” “Project,” or “Plan”) on transportation, traffic, and safety; identifies mitigation measures for the impacts; and evaluates the residual impacts. Transportation and traffic were evaluated consistent with Appendix G of the 2015 State California Environmental Quality Act (CEQA) Guidelines. The SCAG RTP/SCS PEIR addresses environmental impacts for the 2016 RTP/SCS transportation network including transportation: active transportation, aviation and airport ground access, corridor planning, goods movement, high speed rail, intelligent transportation systems, safety and security, transit, and transportation finance within the SCAG region. Transportation, traffic, and safety within the SCAG region were evaluated at a programmatic level of detail, in relation to the 2016 RTP/SCS and the Circulation or Transportation Element of the General Plans of the six counties and 191 cities within the SCAG region; a review of Congestion Management Plans for the SCAG Region, California Transportation Plan by Caltrans, and related literature germane to the SCAG region, as well as a review of the 2012 SCAG RTP/SCS PEIR.

The Southern California transportation system is a complex intermodal network designed to carry both people and goods. It consists of roads and highways, public transit, paratransit, bus, rail, airports, seaports, and intermodal terminals. The regional highway system consists of an interconnected network of local streets, arterial streets, freeways, carpool lanes, and toll roads. This highway network allows for the operation of private autos, carpools, private and public buses, and trucks. Active transportation modes, such as bicycles and pedestrians, share many of these facilities. The regional public transit system includes local shuttles, municipal and area-wide public bus operations, rail transit operations, regional commuter rail services, and interregional passenger rail service. The freight railroad network includes an extensive system of private railroads and several publicly owned freight rail lines serving industrial cargo and goods. The airport system consists of commercial, general, and military aviation facilities serving passenger, freight, business, recreational, and defense needs. The region’s seaports support substantial international and interregional freight movement and tourist travel. Intermodal terminals consisting of freight processing facilities, which transfer, store, and distribute goods. The transportation system supports the region’s economic needs, as well as the demand for personal travel.

Transit use is growing in the SCAG region. As of 2012, transit agencies in the SCAG region reported 716 million boarding. This represents growth of nearly 26 percent since 1991, but roughly 6 percent below the high point in 2008.¹

¹ Southern California Association of Governments. June 2015. *Fiscal Year 2011-12 Transit System Performance Report*.

Definitions

California Transportation Plan (CTP): This is a statewide, long-range transportation plan to meet future mobility needs and reduce greenhouse gas emissions.² The CTP defines performance-based goals, policies, and strategies to achieve the collective vision for California's future, statewide, integrated, multimodal transportation system.

Congestion Management Plan (CMP): This is a State-mandated program enacted by the State legislature to address the increasing concern that urban congestion is affecting the economic vitality of the State and diminishing the quality of life in some communities. The CMP provides the analytical basis for transportation decisions through the State Transportation Improvement Program.

Congestion Management Agency (CMA): A CMA is a county-wide body comprising of local elective officials within a County that administers the CMP to keep traffic levels manageable. In the past, state gas tax revenue had historically been used to fund road and highways. With the passage of Proposition 111 in the 1990s, state gas tax and directed revenue are provided to fund road, bicycle, pedestrian, and public transit projects in addition to highways to help manage congestion for multi-modal purposes. CMA is charged with coordinating land use, air quality, and transportation planning among the local jurisdictions, including monitoring the levels of congestion on major roads and analyzing the impacts that a proposed development will have on future traffic congestion.

Goods Movement: Refers to the transportation of for-sale products from the location of their manufacture or harvest to their final retail destination.

Level of Service (LOS): In the context of traffic analysis, this is a measure used to relate the quality of traffic service. LOS is used to analyze highways by categorizing traffic flow and assigning quality levels of traffic based on performance measures such as speed and density.

Million Annual Passengers (MAP): Number of people taking public transit, airline flight, bus, or train calculated expressed in the unit of 100,000 in terms of boarding counts.

Peak Hour: The part of the day during which traffic congestion on roads and crowding on public transport is at its highest.

Safety: Protection of persons and property from unintentional damage or destruction caused by accidental or natural events.

Transportation Demand Management (TDM): Strategies and actions directed at influencing the mode, frequency, time, route, or length of travel in order to maximize the efficiency and sustainable use of transportation facilities. TDM strategies typically include providing information on travel choices; managing parking, marketing and communications, financial incentives, and disincentives; providing and operating facilities that make the use of non-solo driving more attractive; and encouraging telework and flexible work strategies.

² California Department of Transportation. April 2013. *California Transportation Plan 2040: Fact Sheet*.

Transportation System Management (TSM): Transportation system management refers to a set of strategies that largely aim to reduce greenhouse gas (GHG) emissions by reducing congestion, primarily by improving transportation system capacity and efficiency. TSM strategies may also address a wide range of other externalities associated with driving such as pedestrian/driver safety, efficiency, congestion, travel time, and driver satisfaction. Some TSM strategies are designed to reduce total and systemic congestion and improve system-wide efficiency, while other strategies target particularly problematic areas where improvements could greatly affect congestion, safety, efficiency, and GHG emissions.

Vehicle Miles Traveled (VMT): The number of VMT provides an indicator of the travel levels of the roadway system by motor vehicles in a given time period. This number is estimated based upon traffic volume counts and roadway length.

3.17.2 Regulatory Framework

This regulatory framework focuses on the federal, State, and local statutes and regulations where the primary objective is improvement of transportation systems, standards, and travel demand measures. However, there are other regulations that are focused on increased energy efficiency and reduction of greenhouse gas emissions, that if accomplished would be expected to contribute to improvement in traffic levels. Those regulations have been addressed respectively in Section 3.6, *Energy*, and Section 3.8, *Greenhouse Gas Emissions and Climate Change*.

Federal

Federal Clean Air Act (CAA) Transportation Conformity

Congress passed the first major CAA (42 U.S. Code [USC] 7506(c)) in the 1970s which give EPA primary responsibility to regulate mobile and stationary sources of emissions and direct states to develop SIPs and required conformity determinations for areas designated nonattainment against the NAAQS, which included all six counties in the SCAG region. Conformity analysis and determination can be done at a regional level. SCAG provides a regional transportation conformity analysis in the Plan to address all nonattainment areas within the six county- region. The regional conformity determination is updated every 4 years with the RTP and associated FTIP, and is done as a part of the project-level conformity process for regionally significant projects as they occur. A hot spot analysis is provided to confirm that the project will not cause or worsen a localized violation of the standard for carbon monoxide (CO) or particulate matter (PM10 and/or PM2.5) in the existing nonattainment area. For more information, refer to Section 3.3 Air Quality.

Metropolitan Transportation Planning

The provisions of Title 23 USC Section 134 et seq. provides direct authority for Metropolitan Planning Organizations (MPOs) such as SCAG to act as a regional transportation planning organization with direct responsibility for carrying out the Regional Transportation Plan (RTP). SCAG is tasked with carrying out the transportation planning process and adopting long-range transportation plans. Collaborating with state and public transportation operators, SCAG undertakes a performance-driven, outcome-based approach to planning for the six county regions. SCAG must prepare a transportation plan to be

updated every four years, including identification of transportation facilities and factors for each mode of non-motorized transport to major roadways, transit, multimodal and intermodal facilities, and connectors that should function as an integrated system serving regional transportation functions. The scope of transportation planning process is to provide consideration of projects and strategies that will achieve the following objectives:

- Increase the safety of the transportation system for motorized and non-motorized users
- Increase the security of the transportation system for motorized and non-motorized users
- Increase the accessibility and mobility of people and for freight
- Protect and enhance the environment by promoting consistency between transportation improvements and State and local planned growth and economic development patterns
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight
- Emphasize the preservation of the existing transportation system

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

In 2005, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU; Public Law 109–59) was signed into law. SAFETEA-LU provides funding for highways, highway safety, and public transportation totaling \$244.1 billion, representing the largest surface transportation investment ever. The Act followed two bills that highlighted surface transportation funding needs—the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21), which shaped the highway program to meet changing transportation needs throughout the nation. SAFETEA-LU addresses challenges such as improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment. SAFETEA-LU also gives state and local transportation agencies more flexibility to solve transportation problems. SAFETEA-LU expired in 2009 but Congress extended the legislation; the most recent extension is known as Moving Ahead for Progress in the 21st Century (MAP-21). MAP-21 reauthorized most SAFETEA-LU highway, transit and Safety programs through September 2014.

Moving Ahead for Progress in the 21st Century (MAP-21)

MAP-21 (Public Law 112–141) replaces SAFETEA-LU as the nation’s surface transportation program and extended the provisions for fiscal year (FY) 12 with new provisions for FY 13. MAP-21 funds surface transportation programs at over \$105 billion for FY 2013 and FY 2014 and provides additional funding by the passage of continuing resolutions. It is intended to create a streamlined, performance-based, and multimodal program to address challenges facing the U.S. transportation system. These challenges include improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery. MAP-21 builds on and refines many of the highway, transit, bike, and pedestrian programs and policies first established under ISTEA in 1991. One of most significant changes from MAP-21 affecting MPOs, states, and transit operators is the new requirement for performance-based planning that involves use of performance measures and target setting. The U.S. Department of Transportation (U.S. DOT) is in the process of the rulemaking effort to implement these MAP-21

requirements.

Section 1305 of MAP-21 discusses a series of programmatic approaches to conduct environmental review. The rule promulgated the Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) to establish formal procedures for handling specific environmental consultation, review, and compliance. The legislation is also intended to set priorities to further define roles and responsibilities on promoting transparency, timeliness, and describe the relationship between programmatic analysis and future tiered analysis.

Intelligent Transportation System (ITS)

ITS are advanced applications aiming to provide innovative services relating to different modes of transport and traffic management and enable various users to be better informed and make safer, more coordinated, and smarter use of transport networks. With the passage of MAP-21, the ITS has fundamentally shifted from a program of research and development to one focused on infrastructure deployment. Traditionally, an ITS project is one that has information and communication technologies applied to the field of road transport, including infrastructure, vehicles, and users, and in traffic management and mobility management, as well as interfaces with other modes of transport. One way to incorporate MAP-21 vision and implement safety and security into transportation planning is through greater collaboration between transportation planning and operations. Collaboration is particularly critical in metropolitan regions and congested corridors where numerous jurisdictions, agencies, and service providers are responsible for the safety, security, and efficient operation of various aspects of the transportation system. Not only are the roadway and transit system operators themselves dependent on the transportation system, but so are police, fire, and medical services, emergency response and domestic security systems, and port authorities. Because the successful operation of ITS projects usually depend on coordination and communication between different agencies and the systems they operate, it is essential that there be a region-wide framework for cooperation to help achieve that coordination and communication in the most cost-effective manner. This framework is referred to as the Southern California Regional ITS Architecture.

ITS Program in MAP-21: Southern California Regional ITS Architecture

MAP-21 authorizes the Federal Highway Administration (FHWA) to encourage ITS deployment through demonstrations and grant program. The purpose is to promote the integrated management and operations of the transportation system, thereby improving multimodal transportation system management and operation. In the planning stage, ITS would be incorporated into existing transportation planning process. This goal of integration has resulted in a creation of a regional ITS architecture called the Southern California Regional ITS Architecture. The Southern California ITS Regional Architecture includes all six counties in the SCAG region. The goal of the project is to document the ITS Architecture, which is a framework for ensuring institutional agreement and technical integration of technologies for the implementation of projects or groups of projects under an ITS strategy. Local components to the ITS Architecture exist for Los Angeles County, Orange County, Inland Empire, Ventura County, and Imperial County.

Critical Needs Assessment under MAP-21: Statewide Transportation System Needs

There have also been several assessments of the critical state transportation infrastructure, which

include identification of the key transportation facilities.

For the SCAG region to be eligible to receive federal aid for transportation projects, it is required by federal law to prepare periodic assessment of its complex freeways, roads, bridges, rail systems, airports, public transit, and other transportation infrastructures. In 2011, the CTC commissioned a study that summarizes the state of transportation systems in the SCAG region and other Regional Transportation Planning areas from 2011 to 2020. This report includes the total cost of system preservation, system management, and system expansion projects during the 10-year study period.³

Aviation and Transportation Security Act (ATSA) by the 107th Congress: The Mission of the Transportation Security Administration (TSA)

Following the September 11, 2001, attacks, the TSA was created by under the 107th Congress as Public Law 107–71. The ATSA created the TSA to oversee the security of the nation’s transportation systems. With state, local, and regional partners, the TSA oversees security for highways, railroads, buses, mass transit systems, and ports. A vast majority of its resources are dedicated to aviation security, and it is primarily tasked with screening passengers and baggage.

Maritime Transportation Security Act of 2002

The Maritime Transportation Security Act of 2002 (Public Law 107–295), signed on November 25, 2002, is designed to protect the nation’s ports and waterways from a terrorist attack. This law is the U.S. equivalent of the International Ship and Port Facility Security Code (ISPS), and was fully implemented on July 1, 2004. It requires vessels and port facilities to conduct vulnerability assessments and develop security plans that may include passenger, vehicle, and baggage screening procedures; security patrols; establishing restricted areas; personnel identification procedures; access control measures; and/or installation of surveillance equipment.

The Disaster Mitigation Act of 2000 (DMA 2000)

The DMA 2000 (Public Law 106–390) provides an opportunity for states, tribes, and local governments to take a new and revitalized approach to mitigation planning. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 by adding Section 322 – Mitigation Planning. Section 322 placed new emphasis on mitigation planning requiring governments to develop and submit mitigation plans as a condition of receiving any funding from the Hazard Mitigation Grant Program (HMGP) project grants. This Act reinforces the importance of pre-disaster infrastructure mitigation planning to reduce disaster losses nationwide, and is aimed primarily at the control and streamlining of the administration of federal disaster relief and programs to promote mitigation activities.

³ California Transportation Commission. Accessed 11 September 2015. *2011 Statewide Transportation System Needs Assessment*. Available at: http://www.catc.ca.gov/reports/2011Reports/2011_Needs_Assessment_updated.pdf

State

Sustainable Communities and Climate Protection Act of 2008

The Sustainable Communities and Climate Protection Act of 2008 (Senate Bill [SB] 375, Chapter 728, Statutes of 2008) requires MPOs to prepare a Sustainable Communities Strategy (SCS) that demonstrates how the region will meet its GHG reduction targets through integrated land use, housing, and transportation planning. Specifically, the SCS must identify a transportation network that is integrated with the forecasted development pattern for the plan area and will reduce GHG emissions from automobiles and light duty trucks in accordance with targets set by the California Air Resources Board (California Govt. Code Section 65080(b)(2)(B)). Based on EO G-12-039, the targets accepted by CARB for GHG quantification for SCAG are an 8 percent reduction in per capita GHG emissions by 2020, and a 13 percent per capita reduction by 2035, in both cases with 2005 as a base year.

Changes to CEQA for Transit-Oriented Development

SB 743 codified the addition of Chapter 2.7, Section 21099 to the Public Resources Code (PRC) to provide for changes to CEQA for Transit-Oriented Development and establishes alternative metrics used for traffic levels of service (LOS) for transportation impacts inside transit priority areas. Key SB 743 language includes the following:

(1) The Office of Planning and Research shall prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed revisions to the guidelines adopted pursuant to Section 21083 establishing criteria for determining the significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. In developing the criteria, the office shall recommend potential metrics to measure transportation impacts that may include, but are not limited to, vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated. The office may also establish criteria for models used to analyze transportation impacts to ensure the models are accurate, reliable, and consistent with the intent of this section. (2) Upon certification of the guidelines by the Secretary of the Natural Resources Agency pursuant to this section, automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any.

Pursuant to Public Resources Code (PRC) § 21099(b)(1), the Office of Planning and Research (OPR) is required to prepare a draft revision to the CEQA Guidelines establishing new significance criteria within transit priority areas by July 1, 2014.

Also, upon certification of those guidelines, LOS may no longer be used except if specifically identified in the guidelines (PRC § 21099(b)(2) and (c)(1)). OPR has indicated that maintaining LOS would not “promote the reduction of greenhouse gas emissions, the development of multimodal transportation

networks, and a diversity of land uses” as required by the statute.⁴ Furthermore, in August 2014, OPR published preliminary discussion draft of updates to the CEQA Guidelines implementing SB 743 with a detailed metric setting out an alternative transportation impacts approach in compliance with SB 743 mandate.⁵ Currently, both VMT and LOS analyses are used in assessing transportation impacts, although the more recent GHG emissions analysis is steering away from measurement based on an intersection by intersection approach to assessing a project based on its total vehicle miles traveled for the land use type that it supports. The intent for using VMT as a criterion for measurement is to encourage good incremental, walkable, transit-accessible projects. Thus, it seems possible that LOS (as the sole basis for an impact finding) could be eliminated from CEQA analysis of projects although the technical thresholds of significance for projects’ VMT levels has yet to be determined.

Furthermore, for many active transportation projects that meet the guidelines establishing performance standards for expedited review, such as urban infill projects that promotes increasing efficiencies in transportation, reducing greenhouse gas emissions, supporting transit, and improving public health, SB 743 sets provisions on expediting the project analysis to limit scope of subsequent project EIR review. The bill provide that aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site, or within a transit priority area, to be exempted from considered as significant impacts for a project.

California Transportation Plan (CTP)

The CTP (SB 64; Chapter 711 Section 14536 amended 65073.1) is prepared by the California Department of Transportation every 5 years to provide a long-range policy framework to meet our future mobility needs and reduce greenhouse gas emissions. The CTP defines goals, performance-based policies, and strategies to achieve our collective vision for California’s future statewide, integrated, multimodal transportation system by envisioning a sustainable system that improves mobility and enhances our quality of life. The CTP is developed in collaboration with transportation stakeholders such as SCAG. Through ongoing engagement, the CTP is intended to provide goals and visions to support a fully integrated, multimodal, sustainable transportation system that supports the quality of life: prosperous economy, human and environmental health, and social equity. The CTP fulfills the state’s goal to meet the Federal Transportation Improvement Program.

Congestion Management Programs (CMPs) Established in Accordance with Proposition 111

Proposition 111 (1990), or “The Traffic Congestion Relief and Spending Limitation Act” (Government Code 65088) enacted a statewide CMP program and provides revenues to reduce traffic congestion by building state highways, local streets, and public mass transit facilities. The CMP was established to link land use, transportation, and air quality and to prompt reasonable growth management programs that

⁴ Governor’s Office of Research and Planning. 6 August 2014. *Updating Transportation Impacts Analysis in the CEQA Guidelines: Preliminary Discussion Draft of Updates to the CEQA Guidelines Implementing Senate Bill 743* (Steinberg, 2013). Available at: http://opr.ca.gov/docs/Final_Preliminary_Discussion_Draft_of_Updates_Implementing_SB_743_080614.pdf

⁵ Governor’s Office of Research and Planning. 6 August 2014. *Updating Transportation Impacts Analysis in the CEQA Guidelines: Preliminary Discussion Draft of Updates to the CEQA Guidelines Implementing Senate Bill 743* (Steinberg, 2013). Available at: http://opr.ca.gov/docs/Final_Preliminary_Discussion_Draft_of_Updates_Implementing_SB_743_080614.pdf

would effectively utilize existing transportation funds to alleviate traffic congestion and related impacts and improve air quality.

Under California law, CMPs are prepared and maintained by the Congestion Management Agencies (CMAs). The Los Angeles County Metropolitan Transportation Authority (Metro), Orange County Transportation Authority (OCTA), Riverside County Transportation Commission (RCTC), San Bernardino Associated Governments (SANBAG), and Ventura County Transportation Commission (VCTC) are the designated CMAs of each county and are subject to State requirements. While Imperial County is not subject to state CMP requirements, CMP-related activities there are accomplished through the development of the RTP/SCS and the Federal Transportation Improvement Program (FTIP) by the Imperial County Transportation Commission (ICTC).

Because the magnitude of congestion and degree of urbanization differ among the counties, each CMP differs in form and local procedure. Under state law, all CMPs are responsible for performing the monitoring and management functions shown below.

- **Highway Performance.** Each CMA monitors the performance of an identified highway system. This monitoring allows each county to track how their system, and its individual components, is performing against established standards, and how performance changes over time.
- **Multi-Modal Performance.** In addition to highway performance, each CMP contains an element to evaluate the performance of other transportation modes including transit.
- **Transportation Demand Management (TDM).** Each CMP contains a TDM component geared at reducing travel demand and promoting alternative transportation methods.
- **Land Use Programs and Analysis.** Each CMP incorporates a program for analyzing the effects of local land use decisions on the regional transportation system.
- **Capital Improvement Program (CIP).** Using data and performance measures developed through the activities identified above, each CMP develops a CIP. This becomes the first step in developing the County Transportation Improvement Program (TIP). Under State law, projects funded through the RTIP must first be contained in the county CIP.
- **Deficiency Planning.** The CMP contains provisions for “deficiency plans” to address unacceptable levels of congestion. Deficiency plans can be developed for specific problem areas or on a system-wide basis. Projects implemented through the deficiency plans must, by statute, have both mobility and air quality benefits. In many cases, the deficiency plans capture the benefits of transportation improvements that occur outside the county TIPs and RTIP such as non-traditional strategies and/or non-regionally significant projects.

The county CMPs together with SCAG’s RTP/SCS and FTIP fulfill the federal requirements for a “congestion management” process in transportation management areas to provide for integrated management and operation of the multimodal transportation system through the use of travel demand reduction and operational management strategies. Elements of a congestion management process include the use of congestion management objectives and performance measures, performance monitoring, identification of congestion problems and needs, and development and assessment of multimodal, demand management, and operational strategies. Federal funds may not be programmed for projects that significantly increase single-occupancy vehicle (SOV) capacity unless they are addressed through a congestion management process.

The regional transportation planning process and the county CMPs should be compatible with one another. To ensure consistency, SCAG and the CMAs have developed the Regional Consistency and Compatibility Criteria for CMPs. Information on the CMP activities and resulting data is updated on a biennial basis by each CMA and supplied to SCAG and air quality management districts.

Executive Order (EO) B-16-2012 on Zero Emission Vehicles

EO B-16-2-12 was signed by Governor Brown on March 23, 2012, to encourage development of the zero emission vehicles (ZEVs) to protect the environment, stimulate the economy, and improve the quality of life in the region. The goals that are promulgated include setting aggressive targets to meet goals in 2015, 2020, and 2025, supporting the rapid commercialization of clean vehicles, and pursuing policies to promote private sector investment and made-in California technologies. Executive Order B-16-2012 also sets a target for 2050 of a reduction of greenhouse gas emissions from the transportation sector equaling 80 percent less than 1990 levels.

In February 2013, an interagency working group developed the ZEV Action Plan which identifies specific strategies and actions that state agencies will take to meet the milestones of the Executive Order. The ZEV Action Plan states:

ZEVs are crucial to achieving the state's 2050 greenhouse gas goal of 80 percent emission reductions below 1990 levels, as well as meeting federal air quality standards. Achieving 1.5 million ZEVs by 2025 is essential to advance the market and put the state on a path to meet these requirements.

Also relevant to the ZEV Action Plan are a set of strategies and actions to complete infrastructure and planning, expand customer awareness and demand, transform fleets, and grow jobs and investments in the sector. One of the goals is to transform fleets by requiring more freight and public carriers to be ZEVs, along with development of electric vehicle infrastructure planning and investment to support access near highway corridors. A subset of this requirement would mandate 25 percent of light-duty vehicle purchases to use ZEVs by 2020.

EO B-32-15 Integrated Action Plan to Improve California's Freight System

On July 16, 2015, Governor Brown issued EO B-32-15, which orders the Secretary of the California State Transportation Agency, the Secretary of the California Environmental Protection Agency, and the Secretary of the Natural Resources Agency to lead other relevant state departments including the California Air Resources Board, the California Department of Transportation, the California Energy Commission, and the Governor's Office of Business and Economic Development to develop an integrated action plan by July 2016 that establishes clear targets to improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California's freight system. The action plan shall identify state policies, programs, and investments to achieve these targets, and be informed by existing state agency strategies, including the California Freight Mobility Plan, Sustainable Freight Pathways to Zero and Near-Zero Emissions, Integrated Energy Policy Report, as well as broad stakeholder input.

Regional

SCAG Active Transportation Plan

SCAG's Active Transportation Plan included in the 2012 RTP/SCS incorporates critical components in implementing sustainable community strategies, reducing greenhouse gas emissions, increasing public health, and making the region a more enjoyable place to live, work, and play consistent with the provisions of SB 743. Goals of the Active Transportation Plan are to reduce the number of bicycle and pedestrian facilities to less than 50 percent of current levels by 2035, increase the number of projects/funding in the RTIP that include bicycle and/or pedestrian components, and increase in mode share for bicycling and walking to at least 33 percent above the current estimate. SCAG's Active Transportation Plan builds into the verification process provisions used to measure a reduction of environmental footprint through identification of opportunities to provide accommodations in achieving more bicycle and pedestrian friendly region.

SCAG Active Transportation Strategies

The 2016 Active Transportation Plan included in the 2016 RTP/SCS proposes strategies to continue progress made in developing regional bikeway network, assumes all local active transportation plans will be implemented, and dedicates resources to maintain and repair thousands of miles of dilapidated sidewalks. The 2016 Active Transportation Plan also considers new strategies and approaches beyond those proposed in 2012, focusing on ways to augment the plan and active transportation analysis tools in order to:

- Better align active transportation investments with land-use and transportation strategies to reduce costs and maximize mobility benefits.
- Increase the competitiveness of local agencies for federal and state funding.
- Develop strategies that serve the 8-80 crowd to reflect changing demographics and make active transportation attractive to a wider audience.
- Expand regional understanding of the role short-trips play in achieving RTP/SCS goals and performance objectives, and provide a strategic framework to support local planning and project development geared toward serving these trips.⁶

SCAG Bicycle Route 66 Concept Plan

The Concept Plan for Bike Route 66 is a general guide to improve awareness of the route throughout the region and state. The counties within the SCAG jurisdiction in which the route traverses range from Needles to Santa Monica, including Los Angeles and San Bernardino Counties, and 32 cities within Los Angeles and San Bernardino Counties. Establishing a designated route with signage and dedicated bikeways offers commuting, utilitarian, and recreational cyclists a comfortable facility that enhances commute options. On Route 66, a mix of bikeway types is proposed. Class I bikeways covers off-street paths of trails. This class of bikeway incorporates bike paths created from historic transportation assets to provide less stressful alternatives to higher speed streets along Route 66. Class II bikeways cover on-street bike lanes, including Route 66 areas suitable for bicycles or shared use roadways. Class III

⁶ Southern California Association of Governments. October 2015. Transportation Committee. *Draft 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy- Proposed Active Transportation Plan Investment Framework*.

bikeways is a series of bike-friendly streets or low-speed streets that is optimized by bicycle traffic. Overall, Bike Route 66 is a part of the functional network of regional bicycle routes connecting the region and serving commuter, recreational, and touring cyclists. Local jurisdictions are encouraged to use this Concept Plan to develop, refine, and manage the Bike Route in a manner that best serves their areas.

SCAG Regional Bikeway Plan

The proposed 2016 Active Transportation Plan has developed goals for increasing bikeway miles, increase commute mode share of bicycling and walking, and improve trip connections to transit, and increases the number of sidewalks that are ADA compliant. To achieve implementation of these goals, SCAG will collaborate with other transportation agencies, local and regional government, and the California Active Transportation Program to implement a sustainability program in the six counties region. Currently, the shares of walking and biking in SCAG region combined is approximately 18 percent of the total modes available. SCAG is working with local jurisdictions to increase this percentage. By 2035, at least two-thirds of all trips shorter than three miles or half of all trips that are five miles or less could be converted to active transportation.

California Transportation Commission Regional Transportation Plan Guidelines (Adopted Pursuant to California Government Code 14522)

Under Government Code Section 14522, the CTC is authorized to prepare guidelines to assist in the preparation of RTPs. The CTC's RTP guidelines suggest that projections used in the development of an RTP should be based upon available data (such as from the U.S. Census Bureau), use acceptable forecasting methodologies, and be consistent with the Department of Finance baseline projections for the region. The guidelines further state that the RTP should identify and discuss any differences between the agency projections and those of the Department of Finance. The most recent update to the RTP guidelines was published in 2010, and includes new provisions for complying with Senate Bill 375 (see below), as well as new guidelines for regional travel demand modeling. The regional travel demand model guidelines are "scaled" to different sizes of metropolitan planning organizations (MPOs). SCAG is included in the grouping of the MPOs with population in excess of 18 million. The guidelines for regional travel demand modeling for the group, and include (among many other things) detailed guidelines and standards for validation and sensitivity testing of the model. Validation and sensitivity testing of the SCAG model was completed in August 2013.

California Transportation Commission Active Transportation Program Guidelines

Under Senate Bill (SB) 99 (Chapter 359, Statutes 2013) and AB 101 (Chapter 354, Statutes of 2013), the CTC is authorized to prepare guidelines to assist in the preparation of Active Transportation Plans (ATPs). An ATP includes bicycle, pedestrian, safe-routes to-school, and other comprehensive criteria to be included in the circulation element of its general plan in compliance with Complete Streets Act. The CTC's RTP guidelines suggest that all projects within the SCAG region must be selected through a competitive process that meets the federal aid goals. These goals are included in the environmental, design, right-of-way, and construction phases of the infrastructure and non-infrastructure projects. All projects that are selected in the ATP are required to include a discussion of the estimated bicycle and pedestrian trips, facilities report, proposed land use and bicycle transportation facilities, and policies related to parking and ADA compliance.

Plans and Policies Related to Complete Street Act of 2008 (AB 1358; S. 2686)

The Complete Streets Act of 2008 (AB 1358) required cities and counties to incorporate Complete Streets in their general plan updates to ensure that transportation plans meet the needs of all users, including pedestrians, bicyclists, and transit users as well as children, older individuals, and individuals with disabilities, to travel safely and conveniently on streets and highways. In the SCAG region, all six of the counties have developed their own bicycle and pedestrian plans. Majority of these bicycle pathways are part of existing Class II path which provides on-street bike lanes, although a few are in Class I category, which mean that the path is separate from automobile traffic, and some are categorized as Class III pathways with on-street bike lanes further designated by signs.

Imperial County Bicycle Master Plan

In 2011, Imperial County updated a Bicycle Master Plan,⁷ which was originally created in 2003. The guiding vision of the plan is to “encourage and promote bicycling as a safe and convenient form of transportation and recreation.” The Plan will implement 253.5 miles of bikeways with intent to replace vehicular trips with bicycle trips. Providing transportation options to reduce Vehicle Miles Traveled is an important feature of this plan that is supportive of SCAG’s overall goals and visions for limiting source pollution control such as carbon dioxide, nitrogen oxides, and hydrocarbon releases and an important component of decreasing greenhouse gas emissions and improving air quality.

Los Angeles County Bicycle Master Plan

Metro⁸ developed a Bicycle Transportation Strategic Plan (BTSP) in 2006 to be used by “the cities, the County of Los Angeles and transit agencies in planning bicycle facilities around transit and setting priorities that contribute to regional improvements. The goal is to integrate bicycle use in transportation projects.” In addition, Metro also created a Bicycle Transportation Account Compliance Document (BTA Document) to provide an “inventory and mapping of existing and proposed facilities, and an estimate of past and future expenditures for bicycle facilities.” In 2013, SCAG and Metro developed the Bike County Data Clearinghouse to assist LA County conduct bicycle counts. The Los Angeles County Department of Public Works adopted a Countywide Bicycle Master Plan in 2012, which was developed with the over-arching goal of increasing “bicycling throughout the County of Los Angeles through the development and implementation of bicycle-friendly policies, programs, and infrastructure.” The plan recommends the development of an interconnected network of bicycle corridors, with approximately 695 miles of bikeway facilities. This plan looks at the ridership and air quality benefits from cycling and also includes a list of existing and proposed bikeways in LA County.⁹

⁷ Imperial County. Accessed 14 September 2015. *Imperial County Bicycle Master Plan Update: Final Draft*. Prepared by: Alta Planning+Design. Available at: http://www.altaprojects.net/files/6413/2579/4308/Imperial_County_BMP_Final_Draft.pdf

⁸ Los Angeles County Metropolitan Planning Authority. Accessed 14 September 2015. *Bike Planning*. Available at: <http://www.metro.net/bikes/bikes-metro/bicycle-planning/>

⁹ Los Angeles County Department of Public Works. Accessed 14 September 2015. *Bicycle Master Plan*. Available at: <http://dpw.lacounty.gov/pdd/bike/masterplan.cfm>

Orange County Bicycle Master Plan

The 2011 Orange County Bikeways Strategic Plan was developed “to encourage the enhancement of Orange County’s regional bikeways network, in order to make bicycle commuting a more viable and attractive travel option.” The plan identifies approximately 116 miles of priority bikeway projects. In 2012, the Orange County Transportation Authority provides an addendum to the existing Plan with a Commuter Bikeways Strategic Plan (CBSP) that refines the regional bikeway networks and specified which bikeways are connected to priority locations including major transit investment areas, employment centers, stations, colleges, and universities.¹⁰

Riverside County Non-Motorized Transportation Plans

The Western Riverside Council of Governments (WRCOG) and the Coachella Valley Association of Governments (CVAG) have developed Non-Motorized Transportation Plans in 2010 for their respective jurisdictions covering most of Riverside County.¹¹ WRCOG’s 2010 Non-Motorized Transportation Plan proposes the development of over 440 miles of bikeways in order to provide a “regional backbone network of bicycle and pedestrian facilities to provide enhanced transportation mobility options.” The 2010 CVAG Non-Motorized Transportation plan recognizes the “value of providing opportunities for local residents and visitors to bicycle for work and recreation, as well as to use off-road trails for hiking, equestrians and jogging.”

San Bernardino County Non-Motorized Transportation Plans

The Revised 2015 San Bernardino County Non-Motorized Transportation Plan’s goals include: (1) improving pedestrian access to transit; (2) removing existing barriers to pedestrian travel; (3) developing regional trails and pathways, which provide improved pedestrian access to destinations; and (4) improving the pedestrian environment on major regional arterials and at regional activity centers.¹² Pedestrian access, mobility, and health benefits are captured in the revised plan.

Ventura County Bicycle Master Plan

The 2007 Ventura County Bicycle Master Plan “provides a broad vision, strategies and actions for the improvement of bicycling” by maximizing funding sources for implementation; improving safety and encouraging cycling; expanding the network and support facilities; and enhancing the quality of life in and overall environmental benefits. Within the County of Ventura, many jurisdictions and municipalities also has a bicycle plan to encourage non-motorized commutes.

¹⁰ Orange County Transportation Authority. Accessed 14 September 2015. *2009 OCTA Commuter Bikeways Strategic Plan*. Available at: <http://www.octa.net/pdf/2009CommuterBikewaysStrategicPlanAddendum.pdf>

¹¹ Western Riverside Council of Governments. Accessed 14 September 2015. *Western Riverside County Non-Motorized Transportation Plan*. Prepared by: Urban Crossroads. Available at: http://www.wrcog.cog.ca.us/uploads/media_items/western-riverside-county-non-motorized-transportation-plan-july-2010.original.pdf

¹² San Bernardino Associated Governments. Accessed 14 September 2015. *San Bernardino County Non-Motorized Transportation Plan*. Available at: <http://www.sanbag.ca.gov/planning2/pdf/NMTP-RevisedMay2015.pdf>

Active Transportation Plans

In addition to county plans, many local jurisdictions have developed their own active transportation plans or include active transportation components in the Circulation Element of their General Plan. Many street enhancement projects or capital improvement projects include active transportation elements as well. For example, many street improvement projects may include the striping of bikeways or new developments may include sidewalk enhancements.

Transit and Transportation Finance

The 2016 RTP/SCS expenditure plan includes the expansion of transit facilities and service over the next 25 years. There are major transit capital projects under construction in four of the six Counties in the SCAG region: Los Angeles County, Orange County, Riverside County, and San Bernardino County (**Table 3.17.1-1, Major Transit Capital Projects**). Local county sales tax programs are funding much of this expansion.

**TABLE 3.17.1-1
MAJOR TRANSIT CAPITAL PROJECTS**

County	Project	2016 RTP Completion Year	Project ID
Los Angeles	Crenshaw/LAX Transit Corridor	2021	LAOD198
Los Angeles	Metro Eastside Transit Corridor – Phase 2	2035	LAOG626
Los Angeles	Metro Exposition Line – Phase 2 to Santa Monica	2017	LAOF021
Los Angeles	Metro Gold Line Foothill Extension to Azusa	2017	LAOG558
Los Angeles	Metro Gold Line Foothill Extension to Claremont	2035	1120006
Los Angeles	Airport Metro Connector	2028	1TR0101
Los Angeles	South Bay Metro Green Line Extension	2036	1TR1001
Los Angeles	Regional Connector	2021	LAOG010
Los Angeles	San Fernando Valley (East) North/South Rapidways	2018	1TR0706
Los Angeles	West Santa Ana Branch Corridor	2027	1TR1011
Los Angeles	Metro Purple Line Westside Subway Extension Section 1	2023	LAOG447
Los Angeles	Metro Purple Line Westside Subway Extension to Century	2026	LAOG1052
Los Angeles	Metro Purple Line Westside Subway Extension to	2035	1TR1003
Los Angeles	Sepulveda Pass Transit Corridor	2039	1160001
Orange	Anaheim Rapid Connection	2019	2TR0701
Orange	Santa Ana/Garden Grove Fixed Guideway	2018	2TR1001
Riverside	Metrolink Perris Valley Line Extension to San Jacinto	2035	3CR0702
San Bernardino	Redlands Rail – Phase 1	2020	4TR0101
San Bernardino	Redlands Rail – Phase 2	2030	4120194

SOURCE:
SCAG data, 2015.

Local

County General Plans Circulation Element

Each of the six counties within the SCAG region has prepared a Transportation or Circulation Element, as a required component of the General Plan. The Transportation or Circulation Element provides a summary of the existing conditions in the planning area, major issues, goals, and policies, as well as pertinent action programs related to traffic and circulation related to a variety of transportation systems (highway and local road networks, bus, rail, high speed rail, aviation network, harbors, bicycles, pedestrians, and rideshare). The Transportation or Circulation Element describes the major locations and corridors for existing and future travel based on land use patterns in order to develop a comprehensive, coordinated, and continuing transportation system for the region. Relevant policies include encouraging provision of transit service at a reasonable cost to the users and the community, encouraging the efficient use and conservation of energy and ease congestion, and, where the land use would support, providing for development of a mass transportation system that will provide a viable alternative to the automobile, and support a balance in transportation modes with public transit system that provides accessible service, particularly to the transit dependent. A transportation system will operate at regional, countywide, community, and neighborhood scales to provide connectivity between communities and mobility between jobs, residences, and recreational opportunities.

County General Plans Safety Element

Each of the six counties in the SCAG region prepared a Safety Element as a required component of the General Plan. The Safety Element generally discusses measures to abate the impacts in case of catastrophe for maintenance of the transportation infrastructure. The Traffic and Transportation Division under each county is responsible for developing plans and guidelines for the maintenance of traffic control devices, emergency travel routes in the event of an emergency, placement of barricades, and control of traffic and coordination with other departments to promote integrated disaster planning, response and mitigation efforts. Included in the Safety Element discussion are strategies for continuation of adequate critical infrastructure systems and services to assure adequate circulation, communications, and transportation services for emergency response in the event of disaster related systems disruptions.

City of Los Angeles 2010 Bicycle Plan

The 2010 Bicycle Plan, proposed by the Los Angeles Department of City Planning, was adopted on March 1, 2011, as a component of the City of Los Angeles Transportation Element. This plan adheres to a complete streets approach that moves Los Angeles towards a more sustainable transportation system including all forms of active transportation, not just automobiles. The three main goals established in the Plan are to increase the number and types of bicyclists who bicycle in the City, make every street a safe place to ride a bicycle, and make the City of Los Angeles a bicycle-friendly community. The 2010 Plan designates an ambitious 1,684-mile bikeway system, built off an existing 334-mile bikeway system, and introduces a comprehensive collection of programs and policies. Among the elements of the 2010 Plan are several innovations in bicycle planning for Los Angeles. Four of them deserve special mention:

a Citywide Bikeway System comprised of three bikeway networks, Bicycle Friendly Streets, the bundling of programs and policies into ten categories, and a multipronged implementation strategy.^{13,14}

Following the passage of the bike plan, the City of Los Angeles includes a five-year implementation plan with a Bike Plan Implementation Team to ensure that the Plan's many projects are being implemented in an efficient and equitable manner to create a more inclusive community.

3.17.2 EXISTING CONDITIONS

The Southern California transportation system is a complex intermodal network designed to carry both people and goods. It consists of roads and highways, transit, passenger and freight rail, airports, seaports, and intermodal terminals. The regional roadway system consists of an interconnected network of interstates, freeways, highway, toll roads, arterial streets, and local streets. This roadway network allows for the operation and movement of private vehicles, commercial vehicles, private and public buses, and heavy-duty trucks. Active transportation modes, such as biking and walking use non-motorized transportation facilities, including bikeways and walkways that often share spaces with roadway facilities. SCAG is currently working on engaging local jurisdictions to expand bicycle and pedestrian network to encourage use of active transportation modes, establish safe routes to school, and educate bicyclists and pedestrians on activities around sensitive communities. The regional public transit system includes local shuttles, municipal and area-wide bus operations, light rail transit operations, regional commuter rail services, and interregional passenger rail service. The freight railroad network includes an extensive system of private railroads and several publicly owned freight rail lines serving industrial cargo and goods. The airport system consists of commercial, general, and military aviation facilities serving passenger, freight, business, recreational, and defense needs. The region's seaports support substantial international and interregional freight movement and tourist travel. Intermodal terminals consisting of freight processing facilities, which transfer, store, and distribute goods. The interconnected and complex transportation system advances the region's mobility and supports the region's economic growth, as well as the demand for safe personal travel.

Circulation System

Commute Patterns and Travel Characteristics

The existing transportation network serving the SCAG region supports the movement of people and goods. On a typical weekday in the six-county region, the transportation network supports a total of nearly 448 million vehicle miles of travel (VMT) and nearly 13 million vehicle hours of travel (VHT). Of this total, over half occur in Los Angeles County and less in Orange, San Bernardino, Riverside, Ventura, and Imperial Counties, respectively (Table 3.17.2-1, *Summary of Existing Daily Vehicle Miles and Percentage Vehicle Hours of Travel*).

Much of the existing travel in the SCAG region takes place during periods of congestion, particularly during the morning (6:00 a.m. to 9:00 a.m.) and evening peak periods (3:00 p.m. to 7:00 p.m.).

¹³ Southern California Association of Governments. Accessed 11 September 2015. *California Bicycle Route 66 Concept Plan*. Available at: <http://www.scag.ca.gov/Documents/Bike%20Route%2066%20concept%20plan.pdf>

¹⁴ Los Angeles Department of City Planning. Accessed 11 September 2015. *2010 Bicycle Plan*. Available at: <http://planning.lacity.org/cwd/gnlpln/transelt/NewBikePlan/Txt/LA%20CITY%20BICYCLE%20PLAN.pdf>

Congestion can be quantified as the amount of travel that takes place in delay (vehicle hours of delay or VHD) and, alternately, as the percentage of all travel time that occurs in delay (defined as the travel time spent on the highway due to congestion, which is the difference between VHT at free-flow speeds and VHT at congested speeds). Existing travel delays and percent of regional VHT in delay ranges from a low of no delay in Imperial County on freeways and arterials to 67 percent in Los Angeles County, with an average of 17 percent in the SCAG region (Table 3.17.2-2, *Summary of Existing Delay and Work Trip Length*; Figure 3.17.2-1, *Base Year 2012 AM Peak Period Congestion Delay on the Regional Freeway System*; Figure 3.17.2-2, *Plan 2040 AM Peak Period Congestion Delay on the Regional Freeway System*; Figure 3.17.2-3, *Base Year 2012 PM Peak Period Congestion Delay on the Regional Freeway System*; Figure 3.17.2-4, *Plan 2040 PM Peak Period Congestion Delay on the Regional Freeway System*). While there is a relatively small variation in average travel distance from home to work, from 10 miles in Imperial County, to 18 miles in Riverside and San Bernardino Counties, the average travel time during the peak hours ranges from a low of 13 minutes in the a.m. peak hour in Imperial County to a high of 116 minutes in San Bernardino County (Table 3.17.2-2). Home-to-work trip duration and distance are both greater for the inland counties of Riverside and San Bernardino, reflecting regional housing and employment distribution patterns.

The characteristics of home-to-work trip and all daily trips vary widely among counties (Table 3.17.2-3, *Existing Travel Mode Split [Percentage of County Total]*). On average, vehicular trips account for nearly 90 percent of home to work trips, including 75.8 percent in single occupancy trips, 3.6 percent in two-person carpools, 1.8 percent in three-person carpools, and 8.2 percent in auto passenger trips. When accounting for all daily trips, on average vehicular trips account for approximately 86 percent of all daily trips, including 43.3 percent in single occupancy trips, 8.0 percent in two-person carpools, 7.7 percent in three-person carpools, and 27.6 percent in auto passenger trips. Public transit in all forms (including school buses) carries approximately 2.4 percent of all trips in the SCAG region. Of these, the greatest number of travelers is carried by buses, with lesser patronage on Metro Rail, paratransit, commuter rail, and other forms of public transit services. Trips made via public transit account for 6.1 percent of all home-to-work trips in the region and 2.4 percent of all daily trips (Table 3.17.2-3). Non-motorized trips account for 4.0 percent of all home-to-work trips in the region and 11 percent of all daily trips (Table 3.17.2-3).

**TABLE 3.17.2-1
SUMMARY OF EXISTING DAILY VEHICLE MILES AND PERCENTAGE VEHICLE HOURS OF TRAVEL**

County	Vehicle Miles of Travel (VMT)						Vehicle Hours of Travel (VHT)					
	A.M. Peak Period		P.M. Peak Period		Daily		A.M. Peak Period		P.M. Peak Period		Daily	
	Miles	% of Region	Miles	% of Region	Miles	% of Region	Hours	% of Region	Hours	% of Region	Hours	% of Region
Imperial	847,760	1%	1,643,000	1%	5,255,956	1%	15,777	1%	24,691	1%	96,178	1%
Los Angeles	43,216,977	51%	74,635,000	51%	225,544,016	50%	1,462,755	58%	2,639,343	59%	7,159,240	56%
Orange	14,756,181	18%	24,793,000	18%	76,505,802	17%	463,633	18%	841,818	19%	2,265,450	18%
Riverside	10,424,649	12%	18,817,000	12%	58,224,510	13%	240,365	9%	402,747	9%	1,287,880	10%
San Bernardino	11,118,720	13%	18,944,000	13%	62,311,825	14%	263,319	10%	429,208	10%	1,391,850	11%
Ventura	3,702,642	4%	6,929,000	5%	19,650,017	4%	92,874	4%	167,232	4%	487,042	4%
Total	84,066,929	100%	145,761,000	100%	447,492,126	100%	2,538,723	100%	4,505,039	100%	12,687,640	100%

SOURCE: SCAG modeling, 2015.

**TABLE 3.17.2-2
SUMMARY OF EXISTING DELAY AND WORK TRIP LENGTH**

County	Vehicle Hours of Delay			% of Travel in Delay			Average Home-to-Work Trip Distance (miles)		Average Home-to-Work Trip Duration (minutes)	
	A.M. Peak Period	P.M. Peak Period	Daily	A.M. Peak Period	P.M. Peak Period	Daily	Vehicle Trips (A.M. Only)	Vehicle Trips (A.M. Only)	Transit Trips (A.M. only)	
Imperial	146	299	1,199	0%	0%	0%	10	13	66	
Los Angeles	472,560	1,039,218	2,000,016	67%	67%	67%	14	26	69	
Orange	140,319	320,755	578,293	20%	21%	19%	13	21	78	
Riverside	33,522	73,436	149,383	5%	5%	5%	18	29	95	
San Bernardino	45,114	85,902	186,160	6%	6%	6%	18	29	116	
Ventura	14,118	39,096	68,338	2%	3%	2%	16	27	109	
Total	705,779	1,558,706	2,983,389	17%	17%	17%	15	26	73	

SOURCE: SCAG modeling, 2015.

**TABLE 3.17.2-3
EXISTING TRAVEL MODE SPLIT (PERCENTAGE OF COUNTY TOTAL)**

County	Person Trip Type	Drive Alone	2-Person Carpool	3-Person Carpool	Auto Passenger Trip	Transit	Non-Motorized	Total
Imperial	Home-Work/Univ	80.4%	2.8%	1.2%	5.9%	0.7%	8.9%	100%
	All Daily Trips	44.3%	7.8%	6.1%	23.0%	0.4%	18.5%	100%
Los Angeles	Home-Work/Univ	73.8%	3.5%	1.9%	8.2%	7.5%	5.1%	100%
	All Daily Trips	39.9%	7.5%	8.2%	28.5%	3.2%	12.7%	100%
Orange	Home-Work/Univ	79.0%	3.9%	1.8%	8.4%	2.2%	4.6%	100%
	All Daily Trips	44.2%	7.9%	8.0%	28.2%	1.0%	10.7%	100%
Riverside	Home-Work/Univ	81.2%	3.5%	2.2%	9.1%	0.7%	3.3%	100%
	All Daily Trips	45.6%	8.2%	7.5%	27.1%	0.4%	11.1%	100%
San Bernardino	Home-Work/Univ	80.1%	3.6%	2.4%	9.6%	1.0%	3.4%	100%
	All Daily Trips	45.5%	8.2%	7.6%	27.3%	0.4%	11.0%	100%
Ventura	Home-Work/Univ	84.5%	2.7%	1.3%	5.8%	1.1%	4.7%	100%
	All Daily Trips	48.6%	7.7%	6.9%	25.0%	0.5%	11.3%	100%
Total	Home-Work/Univ	76.8%	3.5%	1.9%	8.4%	4.8%	4.6%	100%
	All Daily Trips	42.3%	7.7%	8.0%	27.9%	2.1%	12.0%	100%

SOURCE:
SCAG modeling, 2015.

Regional Freeway, Highway, and Arterial System

The regional freeway, highway, and arterial system is the primary means of person and freight movement for the region (Table 3.17.2-4, *Existing Regional Freeway Route Miles and Lane Miles by County*). This system provides for direct auto, bus and truck access to employment, services and goods. The network of freeways, interstates, and highways serves as the backbone of the system offering very high capacity limited-access travel and serving as the primary heavy-duty truck route system. As discussed in Chapter 3 of the 2016 RTP/SCS, the rate of deterioration is expected to accelerate significantly as maintenance cost continues to be deferred on our roadway systems such that to bring back these assets to a state of good repair would improve security and lead to efficiency although costly. The SCAG region will focus on preserving the existing transportation network, including preservation of roads, highways, bridges, railways, bicycle and pedestrian facilities, and transit infrastructures that lead to maintain mobility and provide cost-efficiency without increasing capacity.

**TABLE 3.17.2-4
EXISTING REGIONAL FREEWAY ROUTE MILES AND LANE MILES BY COUNTY**

County	Freeway Route Miles	Freeway Lane Miles
Imperial	95	379
Los Angeles	538	4,231
Orange	201	1,525
Riverside	298	1,697
San Bernardino	453	2,471
Ventura	91	516
Total	1,676	10,820

SOURCE: SCAG modeling, 2015.

Regional High-Occupancy Vehicle (HOV) System and Park and Ride System

The regional HOV system consists of exclusive lanes on freeways and arterials, as well as busways and exclusive rights-of-way dedicated to the use of high-occupancy vehicles (HOVs). It includes lanes on freeways, ramps and freeway-to-freeway connectors (Table 3.17.2-5, *Existing Regional High-Occupancy Vehicle Lane Miles by County*). The regional HOV system is designed to maximize the person-carrying capacity of the freeway system through the encouragement of shared-ride travel modes. HOV lanes operate at a minimum occupancy threshold of either two or three persons. Many include on-line and off-line park and ride facilities, and several HOV lanes are full “transitways” including on-line and off-line stations for buses to board passengers.

**TABLE 3.17.2-5
EXISTING REGIONAL HIGH-OCCUPANCY VEHICLE LANE MILES BY COUNTY**

County	HOV Total Lane Miles
Imperial	0
Los Angeles	507
Orange	244
Riverside	82
San Bernardino	105
Ventura	0
Total	938

SOURCE:
SCAG modeling, 2015.

Park and ride facilities are generally located at the urban fringe along heavily traveled freeway and transit corridors and support shared-ride trips, either by transit or by carpool or vanpool. Most rail transit stations have park and ride lots nearby. Park and ride lots in the SCAG region include: 106 in Los Angeles County, 25 in Orange County, 26 in Riverside County, 18 in San Bernardino County, and 20 in Ventura County.¹⁵

¹⁵ IE511.org. Accessed 11 September 2015. *Find a Park & Ride Lot*. Available at: <http://www.ie511.org/rideshare/park-and-ride>

Arterial Street System

The local street system provides access for local businesses and residents. Arterials account for over 80 percent of the total road network and carry a high percentage of total traffic (Table 3.17.2-6, *Existing Regional Arterial Route Miles and Lane Miles by County*). In many cases arterials serve as alternate parallel routes to congested freeway corridors. Peak period congestion on the arterial street system occurs generally in the vicinity of activity centers, at bottleneck intersections and near many freeway interchanges.

**TABLE 3.17.2-6
EXISTING REGIONAL ARTERIAL ROUTE MILES AND LANE MILES BY COUNTY**

County	Arterials	Lane Miles
Imperial	Principal	614
	Minor	557
Los Angeles	Principal	8,349
	Minor	8,946
Orange	Principal	3,493
	Minor	2,729
Riverside	Principal	1,208
	Minor	2,871
San Bernardino	Principal	1,799
	Minor	3,865
Ventura	Principal	804
	Minor	992
SCAG Total	Principal	16,267
	Minor	19,960

SOURCE:

SCAG modeling, 2015.

Goods Movement

Wholesale and retail trade, transportation, and manufacturing support over approximately 3.3 million jobs in the SCAG region according to statistics provided by the State's Employment Development Department.¹⁶ Goods movement includes trucking, rail freight, air cargo, marine cargo, and both domestic and international freight, the latter entering the country via the seaports, airports, and the international border with Mexico. Additionally, many cargo movements are intermodal, for example, sea to truck, sea to rail, air to truck, or truck to rail. The goods movement system includes not only highways, railroads, sea lanes, and airways, but also intermodal terminals, truck terminals, railyards, warehousing, freight consolidation/de-consolidation terminals, freight forwarding, package express, customs inspection stations, truck stops, and truck queuing areas.

¹⁶ State of California Employment Development Department. 21 August 2015. News Release No. 15-32. Available at: http://www.edd.ca.gov/About_EDD/pdf/urate201508.pdf

Heavy-Duty Trucks

One of the key components of the region's goods movement system is the fleet of heavy-duty trucks, defined as cargo-carrying vehicles with a gross weight rating in excess of 8,500 pounds. Trucks provide a vital link in the distribution of all types of goods between the region's ports (sea and air), railroads, warehouses, factories, farms, construction sites and stores. The size and weight of heavy-duty trucks gives them unique operating characteristics; that is, they accelerate and decelerate more slowly than lighter vehicles and require more road space to maneuver. Dedicated truck lanes currently exist at two major freeway interchanges: the junction of Interstate 5 (I-5) with the I-210 and State Route 14 (SR-14) and at the junction of the I-405 with the I-110. In addition, truck climbing lanes are located on northbound I-5 in northern Los Angeles County.

The trucking industry, including common carrier, private carrier, contract carrier, drayage and owner-operator services, handles both line-haul and pick-up and delivery. The industry uses the public highway system for over-the-road and local service. However, it is also served by a considerable infrastructure of its own. This infrastructure includes truck terminals, warehousing, consolidation and trans-loading facilities, freight forwarders, truck stops and maintenance facilities. These various facilities are especially prevalent in the case in the South Bay and Gateway Cities areas, including Wilmington and Carson and extending generally between Los Angeles International Airport (LAX) and the San Pedro Bay Ports, along the I-710 Corridor north to Vernon, Commerce, and Downtown Los Angeles, east through the San Gabriel Valley to Industry, Pomona, and Ontario and then to the Inland Empire in Fontana and Rialto as well as in Glendale, Burbank and Bakersfield. Specialized facilities for trucking that provide air cargo ground transport are located around regional airport facilities, notably LAX and LA/Ontario International Airport.

Railroads

The SCAG region is served by two main line commercial freight railroads—the Burlington Northern/Santa Fe Railway Co. (BNSF) and the Union Pacific Railroad (UP). These railroads link Southern California with other United States regions, Mexico, and Canada either directly or via their connections with other railroads. They also provide freight rail service within California. In 2012, railroads moved approximately 154.8 million tons of cargo throughout California.¹⁷

The SCAG region is also served by three short line or switching railroads:

- The Pacific Harbor Line (formerly the Harbor Belt Railroad), which handles all rail coordination involving the Ports of Los Angeles and Long Beach, including dispatching and local switching in the harbor area
- Los Angeles Junction Railway Company, owned by BNSF, which provides switching service in the Vernon area for both the BNSF and UP
- The Ventura County Railroad, owned by Rail America, Inc., which serves the Port of Hueneme and connects with the UP in Oxnard

¹⁷ Association of American Railroads. 2012. U.S. Freight Railroad Industry Snapshot: California. Available at: <https://www.aar.org/data-center/railroads-states#state/CA>

These railroads perform specific local functions and serve as feeder lines to the trunk line railroads for moving goods to and from Southern California.

The two main line railroads also maintain and serve major facilities in the SCAG region. Intermodal facilities in Commerce (BNSF-Hobart), East Los Angeles (UP), San Bernardino (BNSF), and Carson near the San Pedro Bay Ports (UP-ICTF), the Los Angeles Transportation Center (UP-LATC), and the UP-City of Industry yards serve on-dock rail capacity at the Ports of Los Angeles (UP/BNSF) and Long Beach (UP/BNSF).

All of the major rail freight corridors in the region have some degree of grade separation, but most still have a substantial number of at-grade crossings on major streets with high volumes of vehicular traffic. These crossings cause both safety and reliability problems for the railroads and for those in motor vehicles at the affected crossings. Trespassing on railroad rights of way by pedestrians is another safety issue affecting both freight and commuter railroads.

As an example, the Alameda Corridor, a 20-mile, four-lane freight rail expressway, began operations in April 2002. In 2014, approximately 17,061 intermodal trains transited the Alameda Corridor, an approximate increase of 2.9 percent since 2013.¹⁸

Public Transit

In Southern California public transit service is comprised of local and express buses, transitways, Rapid Bus, bus rapid transit (BRT), urban rail, including subway and light rail principally centered in the core of Los Angeles County, commuter rail that spans five counties and shuttles/circulators that feed all transportation modes and activity centers (Table 3.17.2-7, *SCAG Region Annual Fixed Route Transit Ridership*). Transit service is provided by approximately 67 separate public agencies. Twelve of these agencies provide 91 percent of the existing public bus transit service. Local service is supplemented by municipal lines and shuttle services. Private bus companies provide additional regional service.

**TABLE 3.17.2-7
SCAG REGION ANNUAL FIXED ROUTE TRANSIT RIDERSHIP**

Total Trips	2001	2005	2008	2012
Metro Rail	61,802,000	74,243,000	86,707,000	101,516,533
Commuter Rail	7,398,000	10,693,000	12,681,000	13,155,790
Bus	548,728,000	609,795,000	622,286,000	587,830,836
Total	617,928,000	694,731,000	721,674,000	702,503,159
Passenger Miles	2001	2005	2008	2012
Metro Rail	339,799,942	442,916,123	524,813,417	597,916,365
Commuter Rail	274,625,402	359,938,222	436,565,493	433,650,956
Bus	2,206,840,397	2,375,502,229	2,461,654,000	2,487,359,821
Total	2,821,265,741	3,178,356,574	3,423,032,910	3,518,927,142

SOURCE:

SCAG modeling, 2015.

¹⁸ Alameda Corridor Transportation Authority. Accessed 11 September 2015. *Number of Trains Running on the Alameda Corridor*. Available at: <http://www.acta.org/pdf/CorridorTrainCounts.pdf>

Many people depend on reliable transit service to participate in the economic, cultural, and social benefits of Southern California, and transit use is growing in the SCAG region (Table 3.17.2-8, *Statistics for Major Transit Operators for 2010*). As of 2012, transit agencies in the SCAG region reported over 716 million annual boarding. This represents growth of 14 percent between 2001 and 2012, but only 3 percent growth in per capita trips due to population growth. In the same period, Metrolink saw annual ridership grow by 78 percent, and Metro Rail (Los Angeles County) by 64 percent.

**TABLE 3.17.2-8
STATISTICS FOR MAJOR TRANSIT OPERATORS FOR 2010**

County	Largest Transit Operator	Average Weekday Boardings	Annual Boardings	Annual Vehicle Revenue Miles (VRM)	Passenger Fares as a % of Operation Expenses*
FIXED ROUTE BUS SERVICE					
Imperial	IVT	2,000	593,000	666,000	15.2%
Los Angeles	Metro	1,579,000	503,071,000	139,274,000	24.4%
Orange	OCTA	182,000	58,104,000	21,666,000	25.1%
Riverside	RTA	36,000	11,368,000	10,163,000	15.2%
San Bernardino	Omnitrans	49,000	15,685,000	10,035,000	22.9%
Ventura	Gold Coast Transit	15,000	4,880,000	3,853,000	19.6%
METRO RAIL – HEAVY RAIL					
Los Angeles	Metro	150,000	47,906,000	5,885,000	38.7%
METRO RAIL – LIGHT RAIL					
Los Angeles	Metro	146,000	46,409,000	9,646,000	18.3%
REGIONAL COMMUTER RAIL					
Various	SCRRA (Metrolink)	38,000	12,006,000	10,479,000	42.4%

SOURCE: National Transit Database, 2011.

Metro Rail System

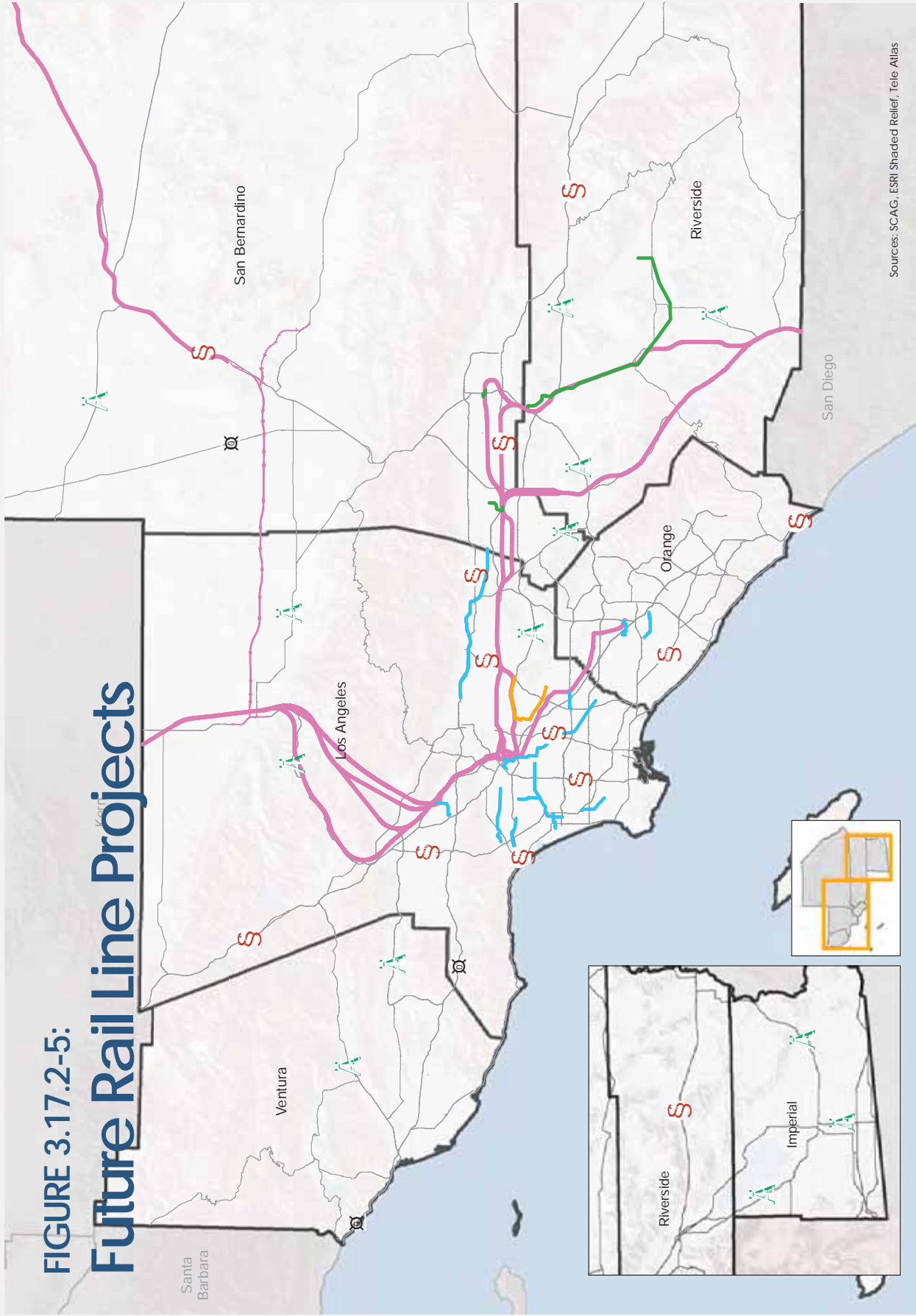
Existing urban rail lines (Metro Rail) are located in Los Angeles County and are operated by Metro. They include the Metro Blue Line from Long Beach to Downtown Los Angeles, the Metro Green Line from Redondo Beach to Norwalk, the Metro Expo Line from Downtown Los Angeles to Culver City, and the Metro Red Line subway from Union Station to North Hollywood. The Metro Purple Line subway follows the Red Line from Union Station to Wilshire and Vermont but branches off to Western Avenue, and the Metro Gold Line that runs from East Los Angeles (Atlantic station) to Pasadena via Union Station (shown in Figure 3.17.2-5, *Future Rail Line Projects*). The Metro Rail system is operated seven days a week. A system total of 87.7 route miles serves a total of 80 stations. Ridership on the Metro Rail system is approximately 323,870 boardings every day.¹⁹

Commuter Rail and Intercity Passenger Rail

Commuter rail service is operated by the Southern California Regional Rail Authority (SCRRA). In October of 1992, the SCRRA began initial operation of the Metrolink commuter rail system on three lines. Service on the initial system was greatly expanded after the 1994 Northridge earthquake.

¹⁹ Los Angeles Metropolitan Transportation Authority. October 2014. *Facts at a Glance*. Available at: <http://www.metro.net/news/facts-glance/>

**FIGURE 3.17.2-5:
Future Rail Line Projects**



— High Speed Rail
— Metrolink
— Urban Rail
— Urban Rail Alternative

0 3 6 12 Miles

Sources: SCAG, ESRI Shaded Relief, Tele Atlas

Currently SCRRRA operates seven routes including five from Downtown Los Angeles to Ventura, Lancaster, San Bernardino, Riverside, and Oceanside, from San Bernardino to Oceanside, and from Riverside via Fullerton or City of Industry to Downtown Los Angeles. As of September 2014, the system operated 169 trains on weekdays, 44 on Saturdays, and 38 on Sundays to 55 stations on 512 route miles. Average weekday ridership is approximately 43,667 passengers.²⁰

Amtrak provides significant regional and interregional service on the Los Angeles–San Diego–San Luis Obispo (LOSSAN) Corridor (also known as Amtrak’s Pacific Surfliner corridor) operating 12 daily round-trip services, with service to Los Angeles Union Station (Figure 3.17.2-6, *Amtrak Railways*). Additionally, Amtrak operates four interstate routes within the region (Coast Starlight, Sunset Limited, Southwest Chief and Texas Eagle) that on average have one daily trip.²¹

Shuttles and Demand-Responsive Services

One component of the region’s public transit system consists of publicly operated or funded demand-response taxis and dial-a-ride services; some open to the general public, others limited to elderly and disabled use. It also includes locally operated or funded shuttle buses (e.g., Los Angeles DASH, Pasadena ARTS, Glendale Beeline, Cerritos on Wheels, El Monte Transit, Riverside Orange Blossom, etc.). Access Paratransit, the largest provider of transportation services for the disabled in the region, operates in the vicinity of fixed-route bus and rail lines in Los Angeles County and extends into portions of the surrounding counties of San Bernardino, Orange and Ventura. These systems serve as local shuttles, internal circulators, connectors to other public transit, or as shoppers’ shuttles. Service on these systems is usually limited to a prescribed geographic area.²²

Active Transportation and Non-Motorized Transport

The California Active Transportation Program (ATP) was created to ensure all active modes of transportation, such as biking and walking, was accounted to meet the development of active transportation plans in disadvantaged communities as well as the implementation of non-infrastructure projects (i.e. education, enforcement activities). The use of bicycle as a means of transportation has several appealing aspects for an increasing share of travelers.

Bicycle and Pedestrian Facilities

Biking and walking primarily constitutes non-motorized transportation. Non-motorized transportation plays a bigger role in the densely-populated, mixed-land-use areas of the region. Bicycling has positive air quality, economic, and health impacts, and can reduce automobile-related congestion and energy use. Similar to bicycle use, walking can also reduce auto emissions of both criteria pollutants and greenhouse gases from auto trips. Health in communities improve when there are options to increase physical outcome of activities, lower body weight, lower rates of traffic injuries, lower air pollution, and

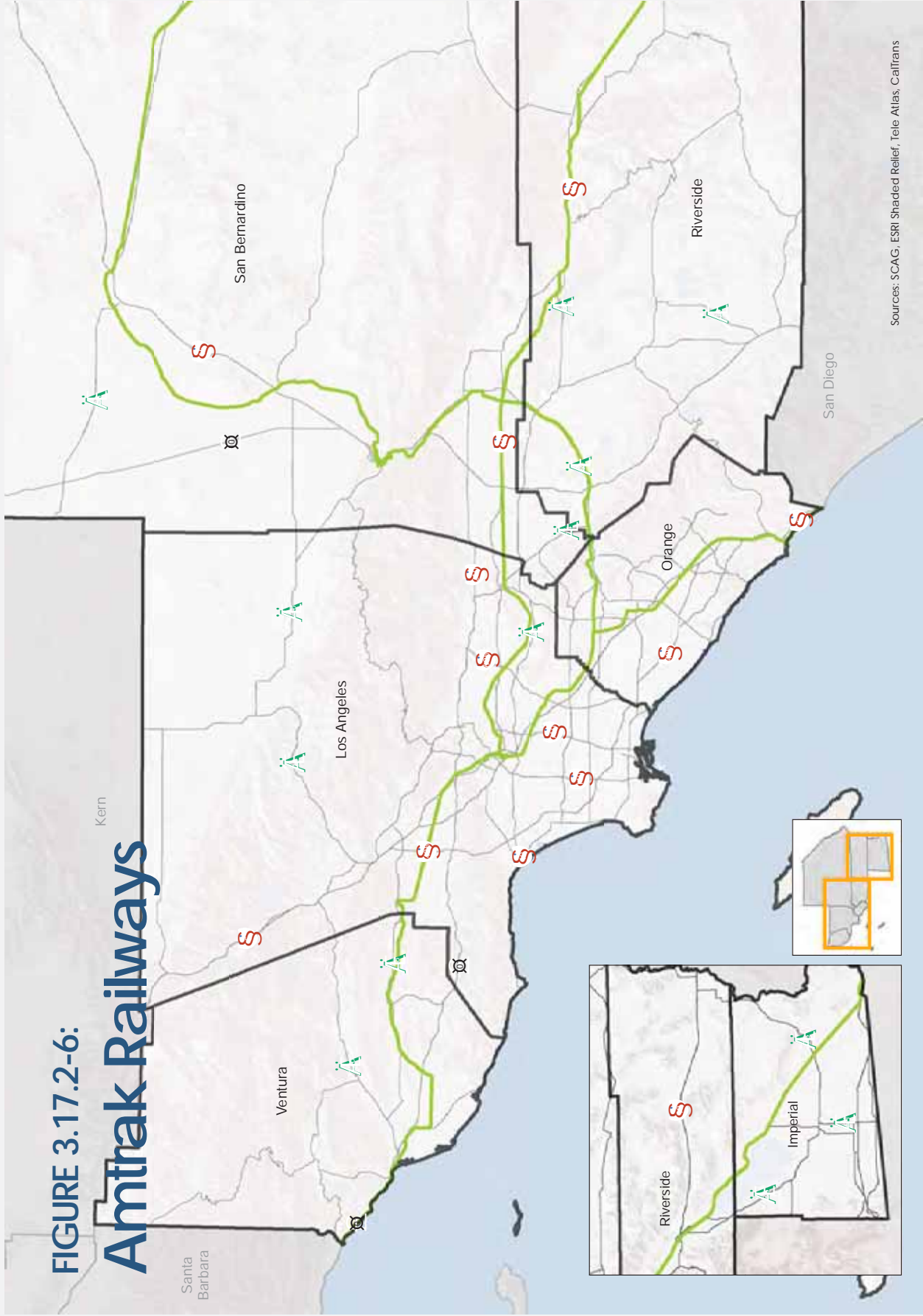
²⁰ Southern California Regional Rail Authority. 2014. *Fact Sheet*. Available at: http://www.metroinktrains.com/pdfs/Facts&Numbers/Fact_Sheets/Fact_Sheet_2014_Q4.pdf

²¹ Amtrak. Accessed 11 September 2015. *Routes*. Available at: <http://www.amtrak.com/servlet/ContentServer?c=Page&pagename=am%2FLayout&p=1237405732511&cid=1237608331430>

²² Access Services. Accessed 11 September 2015. *About Us*. Available at: http://www.asila.org/about_us/overview.html

FIGURE 3.17.2-6:

Amtrak Railways



Sources: SCAG, ESRI Shaded Relief, Tele Atlas, Calltrans

0 3 6 12 Miles

— Amtrak Railway

improve mobility for nondrivers. Currently, the average walking and bicycling distances in commutes from the SCAG region is between zero to three miles, although approximately 34 percent of the population walks or bicycles one-quarter to one-half mile, and more than 15 percent walk between one-half and one mile per day. Both modes of non-motorized transport would not require consumption of scarce fuel, and can be used for work and nonwork purposes. In 2012, biking and walking accounted for approximately 13.4 percent of total trips in SCAG region; 18.7 percent of these trips are originated from school, and 10.4 percent are shopping trips.²³

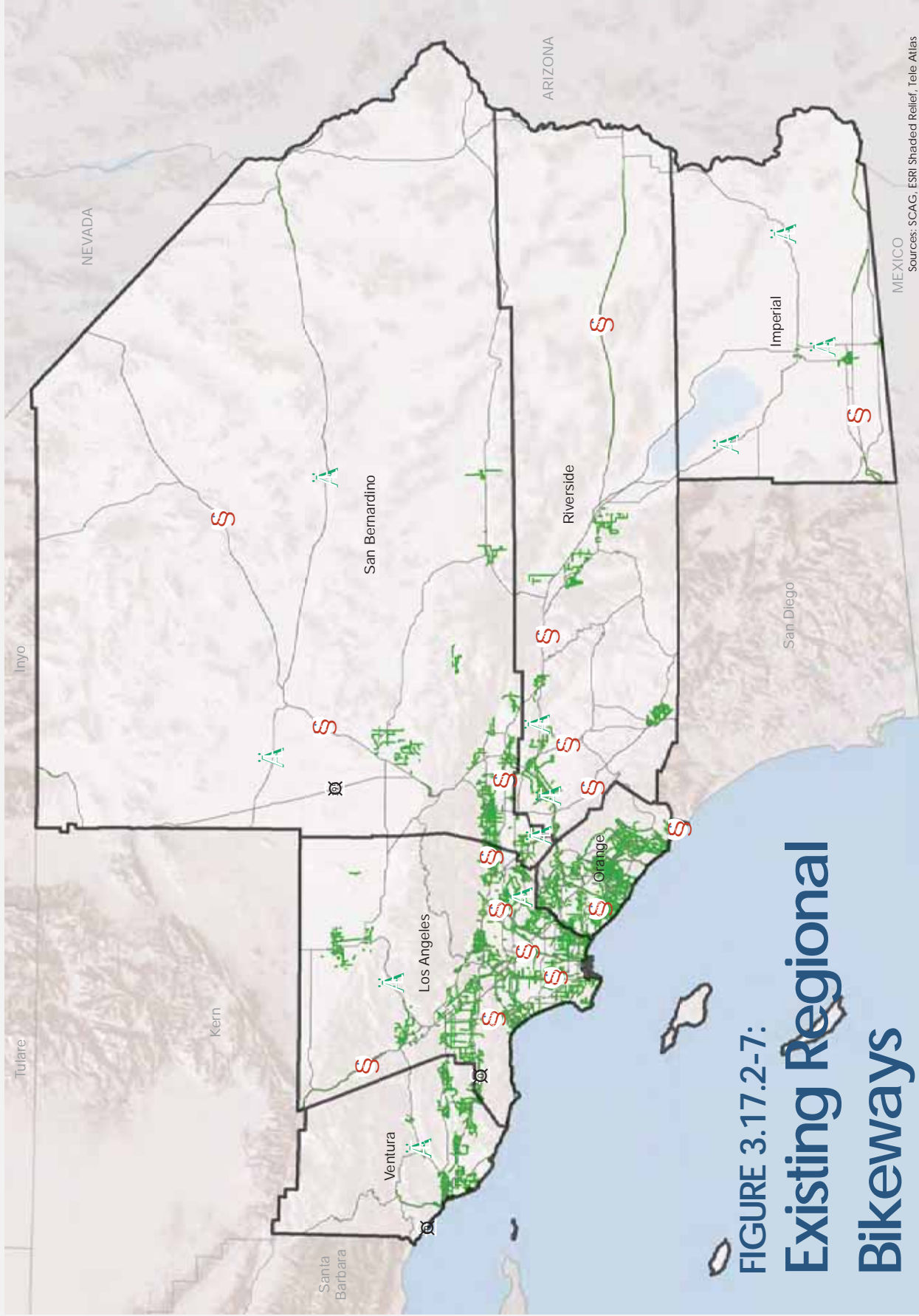
The region's bikeways encourage non-motorized travel, serve as recreational facility, and provide inexpensive, environmentally friendly transportation opportunities. Some of the strategies to encourage active transportation currently being considered are focused on improving local mobility for those who walk less than three miles a day, improving multimodal strategies for shared mobility, and improving compact community development through targeted High Quality Transit Areas (HQTAs). The bikeways are also designated to provision for allowable use and to encourage active use. Class I bikeways are separate shared-use paths also used by pedestrians, Class II bikeways are striped lanes in streets, and Class III bikeways are signed routes. There are approximately 3,919 bikeway miles in the region, with the majority in Los Angeles County, followed by Riverside and Orange County. Approximately 746 miles are Class I bikeways, 2,150 Class II Bikeways, and 1,021 Class III Bikeways. Bike rack, locker, and station programs are ongoing in a number of cities and transit operators. In addition, transit operators are integrating bicycle transportation with transit via bus bike racks, bike-on-train programs and bicycle lockers at transit centers. **Figure 3.17.2-7, Existing Regional Bikeways, and 3.17.2-8, Existing and Proposed Regional Bikeways (2040)**, show the existing and proposed bikeways in the SCAG region.

Pedestrian access at and near public transit, in most major commercial areas, and many residential areas is facilitated by sidewalks, a number of pedestrian malls, and in some cases local jogging and pedestrian trails or paths.

Regional Aviation System

The SCAG region supports the nation's largest regional airport system in terms of number of airports and aircraft operations, operating in a very complex airspace environment. The SCAG region contains 56 public use airports, including six active commercial service airports, 44 general aviation, two active limited-commercial service (commuter) airports, two former military airfields (now public use airports) and two joint-use facilities. The existing active commercial service airports handle the majority of passenger air traffic (see **Figure 3.9.2-1, Airports in the SCAG Region**, in Section 3.9, *Hazards and Hazardous Materials*).

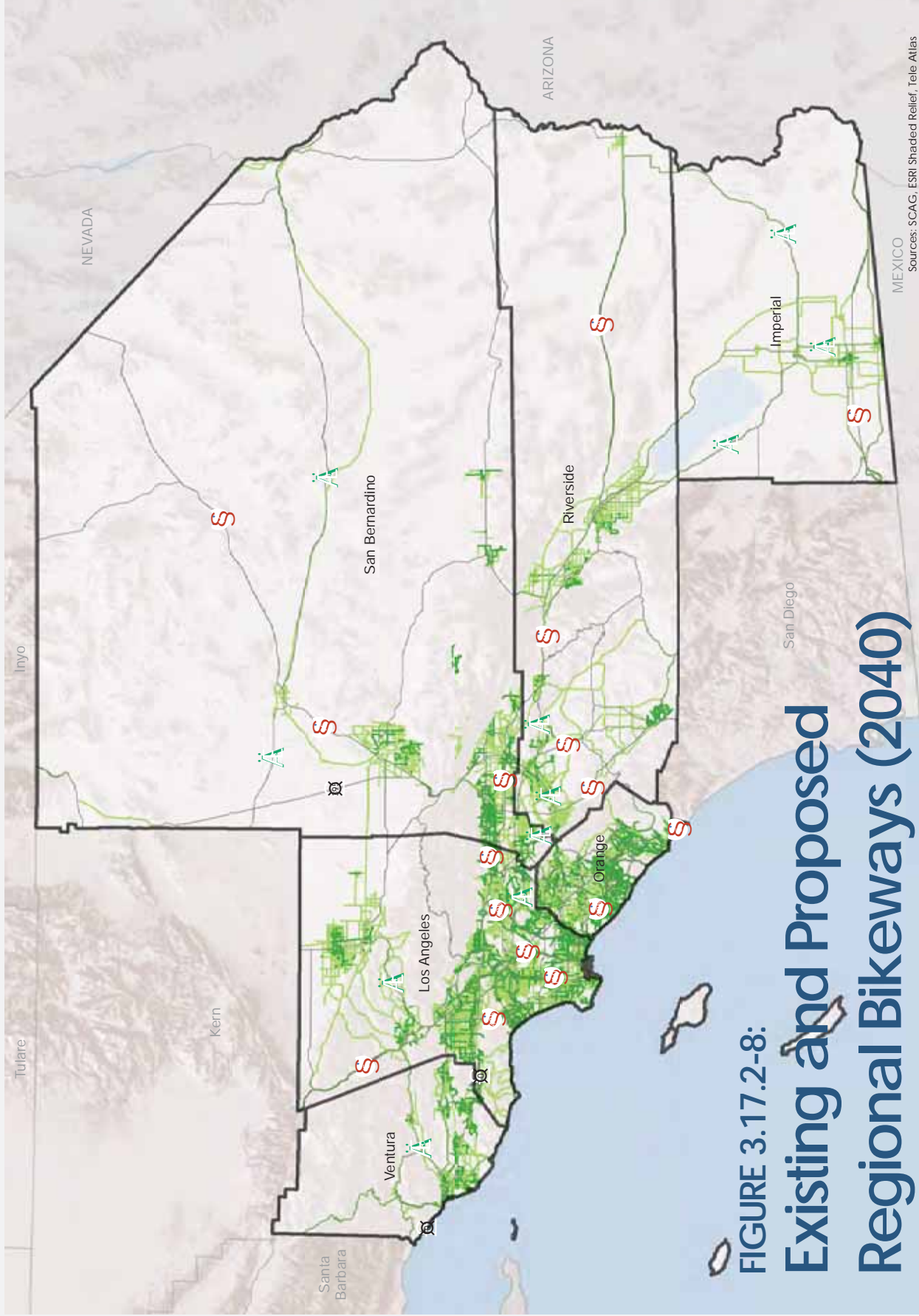
²³ Southern California Association of Governments. October 2015. *SCAG Active Transportation Plan*.



**FIGURE 3.17.2-7:
Existing Regional
Bikeways**

Existing bikeway

Sources: SCAG, ESRI Shaded Relief, Tele Atlas



**FIGURE 3.17.2-8:
Existing and Proposed
Regional Bikeways (2040)**

- Existing bikeway
- - - Proposed bikeway

0 5 10 20
Miles

Sources: SCAG, ESRI Shaded Relief, Tele Atlas

- Los Angeles International Airport
- Ontario International Airport
- John Wayne/Orange County Airport
- Burbank/Bob Hope Airport
- Riverside County/March Air Force Base (limited cargo services)
- Imperial County Airport (limited commercial service)
- Long Beach Airport
- Palm Springs International Airport
- Victorville Airport (limited commercial service)

In all, approximately 86.4 million annual passengers (MAP) were served in the region in 2012, more than double the number served in 1980. The level of regional aviation demand forecasts related to MAP has been decreasing, with approximately 170 MAP by 2030 in the 2004 RTP, 165.3 MAP by 2035 in the 2008 RTP, and 145.9 MAP by 2035 in the 2012 RTP/SCS.²⁴ In 2013, the regional total aviation demand was 88 MAP.²⁵ In 2014, Los Angeles International Airport led the largest share of air passengers with approximately 76.1%, following by John Wayne Airport at 10.1%, Ontario International Airport at 4.5% and Burbank/Bob Hope Airport at 4.3%.²⁶ While none of the individual airports is the largest in the U.S., the region's airports collectively are the busiest of any region in the country. LAX accounts for the largest proportion of passenger volume, cargo, and annual operations (**Table 3.17.2-9, Existing [2014] Activity at Major Commercial Airports in the SCAG Region**). A brief discussion of the location, major access routes, and facilities at each of these airports follows. In addition, the six other regional airports at which major improvements and/or conversion to civilian uses are contemplated are described below.

²⁴ Southern California Association of Governments. 2012. *Aviation and Ground Access*. Available at: <http://rtpscscs.scag.ca.gov/Pages/2012-2035-RTP-SCS.aspx>

²⁵ Southern California Association of Governments. 23 July 2015. *Staff Report: 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Regional Aviation Forecast Update*. Transportation Committee.

²⁶ Southern California Association of Governments. 6 August 2015 (Continued from July 23, 2015). *Staff Report: 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Regional Aviation Forecast Update*. Transportation Committee.

**TABLE 3.17.2-9
EXISTING (2014) ACTIVITY AT MAJOR AIRPORTS IN THE SCAG REGION**

	BUR	IPE	LAX	Long Beach	ONT	Palm Springs	Santa Ana	VCV	RIV	Region Total
Passenger Volume (1,000)	3,909	5	69,404	2,717	4,090	1,889	9,214	—	—	91,228
Percentage of Regional Total	4%	0%	76%	3%	4%	2%	10%	0%	0%	100%
Cargo Volume (tons)	54,967	1,131	2,071,611	28,840	469,434	373	20,965	—	880	2,648,201
Percentage of Regional Total	2%	0%	78%	1%	18%	0%	1%	0%	0%	100%
Annual Operations	118,554	14,586	636,706	316,009	83,766	57,061	282,614	19,765	—	1,529,061
Average Daily Operations	324.81	39.96				156.33	774.28	54.15	—	1,350
Percentage of Regional Total	8%	1%	42%	21%	5%	4%	18%	1%	0%	100%

NOTE:

BUR: Burbank; IPE: Imperial; LAX: Los Angeles World Airport; VCV: Victorville; RIV: Riverside or March Air Force Base.

SOURCE:

Passenger and cargo data from U.S. DOT T-100 database, operations from Federal Aviation Administration Operations Network (OPSNET), 2015, except for IPL. IPL operations from FAA Terminal Area Forecast for fiscal year 2013. Operations include commercial and general aviation flights, including touch-and-go, but exclude military flights.

Los Angeles International Airport

LAX is located in the southwestern portion of the City of Los Angeles, bordered by Arbor Vitae / Westchester Parkway to the north, I-405 to the east, I-105 / Imperial Highway to the south, and the Pacific Ocean to the west (Figure 3.9.2-1). It is surrounded by the communities of Westchester and Playa del Rey to the north; the City of El Segundo to the south; and the City of Inglewood and unincorporated areas of Los Angeles County (Lennox and Del Aire) to the east. Major access routes include I-405 and I-105 and a complex network of surface streets extending throughout the surrounding area, including Sepulveda Boulevard, Lincoln Boulevard, La Cienega Boulevard, Aviation Boulevard, Century Boulevard, Arbor Vitae / Westchester Parkway, and Imperial Highway.

Ontario International Airport

LA/Ontario International Airport (ONT) is located in the southwest section of San Bernardino County within the city of Ontario, approximately two miles east of Ontario's Central Business District between Holt and Mission Boulevards, and between Haven and Grove Avenues (Figure 3.9.2-1). Major access routes include I-10 and SR-60 and the major surface streets in the surrounding area, including Holt Boulevard, Archibald, and Vineyard Avenues.

John Wayne Airport

John Wayne Airport (SNA) is located in the western portion of Orange County, directly south of I-405, one mile east of SR-55, and one mile north of SR-73 (Figure 3.9.2-1). Major access routes include these freeways and the major surface streets in the surrounding area, including MacArthur Boulevard and Michelson Drive. The majority of the land surrounding is within the cities of Newport Beach, Costa Mesa, and Irvine. In addition, the unincorporated community of Santa Ana Heights is located southeast of the airport.

Burbank/Bob Hope Airport

Bob Hope Airport (BUR) is located in the western portion of Los Angeles County, on the west side of the City of Burbank, one mile south of I-5, three miles east of SR-170, and three miles north of SR-134 (Figure 3.9.2-1). Major access routes include these freeways and the major surface streets in the surrounding area, including Hollywood Way and San Fernando Road.

Imperial County Airport

Imperial County Airport (IPA), also known as Boley Field Airport, is located just west of SR-86 and north of I-8, in the City of Imperial (Figure 3.9.2-1). It is a small airport serving mostly general aviation and commuter flights, and meets all general aviation, air transportation, and air cargo needs for Imperial County.

Long Beach Airport

Long Beach Airport (LGB) is located in the southern portion of Los Angeles County, in the center of the City of Long Beach, directly north of I-405, and three miles west of I-605, and three miles east of I-710

(Figure 3.9.2-1). Major access routes include these freeways and the major surface streets in the surrounding area, including Lakewood Boulevard (SR-19).

Palm Springs International Airport

Palm Springs International Airport (PSP) is located in the central portion of Riverside County, in the City of Palm Springs, two miles southwest of I-10 and one mile northeast of Gene Autry Trail (SR-111) (Figure 3.9.2-1). Major access routes include these highways and the major surface streets in the surrounding area, including Ramon Road.

Palmdale Regional Airport

Palmdale Regional Airport (PMD) is located in northern Los Angeles County, within the north central portion of the City of Palmdale in United States Air Force Plant 42 (AFP 42), one mile north of SR-138, and three miles east of SR-14 (Figure 3.9.2-1). Major access routes include these highways and the major surface streets in the surrounding area, including 20th Street and Avenue P.

San Bernardino International Airport

San Bernardino Airport (SBD), formerly Norton Air Force Base, is within the City of San Bernardino and is surrounded by unincorporated areas of San Bernardino County and the cities of Redlands, Loma Linda, Highland, and Colton (Figure 3.9.2-1). The airport is approximately three miles east of I-215, two miles north of I-10, and one mile west and two miles south of SR-30. Major access routes include these highways and the major surface streets in the surrounding area, including Tippecanoe Avenue, Mill Street and 3rd Street.

Victorville Airport/Southern California Logistics Airport

Southern California Logistics Airport (VCV), formerly George Air Force Base, is within the City of Victorville, surrounded by unincorporated areas of San Bernardino County and the cities of Victorville and Adelanto (Figure 3.9.2-1). It is approximately two miles east of Route 395, and three miles northwest of I-15. Major access routes include these highways and the major surface streets in the surrounding area, including Adelanto Road and Air Base Road.

March Air Reserve Base/March Inland Port

March Air Reserve Base / March Inland Port (March), formerly March Air Force Base, is located in the western portion of Riverside County east of and adjacent to I-215 and two miles south of SR-60 (Figure 3.9.2-1). The joint-use facility is bordered by the cities of Moreno Valley to the north and east, Riverside to the northwest, and Perris to the south. Major access routes include these freeways and the major surface streets in the surrounding area, including Van Buren Boulevard and Perris Boulevard.

Airport security planning is the joint responsibility of the federal Transportation Security Administration (TSA), the airlines, and the individual airports. Airports in the SCAG region have upgraded their security systems since 9/11 using a variety of strategies in conjunction with local, State, and federal law enforcement. However, a number of aviation vulnerabilities continue to persist. These included effective screening of passengers and baggage for threat objects and explosives, adequate controls for

limiting access to secure areas at airports, and adequate security for air traffic control computer systems and facilities.

Transportation Hazards

Based on average accident rates provided by Caltrans, transportation-related fatalities occur at an overall rate of 0.83 fatalities per 100 million vehicle miles traveled, taking into account the varying accident rates on different facility types (freeway, arterials) and travel modes (bus transit, rail transit). The two counties with the highest vehicle miles travelled, Los Angeles and Orange, have the lowest rates of fatalities per 100 million VMT, while the county with the lowest annual VMT, Imperial County, has the highest rate of fatalities per 100 million VMT (Table 3.17.2-10, *Total Vehicle Fatalities*). In 2012, the most recent date for which data is available, approximately 1,300 people died and over 6,000 were severely injured on roadways throughout the SCAG region. Data from the California Office of Transportation Safety (OTS) are provided for transportation injuries and fatalities in the SCAG region (Tables 3.17.2-11, *Total Victims Killed and Injured*; 3.17.2-12, *Total Bicycle Victims Killed and Injured*; 3.17.2-13, *Total Pedestrian Victims Killed and Injured*).

**TABLE 3.17.2-10
TOTAL VEHICLE FATALITIES**

County	Fatalities (2012)	Fatalities per 100 million Vehicle Miles Traveled	Annual Vehicle Miles Traveled per 100 million
Imperial	37	1.76	21
Los Angeles	589	0.76	778
Orange	154	0.59	261
Riverside	219	1.04	210
San Bernardino	236	1.11	212
Ventura	62	0.86	72
Total	1,297	0.83	1,554

SOURCE:

California Office of Transportation Safety (OTS), 2015.

**TABLE 3.17.2-11
TOTAL VICTIMS KILLED AND INJURED**

County	Fatalities and Injuries (2012)	Miles Traveled	OTS Ranking
Imperial	829	5,001,622	53/58
Los Angeles	29,719	41,372,941	2/58
Orange	20,225	72,771,016	5/58
Riverside	11,160	55,336,728	33/58
San Bernardino	12,088	59,240,163	18/58
Ventura	5,244	18,703,214	10/58
Total	79,265	252,425,684	1

SOURCE:

California Office of Transportation Safety (OTS), 2015.

**TABLE 3.17.2-12
TOTAL BICYCLE VICTIMS KILLED AND INJURED***

County	Fatalities (2012)	Miles Traveled	OTS Ranking
Imperial	25	5,001,622	47/58
Los Angeles	4,958	41,372,941	21/58
Orange	1,461	72,771,016	13/58
Riverside	364	55,336,728	55/58
San Bernardino	402	59,240,163	49/58
Ventura	280	18,703,214	23/58
Total	7,490	252,425,684	1

NOTE:

* Ages 15 to 65.

SOURCE:

California Office of Transportation Safety (OTS), 2015.

**TABLE 3.17.2-13
TOTAL PEDESTRIAN VICTIMS KILLED AND INJURED***

County	Fatalities (2012)	Miles Traveled	OTS Ranking
Imperial	36	5,001,622	44/58
Los Angeles	5,297	41,372,941	4/58
Orange	911	72,771,016	36/58
Riverside	451	55,336,728	54/58
San Bernardino	499	59,240,163	47/58
Ventura	256	18,703,214	23/58
Total	7,450	252,425,684	1

NOTE:

* Ages 15 to 65.

SOURCE:

SCAG modeling, 2015.

Safety, Security and Emergency Access

Southern California is home to significant natural disasters, including earthquakes, wildfires, flooding, and mudslides (discussed in **Section 3.7, *Geology and Soils***). Although natural disasters, such as earthquakes and hurricanes, have produced significant regional casualties and property damage, none had the serious disruption to national travel and the national economy as the September 11, 2001, terrorist attacks. The 9/11 attacks created a new awareness of the vulnerabilities of transportation fleets and facilities. As concern about the threat of terrorism and consequences of natural disasters has grown, government (at all levels) has taken new measures to secure the welfare of its citizens. Transportation and transit agencies throughout the United States are taking increasing steps to protect their facilities against the threats of crime, terrorist activity, and natural disasters.

A large-scale evacuation would be difficult in the SCAG region. The region already has severe traffic congestion and mobility issues. The region encompasses 38,000 square miles with a diverse geography,

ranging from dense urban areas, to mountain ranges, to vast deserts. The interdependency of the jurisdictions and organizations makes regional cooperation and coordination essential to security and emergency preparedness. Typically, no single agency is responsible for transportation security. At the local level, especially within transit agencies, safety may be handled within one office. However, it is far less likely that the security of a surface transportation mode is managed by one entity and that this entity is even controlled by the transportation organization. For example, highways and transit networks traverse multiple police jurisdictions, local fire departments generally fill the incident command role after terrorist events, regional command and control centers respond to both natural and intentional disasters, and federal agencies intervene as needed and based on specific guidelines such as the crossing of state boundaries.²⁷

The complexity of the SCAG region, with a range of potential terrorism targets, presents significant challenges in coordinating and implementing effective homeland security programs. The unexpected and complex nature of these natural and human-caused incidents require extensive coordination, collaboration and flexibility among all of the agencies and organizations involved in planning, mitigation, response and recovery.

Safety is defined as the protection of persons and property from unintentional damage or destruction caused by accidental or natural events. Safety of people and goods is one of the most important considerations in developing, maintaining, and operating our diverse transportation systems. Safety and concerns related to project implementation addresses how well the transportation system minimizes collisions in fatalities, property damages, through changes in modal or facility shifts. SCAG region has an extensive transportation system, with more than 70,000 miles of freeway and arterial lanes and 3,900 miles of bikeways. As of 2014, the region had 14.9 million licensed drivers and 11.8 million registered vehicles. As of 2012 (most recent year data was available), more than 1,300 people died and 121,000 were injured in traffic collisions in the region. Therefore, safeguarding the Southern California transportation safety to minimize accidents on-road for vehicles and pedestrians is an important focus of the region.

Security is defined as the protection of persons or property from intentional damage or destruction caused by vandalism, criminal activity or terrorist attacks. The Transportation Research Board has classified emergency events that affect transportation agencies into several categories (**Table 3.17.2-14, Transportation Security Vulnerabilities**).²⁸

²⁷ Transportation Research Board of the National Academies. Accessed 11 September 2015. National Cooperative Highway Research Project. Report 525, Volume 3, Transportation Planning Process. Available at: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_525v3.pdf

²⁸ Transportation Research Board of the National Academies. Accessed 11 September 2015. National Cooperative Highway Research Project. Report 525, Volume 9, Guidelines for Transportation emergency Training Exercises. Available at: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_525v9.pdf

**TABLE 3.17.2-14
TRANSPORTATION SECURITY VULNERABILITIES**

Roadways and Freeway	
Freeway Lanes Miles (excluding carpool)	10,820 miles
Carpool Lane Miles	938 miles
Road Lane Miles	58,588 miles
Public Transit	
Buses	5,549 vehicles
Metro Rail	87 miles and 80 stations
Metrolink	536 miles and 59 stations
Aviation/Ports	
Commercial/General Aviation Airports	56
Regional Airport Activity Levels	170,000 daily departing seats on 64 airlines
Long Beach/Los Angeles rank among world container ports	9th
Share of United States Maritime Trade	40 percent

SOURCE:

SCAG modeling, 2015.

Rail and Mass Transit

The dispersed nature and the daily volume of passengers using public transportation services, which include intercity passenger rail, commuter rail, subway systems, and bus transportation, make it an attractive target for terrorists and criminals. Today, regional transit in the SCAG region is comprised of:

- Approximately 640 bus routes
- Approximately 67 local bus (demand response and paratransit) operators
- Thirteen commuter express bus services
- Two subway lines and three light rail lines situated within Los Angeles County

The numbers of customers using public transportation each and every day creates ongoing challenges for enhancing security within transit environments. A number of plans have been implemented to provide for basic protection. In the early 1990s, the California Public Utilities Commission required that transit agencies operating rail systems prepare a comprehensive System Safety Program Plan (SSPP) that also included a security component. Since 2004, all transit agencies are required to include a security and emergency management plan, which details how the agency would coordinate with first responder (law enforcement and fire) agencies, their respective County Office of Emergency Services and the Statewide Standardized Emergency Management System (SSEMS).

International Border Crossings

Within the SCAG region, there are three international ports of entry along the Mexico–Imperial County border: two at Calexico (Calexico and Calexico-East); and, one at Andrade (near Yuma, Arizona). Traffic from these ports enters California on the I-8 corridor. U.S. Customs and the Border Protection Agency within the Department of Homeland Security (DHS) are charged with the management and control of the official ports of entry. Security planning includes local emergency services, as well as the CHP.

Caltrans District 11 has developed the California–Baja California Border Master Plan, which establishes a process to institutionalize dialogue among local, state and federal stakeholders in the United States and Mexico. A key objective was to develop criteria that can be used in future studies to coordinate and prioritize projects related to existing and new Ports of Entry (POEs), as well as roads leading to the California Mexico POEs. Security was a major consideration in the development of the Border Master Plan.

Maritime Ports

Southern California is served by three major deep-water seaports. These ports—Hueneme, Long Beach, and Los Angeles—handle Asia–North America trade and are served by the two major railroads and numerous trucking companies in Southern California (Figure 3.17.2-9, *Ports in the SCAG Region*). The Port of Hueneme, with its recent expansion, ranks as one of the premier automobile and agricultural product-handling facilities in California. The Ports of Long Beach and Los Angeles are full-service ports with facilities for containers, autos and various bulk cargoes. With an extensive landside transportation network, the three ports moved more than 310 million metric tons of cargo in 2010.^{29,30}

In particular, the San Pedro Bay Ports (Long Beach and Los Angeles) dominate the container trade in the Americas by shipping and receiving more than 11.8 million 20-foot Equivalent Units (TEUs) of containers in 2009.³¹ Together these two ports rank third in the world, behind Rotterdam and Hong Kong, as the busiest maritime ports.

Security at Seaports

The DHS has designated the seaports of Long Beach, Los Angeles, and Port Hueneme as at risk for potential terrorist actions.³² Security at the ports is the joint responsibility of the U.S. Coast Guard, the U.S. Customs and Border Protection Agency, federal and State Homeland Security offices, Port police agencies, Harbor Patrols and emergency service agencies. The U.S. Coast Guard leads the local Area Maritime Security Commission, which coordinates activities and resources for all port stakeholders.

The Port of Los Angeles has a dedicated police force, the Los Angeles Port Police, to patrol the area within the jurisdiction of the Port of Los Angeles. The Port Police enforce federal, State, and local public safety statutes, as well as environmental and maritime safety regulations, in order to maintain the free flow of commerce and produce a safe, secure environment that promotes uninterrupted Port operations. In addition, the Port Police partner with other law enforcement agencies, such as the Los Angeles Police Department, CHP, and Customs and Border Protection in the Cargo Theft Interdiction Program (CTIP), which investigates cargo theft, and the High Intensity Drug Trafficking Area, which targets drug trafficking at the Ports of Los Angeles and Long Beach. Furthermore, per the Maritime Transportation Security Act of 2002, the Port of Los Angeles works with the Coast Guard to develop security plans for facilities at the port.

²⁹ Port of Los Angeles. 2010. *2010 Financial Statement and 2010 Tonnage Statistics*.

³⁰ Port of Long Beach. December 2010. *Monthly Tonnage Summary Report*.

³¹ Southern California Association of Governments. 2011. *Port Activity and Competitiveness Tracker (PACT)*.

³² U.S. Department of Homeland Security. 25 September 2006. *Fiscal Year 2006 Infrastructure Protection Program*.

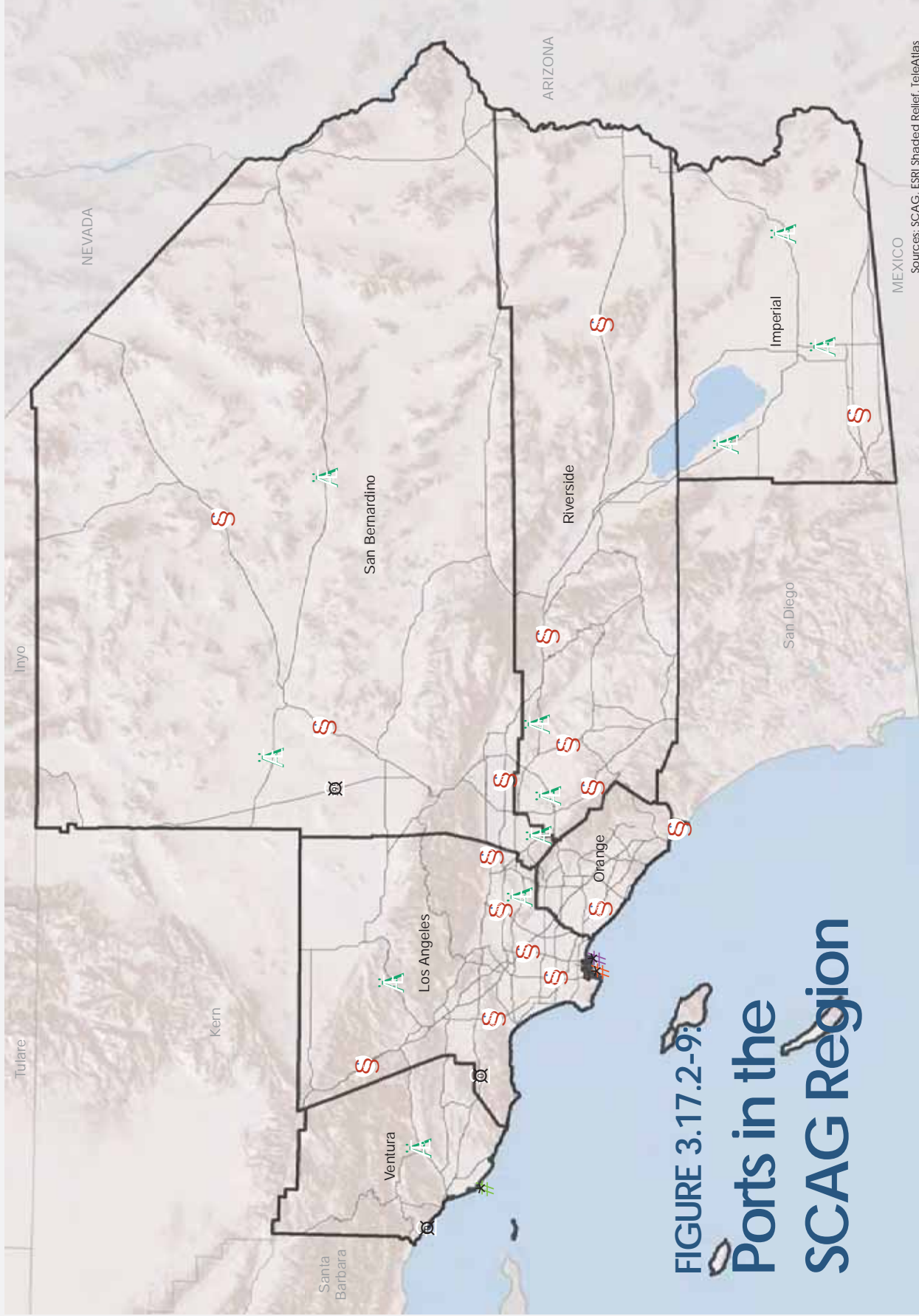


FIGURE 3.17.2-9:
Ports in the
SCAG Region

- Port**
- Hueneme
 - Long Beach
 - Los Angeles

Similar to the Port of Los Angeles, security at the Port of Long Beach entails physical security enhancements, police patrols, coordination with federal, State, and local agencies to develop security plans for the port area and investigate suspicious incidents, and obtaining federal funding to pay for these enhancements. As with the Port of Los Angeles, the Port of Long Beach works with the Coast Guard to develop security plans for facilities at the port. In contrast to the Port of Los Angeles, however, the Port of Long Beach does not have its own dedicated police force. Instead, the Long Beach Police Department is responsible for patrolling the port area. In doing so, the Port reimburses the Long Beach Police and Fire Departments for their port-related activities and expenses. The Port also funds its own Harbor Patrol to supplement law enforcement work conducted by other agencies such as the Coast Guard.

In addition to the above, several programs are in place to effectively monitor and screen seaport cargo. They include:

Investigations: The federal Container Security Initiative (CSI) directs Customs agents, working with host governments, to inspect and examine all cargo containers deemed high-risk before they are loaded on U.S.-bound vessels. The CSI contains four core elements: identifying high-risk containers, pre-screening containers before they reach U.S. ports of entry, using technology to prescreen high-risk containers and developing and using smart and secure containers.

Inspections: The 24-hour rule requires manifest information on cargo containers to be delivered to U.S. Customs 24 hours before the container is loaded onto a vessel in a foreign port. Customs has the right to stop any container from being loaded, for any reason, while the container is still overseas.

Partnerships: Most of the largest U.S. importers and their trading partners participate in the Customs-Trade Partnership Against Terrorism (C-TPAT), a public-private partnership designed to improve security standards throughout the cargo supply chain.

Technology: U.S. Customs uses X-ray, gamma ray and radiation-detection devices to screen incoming cargo at U.S. ports.

3.17.3 THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the following specific thresholds were developed by SCAG based on precedence as appropriate thresholds by which to determine significant impacts on transportation, traffic and security:

- Conflict with the established measures of effectiveness for the performance of the circulation system, by increasing the daily VMT, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including, but not limited to, VMT and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways;
- Result in a significant change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks;

- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections), increased volumes or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access; and
- Result in conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Methodology

The methodology for determining the significance of impacts on transportation, traffic, and safety impacts compares current regional transportation conditions to expected future 2040 conditions with the Plan, as required by Section 15126.2(a) of the State CEQA Guidelines. SCAG utilized the Regional Travel Demand Model (RTDM) to compare the existing conditions to the Plan's 2040 potential build out. Total daily VMT is used as a measure of overall utilization of roadways which relates to vehicle emissions, traffic congestion, and the effectiveness of land use patterns and alternate mode options in reducing the need for vehicular travel. Vehicle hours of delay (VHD) measures the congestion level of the roadway. Other measures such as percentage of peak period work trips completed in 45 minutes and transportation system accident rates measure the effect of other modal choices from automobile (single and high occupancy vehicles) to transit. Percentage fatality accident rate also look at safety of motorized to non-motorized modes (bicycling and walking). The performance measure output for the Plan's horizon year 2040 was compared to the existing regional conditions for each significance criterion to determine the significance of impacts. The 2040 transportation model output provides a regional and cumulative level of analysis for the impacts of the Plan on transportation, traffic and safety.

The significance of impacts was determined by applying the significance criteria above to compare current regional transportation conditions to expected future conditions with the Plan. The RTDM provides performance data for future Plan conditions. The performance measure output for year 2040 with the Plan was compared to the existing regional conditions for each significance criterion to determine the significance of impacts. The 2040 transportation model output provides a regional and cumulative level of analysis for the impacts of the Plan on transportation resources.

3.17.4 IMPACT ANALYSIS

IMPACT TRA-1: Potential to conflict with the established measures of effectiveness for the performance of the circulation system, by increasing the daily VMT, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Significant Impact

Transportation projects and land use strategies considered in 2016 RTP/SCS the 2016 RTP/SCS has the potential to conflict with the established measures of effectiveness for the performance of the

circulation system, by increasing per capita VMT and increase delay over the baseline condition, constituting a significant impact. VMT has been used throughout the development of the Plan and directly relate to the performance of the region's transportation system. Total VMT in 2040 have the potential to increase when compared to current daily VMT. Due to increasing costs and environmental concerns, the expansion of highways and local arterials has not been keeping pace with the growing population. Critical gaps in the transportation network that hinder access to certain parts of the region and/or hinder efficient regional operations currently exist. Locally-developed county transportation plans have identified projects to close these gaps and complete the system, and they are included in the Plan. These projects include the Limited Access Expressway SR-115 in Imperial County, the SR-710 Gap Closure in Los Angeles County, the High Desert Corridor in Los Angeles and San Bernardino Counties, the SR-241 Improvements in Orange County, the CETAP Inter-county Corridor A in Orange and Riverside Counties, and the U.S. 101 and SR-118 Improvements in Ventura County.

Heavy investment in HOV and HOT lanes has given the region one of the nation's most comprehensive HOV and experimental HOT networks and highest rideshare rates. The 2016 RTP/SCS proposes strategic HOV gap closures and freeway-to-freeway direct HOV connectors to complete the system. Another key HOV strategy in the Plan is the conversion of certain HOV lanes in the region to allow for continuous access. Orange County has taken a leadership role on this over the past few years, and their recent studies have concluded that continuous-access HOV lanes do not perform any worse than limited-access HOV lanes.³³ At the same time, they provide carpoolers with greater freedom of movement in and out of HOV lanes. Highlights of these projects are projected to be completed by 2040, include various I-5 HOV projects in Los Angeles and Orange County, SR-73 HOV lane conversion from I-405 to MacArthur Boulevard, I-15 from SR-74 to I-215 Interchange in Riverside County, I-210 HOV from I-215 to I-10 in San Bernardino County, US-101 HOV project from Moorpark Road to Wendy Drive in Ventura County, and the I-405/SR-74 connector in Orange County.

Local streets and roads account for over 80 percent of the total road network and carry almost 50 percent of total traffic.³⁴ They serve different purposes in different parts of the region, or even in different parts of the same city. Many streets serve as major thoroughfares or even alternate parallel routes to congested freeways. At the same time, street right-of-ways often support different modes of transportation besides the automobile, including bicycles, pedestrians, and transit. The Plan contains a host of arterial projects and improvements to achieve different purposes in different areas. In all parts of the region, it includes operational and technological improvements to maximize system productivity in a more cost-effective way than simply adding capacity. Such strategic improvements include spot widening, signal prioritization, driveway consolidation and relocation, and grade separations at high-volume intersections.

While the Plan's multimodal strategy aims to reduce per capita VMT over the next 25 years, total demand to move people and goods would continue to grow due to the region's population increase. A strategic expansion of the transportation system is needed in order to provide the region with the mobility it needs. The Plan targets this expansion around transportation systems that have room to grow, including transit, improved rail sections, active transportation, express lanes, and goods movement network system. Some of these systems, such as transit, active transportation, and express

³³ *Los Angeles Times*. November 2014. California Commute: Orange County Takes Continuous-Access Approach on Carpool Lanes.

³⁴ Southern California Association of Governments. December 2015. *Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy*.

lanes, have proven over the years to be a reliable and convenient form of transportation for those who are able to easily access it.

The Plan calls for a substantial expansion of transit facilities and service over the next 25 years. While these capital projects would provide the SCAG region with a much more mature public transportation system, operational improvements and new transit programs and policies would also contribute greatly to attracting more trips to transit and away from single-occupant vehicle travel. First, the expanding HOV and express lane networks calls for the development of an extensive express bus point-to-point network. Second, transit oriented and land use development strategies call for increasing the frequency and quality of fixed-route bus service by virtue of adding new bus rapid transit service, limited-stop service, increased frequencies along targeted corridors, and the introduction of local community circulators to provide residents of smart growth developments with the option of taking transit over using a car to make short, local trips.

The Plan suggests three passenger rail strategies that would provide additional travel options for long-distance travel within the region and to neighboring regions. These are improvements to the Los Angeles to San Diego Corridor (LOSSAN), improvements to the existing Metrolink system, and other rail system improvements.

The recent release of the 2014 CA HST Business Plan confirmed the funding and implementation challenges of the project. The 2014 CA HST Business Plan now estimates a Phase I cost of \$68 billion (in year of expenditure dollars) with service extended to the region in 2033³⁵. Within the draft CA HST Business Plan, there are a variety of strategies to connect Northern and Southern California to the State network. The Business Plan assumes that Southern California would be connected to the network in 2033, but that incremental improvements can be made in advance of and in preparation for that connection.³⁶ Therefore, stakeholders throughout Southern California are seeking to improve California's rail system and improve the region's commuter and intercity rail services.

Conversion of existing HOV lanes to HOT lanes has demonstrated to improve traffic flow. Los Angeles Metro Express Lanes pilot program is an example where mobility partners have cooperated to provide enhanced options on the I-10 and I-110 Freeways. Results from this effort have shown travel time savings, and increase in trip reliability, reduced congestion and GHG emissions.

Another emphasis on transit network improvements includes transit priority facilities, such as bus lanes and traffic signal priority. The region has a minimal amount of bus lanes, when compared to other major metropolitan areas. The Los Angeles County Metro Rapid Bus network employs bus signal priority that gives buses up to ten percent more green light time from the normal green light phase. The Plan recommends that the network should be expanded to other counties in the region. Additional recommended enhancements to the region's transit services include expanding bike-carrying capacity on transit vehicles, implementing regional and inter-county fare agreements and media, such as LA County's EZ Pass, and expanding and improving real-time passenger information systems.

Active transportation refers to transportation such as walking or using a bicycle, tricycle, velomobile, wheelchair, scooter, skates, skateboard, push scooter, trailer, hand cart, shopping car, or similar

³⁵ California High Speed Rail Authority (CHSRA). February 2014. *Draft 2014 Business Plan*.

³⁶ California High Speed Rail Authority (CHSRA). February 2014. *Draft 2014 Business Plan*.

electrical devices. The two most common forms of active transportation are bicycling and walking. Walking and bicycling are essential parts of the SCAG transportation system and could help reduce roadway congestion. As the region works towards reducing congestion, active transportation would become more essential to meet the future needs of residents within the SCAG region.

The baseline conditions for 2015 were based on the 2012 base year transportation network, as modified to include project information from the 2015 Federal Transportation Improvement Program (FTIP) adopted in September 2014 and approved by Federal Highway Administration in December 2014, as well as projects listed in the 2012 RTP/SCS, as last amended in September 2014, thus providing the most accurate characterization possible of the baseline conditions in 2015. Substantial growth and development is anticipated to occur within the region between 2016 and 2040. Despite the regional planning efforts to reduce per capita VMT, predicted growth would increase the total amount of VMT. Average daily VMT is expected to grow from 448 million miles in 2012 to 504 million miles per day in 2040 (Table 3.17.4-1, *Daily Vehicle Miles Traveled in 2012 and 2040*). This change constitutes a 13.3 percent increase over this period and includes light, medium and heavy-duty vehicle VMT in all six counties. The greatest percentage increase in VMT would occur in Imperial County followed by Riverside County.

**TABLE 3.17.4-1
DAILY VEHICLE MILES TRAVELED IN 2012 AND 2040***

County	In Thousands		
	2012 Base Year*	2040 No Project	2040 Plan
Imperial	5,000	9,000	9,000
Los Angeles	226,000	249,000	228,000
Orange	77,000	84,000	79,000
Riverside	58,000	86,000	80,000
San Bernardino	62,000	89,000	86,000
Ventura	20,000	23,000	21,000
SCAG Region	448,000	540,000	504,000

NOTE:

Numbers are rounded to nearest thousand.

*Please note that 2012 base year transportation network includes project information from the 2015 Federal Transportation Improvement Program (FTIP) adopted in September 2014 and approved by Federal Highway Administration in December 2014, as well as projects listed in the 2012 RTP/SCS as last amended in September 2014.

SOURCE:

SCAG modeling, 2015.

Based on the transportation data provided by SCAG and based on forecasts developed using the RTDM and validated to standards in the California Transportation Commission RTP Guidelines, the Plan would decrease overall VMT compared to the No Project scenario, by 36,000 VMT. Emissions associated with increased VMTs would be heavily experienced on roadways, highways, and freeways at all six County regions throughout SCAG. A better mix of residential, employment, education, and service uses is necessary to allow people to accomplish their daily activities with less driving, and decrease the total amount of VMT. Policies that aim to charge drivers user fees to cover the cost of services they use can be effective in lowering emission and delays from increased VMTs. Nevertheless, this increase in VMT would constitute a significant impact requiring the consideration of mitigation measures.

IMPACT TRA-2: Potential to conflict with an applicable congestion management program, including, but not limited to, VMT and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways.

Significant Impact

The transportation projects and land use strategies considered in the 2016 RTP/SCS have the potential to conflict with the established measures of effectiveness for the performance of the circulation system due to the increase in VMT, potentially constituting a conflict with the adopted County CMPs, within the SCAG Region, and their respective measures, constituting a significant impact.

Nevertheless, the Plan would contribute to a decrease in VHD within the SCAG region. Consistent with provisions of Section 15091 of the State CEQA Guidelines, relevant County Congestion Management Plan, and Circulation Elements of relevant County and City General Plans, SCAG shall facilitate encouraging measures to further reduce overall VHD by dispersing roadway and highway congestion hotspots with the utilization of HQTAs. HQTAs is a land use strategy within one-half mile of a fixed guideway transit stop or bus transit corridors where buses pick up passengers every 15 minutes or less during peak commute hours. With the utilization of HQTAs overall impacts to regional transportation system is lessened when comparing the future Plan with existing conditions. In accordance to SCAG modeling, total daily VHD would decrease from 2,500,000 vehicle-hours in 2012 to 2,118,000 vehicle-hours in 2040 (Table 3.17.4-2, *Total Daily Hours of Delay in 2012 and 2040*). This constitutes a decrease from existing conditions and includes light, medium and heavy-duty vehicles VHD in all six counties. Delay would decrease in Los Angeles, Orange, and Ventura Counties and increase in Imperial, Riverside, and San Bernardino Counties. Regional delays in terms of hours from vehicular trips would decrease by 13 percent by 2040.

**TABLE 3.17.4-2
TOTAL DAILY HOURS OF DELAY IN 2012* AND 2040**

County	In Thousands of Vehicle-Hours		
	2012 Base Year*	2040 No Project	2040 Plan
Imperial	1	8	7
Los Angeles	1,642	2,087	1,321
Orange	433	536	289
Riverside	162	473	214
San Bernardino	192	589	219
Ventura	70	137	67
Regional	2,500	3,831	2,118

NOTE:

Numbers are rounded to nearest thousand.

*Please note that 2012 base year transportation network includes the 2015 project information from the 2015 Federal Transportation Improvement Program (FTIP) adopted in September 2014 and approved by Federal Highway Administration in December 2014, as well as projects listed in the 2012 RTP/SCS as last amended in September 2014

SOURCE:

SCAG modeling, 2015.

Despite the overall regional decrease and dispersion of vehicular congestion, impacts would remain significant.

A greater amount of time delay is experienced in corridors (roadway and highways) that are frequently used by good movement related heavy-duty trucks. Despite the regional planning efforts to improve the efficiency of the goods movement system, an increased demand for goods would lead to increase in use on the roadway network under the Plan. Total daily heavy-duty truck trip VHD would increase from 118,000 average VHD in 2012 to 184,000 average VHD in 2040, or a difference of 66,000 VHD (Table 3.17.4-3, *Daily Heavy Duty Truck Trip Hours of Delay in 2012 and 2040*). This future 2040 Plan condition constitutes a 36 percent increase from existing condition. This increase in VHD would result in an exacerbation of the system capacity and hinder consistent traffic flow. Therefore, frequently used corridors for heavy-trucks such as the I-710 and surrounding communities are at risk of lower levels of service without proper mitigation measures to curb congestion.

**TABLE 3.17.4-3
TOTAL DAILY HEAVY-DUTY TRUCKS TRIPS HOURS OF DELAY IN 2012* AND 2040**

County	In Thousands of Hours		
	2012*	2040 No Project	2040 Plan
Imperial	0	1	1
Los Angeles	71	146	86
Orange	16	33	18
Riverside	11	47	31
San Bernardino	17	82	43
Ventura	2	6	3
Regional	118	314	184

SOURCE:

SCAG modeling, 2015.

NOTE:

* Please note that 2012 base year transportation network includes the 2015 project information from the 2015 Federal Transportation Improvement Program (FTIP) adopted in September 2014 and approved by Federal Highway Administration in December 2014, as well as projects listed in the 2012 RTP/SCS as last amended in September 2014

SCAG and the six Counties have worked towards the development of a metropolitan-wide strategy for new and existing transportation facilities eligible for funding under Title 23 U.S.C, and Title 49 U.S.C., to optimize the transportation system for safety and improve effectiveness. This strategy includes the development of a coherent and integrated regional goods movement system. Strategies include a Regional Freight Corridor System which would create a system of truck-only lanes for major freeway systems that are affected by haul trucks used for the goods movement; a Truck Bottleneck Relief Strategy which would mitigate top-priority truck bottlenecks; a Rail Strategy which would allow shippers the ability to move over long distances at lower costs, utilizing efficient rail strategies to include expansion and modernization of intermodal facilities; a Good Movement Environmental Strategy which would focus on a two-pronged approach for achieving an efficient, safe and economically sound freight system that reduces environmental impacts.

In order to meet federal certification requirements, SCAG and county CMAs, specifically LA County Metro, OCTA, RCTC, SANBAG, and VCTC are developing means to monitor and maintain the existing roadway infrastructure through demand reduction techniques, land-use and operation management strategies, and strategic capacity enhancement strategies. Additional strategies include supporting land

use policies aim to focus growth in HQTAs with enhanced opportunities for Southern California residents to access destinations without the use of an automobile. This would reduce, but not eliminate, at-capacity or near-capacity conditions (LOS E and LOS F) on roadways within the region. However, congestion would be diverted and increase in public transit within HQTAs would occur.

SCAG has also worked with local CMAs to support strategies for diversifying mode choices by encouraging public transit use and non-motorized forms of commute such as walking and other active transportation in the Plan. While the actual benefits of these alternative and active transportation modes are modest, SCAG transportation modeling indicates a potential to overall improvement in peak period work trips completed within 45 minutes by personal vehicle or by other transit with implementation of the Plan. In order to determine these findings, PM peak period work trips were used to assess impacts to work commute as PM trips are prone to the greatest amount of vehicle delay. To assess impacts, 45 minutes for work trips were used as a benchmark to analyze commute lengths for both by personal vehicle and other transit modes.

Over 80 percent of the Existing PM peak period work trips would take 45 minutes or less by single occupancy vehicle, 74.2 percent of the Existing PM peak period work trips would take 45 minutes or less by high occupancy vehicle, and 28.5 percent would occur within 45 minutes by transit (*Table 3.17.4-4, Percentage of PM Peak Period Work Trips Complete within 45 minutes*).

In 2040, with the implementation of the Plan, 89.1 percent of the PM peak period work trips would take 45 minutes or less by single occupancy vehicle, 80.2 percent of the PM peak period work trips would take 45 minutes or less by high occupancy vehicle, and 30.1 percent would occur within 45 minutes by transit. The increase in vehicles achieving 45 minutes travel time by all modes of transportation would occur with the implementation of the Plan. As such, this improvement is considered regionally beneficial in reducing congestion and improving level of service on roads associated with work commutes.

**TABLE 3.17.4-4
PERCENTAGE OF PM PEAK PERIOD WORK TRIPS COMPLETED WITHIN 45 MINUTES**

County	2012 Base Year*	2040 No Project	2040 Plan
AUTOS –SINGLE OCCUPANCY VEHICLES			
Imperial	95.8%	96.5%	96.9%
Los Angeles	80.4%	81.3%	89.2%
Orange	79.5%	79.7%	87.7%
Riverside	87.1%	84.7%	89.9%
San Bernardino	85.2%	84.5%	88.2%
Ventura	90.1%	89.9%	92.3%
Region	81.8%	82.4%	89.1%
AUTOS – HIGH OCCUPANCY VEHICLES			
Imperial	83.3%	83.7%	84.1%
Los Angeles	75.7%	76.3%	82.5%
Orange	70.4%	71.4%	79.9%
Riverside	76.5%	72.7%	76.9%
San Bernardino	71.3%	69.5%	73.3%
Ventura	72.9%	72.7%	77.5%
Region	74.2%	74.1%	80.2%
TRANSIT			
Imperial	16.7%	12.2%	12.0%
Los Angeles	30.6%	28.7%	32.4%
Orange	13.8%	15.1%	18.1%
Riverside	17.8%	19.1%	14.0%
San Bernardino	10.7%	10.7%	11.8%
Ventura	7.5%	6.7%	6.6%
Region	28.5%	27.0%	30.1%

NOTE:

Numbers are rounded to nearest thousand.

*Please note that 2012 base year transportation network includes the 2015 project information from the 2015 Federal Transportation Improvement Program (FTIP) adopted in September 2014 and approved by Federal Highway Administration in December 2014, as well as projects listed in the 2012 RTP/SCS as last amended in September 2014.

SOURCE:

SCAG modeling, 2015.

Despite the benefits shown by implementing the Plan, the transportation projects and land use strategies considered in the 2016 RTP/SCS have the potential to conflict with the established measures of effectiveness for the performance of the circulation system due to the increase in VMT, potentially posing a conflict with the adopted County CMPs, within the SCAG Region, and their respective measures, constituting a significant impact requiring the consideration of mitigation measures.

IMPACT TRA-3: Potential to result in a significant change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks.

Less than Significant Impact

Based on the statistics in SCAG's aviation forecast, there is adequate capacity in provisioning for goods and passenger services, thus the 2016 RTP/SCS would be expected to result in impacts that are below the level of significance to air traffic patterns. The Plan would not in itself affect air traffic patterns. However, increased or dispersed population that would occur by 2040 would likely result in increased air traffic in all nine major commercial airports in Southern California as listed above in Table 3.17.2-9. According to the Plan, the regional-level air passenger demand forecast would be 136.2 million annual passengers (MAP) by 2040 (Figure 3.17.4-1, *Anticipated Future Passenger Demands at Major Southern California Airports*). This forecast is approximately 7 percent lower than the 2012 RTP/SCS's 145.9 MAP projection for the year 2035. The Plan's air cargo demand is more conservative in comparison to the 2012 RTP/SCS. In 2012 RTP/SCS, the demand for air cargo was estimated as 5.61 million tons, while the 2016 RTP/SCS is projecting approximately 3.78 million tons.³⁷ The 2016 RTP/SCS land use strategies aim to focus and influence new growth in HQTAs and Transit Priority Areas (TPAs) in locations away from airport clear zones and potential accident zones. Encouraging growth in HQTAs and TPAs would decrease the number of Southern California residents exposure to potential safety risks associated with air traffic.

The Plan would also recommend strategies which would support the regionalization of air demand; support regional and inter-regional projects that facilitate airport ground access; local land use efforts; development and use of transit access to the region's airports; encourage use of modes with high average vehicle occupancy; and discourage use of modes that require "deadhead" trips to/from airports. Implementation of these recommendations would avoid public safety issues associated with flight paths and safety issues as a result of collisions and congestion. Impacts would be less than significant.

IMPACT TRA-4: Potential to substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections), increased volumes or incompatible uses (e.g., farm equipment).

Less than Significant Impact

In accordance with the provisions governing hazard designs from the Southern California ITS, the Plan would not result in and overall increase hazards due to design features or increase conflicts between incompatible uses, and impact would be less than significant. The 2016 RTP/SCS land use strategies aim to focus growth in HQTAs and TPAs. These land use strategies are generally located away from high-speed facilities where potential hazards due to design features tend to be high. Moreover, development in HQTAs would increase the number of Southern California residents in proximity to transit and in areas with good opportunities for walking and biking, making it imperative to design facilities with bike racks,

³⁷ Southern California Association of Governments. 6 August 2015. *Item No. 1: Supplemental Report for Item No. 1*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/tc080615fullagn.pdf>

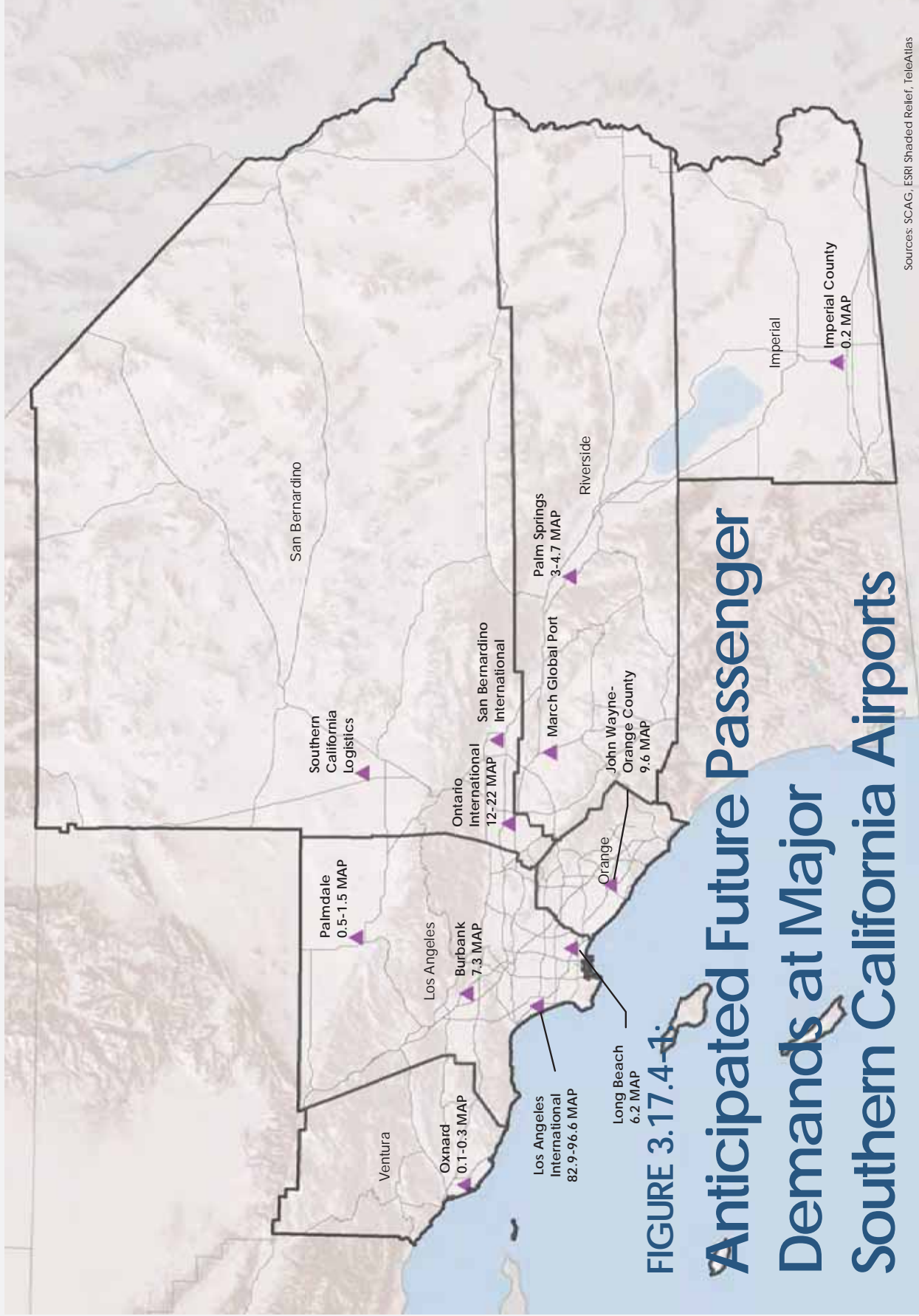


FIGURE 3.17.4-1:
Anticipated Future Passenger Demands at Major Southern California Airports

Major Airport

MAP= Million Annual Passengers



improved sidewalks, bikeways and greenways, and transit stations to promote pedestrian and other forms of active transportation.

The Plan includes Transportation System Management strategies to improve safety through reducing the concentration of erratic driving patterns and the clearing of incidents and accidents in a quick manner. As shown in Table 3.17.4-5, *Existing and 2040 Regional Transportation System Accident Rates*, implementation of the Plan would result in a system-wide daily injury rate of 12.93 injuries per million persons for all travel modes, which would be a decrease of 5.34 daily injuries per million persons when compared to the existing rate of 18.27, consistent with the goals and the actions outlined in the California Strategic Highway Safety Plan. Implementation of the Plan would potentially result in a system-wide daily fatality rate of 0.17 fatalities per million persons for all travel modes, a decrease of 0.03 daily fatalities per million persons when compared to the existing rate of 0.20.

**TABLE 3.17.4-5
EXISTING AND 2040 REGIONAL TRANSPORTATION SYSTEM ACCIDENT RATES**

Daily Per Million Persons	2012*	2040 No Project	2040 Plan
Fatalities	0.20	0.18	0.17
Injuries	18.27	13.67	12.93

SOURCE:

SCAG modeling, 2015.

NOTE:

* Please note that 2012 base year transportation network includes the 2015 project information from the 2015 Federal Transportation Improvement Program (FTIP) adopted in September 2014 and approved by Federal Highway Administration in December 2014, as well as projects listed in the 2012 RTP/SCS as last amended in September 2014.

The Plan includes strategies to encourage a complete streets approach to roadway improvements. The Plan also encourages the design of facilities to enhance the safety of riders, bicyclists, and pedestrians and minimize hazards. Education and encouragement informing the public regarding safe routes to schools and other safety campaigns would also occur. Impacts from increase hazards due to a design feature or incompatible attributes are less than significant.

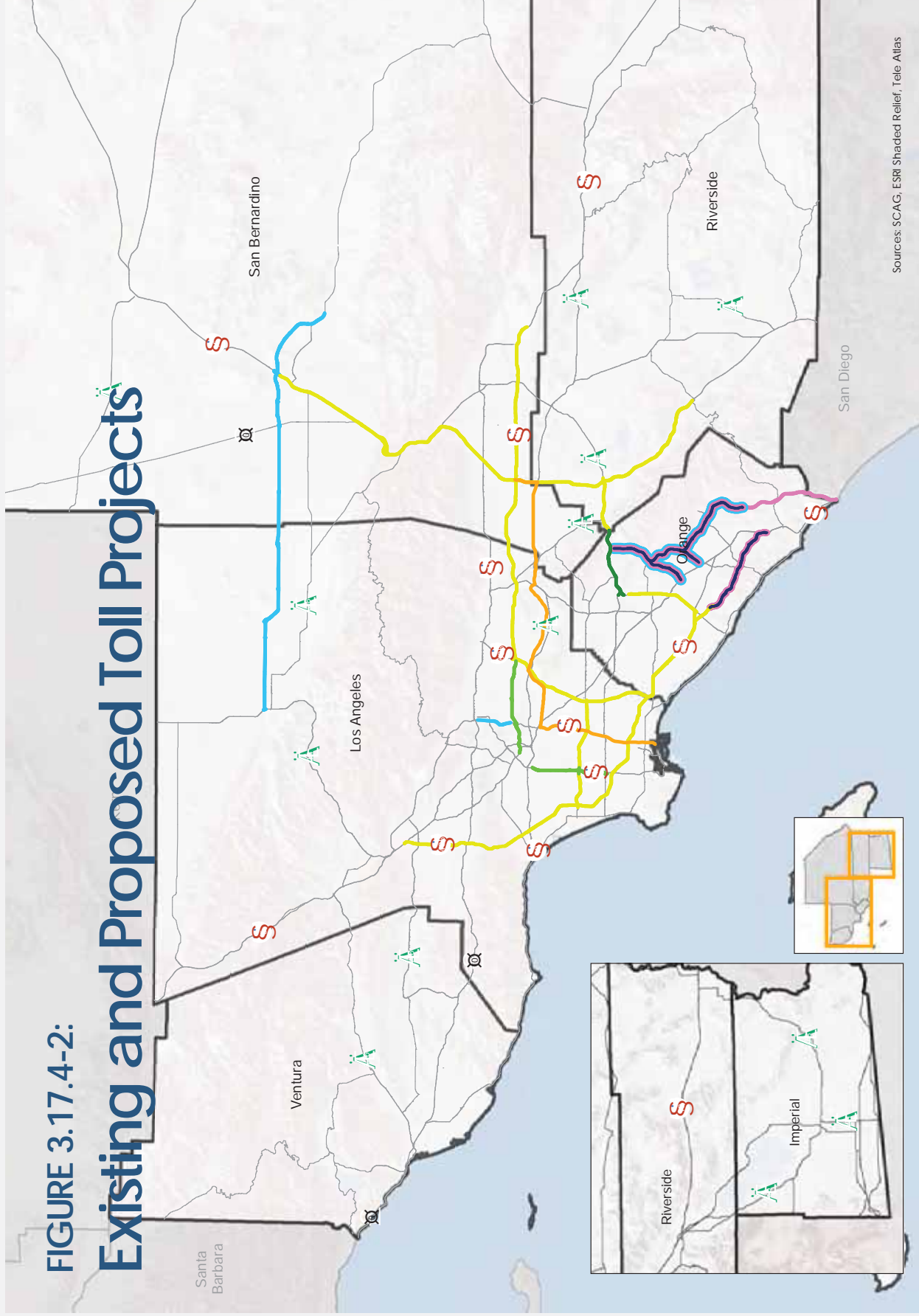
IMPACT TRA-5: Potential to result in inadequate emergency access.

Significant Impact

The transportation and land use strategies considered in the 2016 RTP/SCS have the potential to conflict with emergency access criteria, constituting a significant impact. One of the primary goals of 2016 RTP/SCS the 2016 RTP/SCS is to improve the mobility and improve accessibility to destinations. Chapter 5 of the 2016 RTP/SCS, appropriately titled “a Plan for Mobility, Sustainability, and a High Quality of Life,” provides a discussion on how to best meet the region’s population demand which is projected to grow by more than 20 percent (approximately 18 million people to more than 22 million) people in all types of communities from urban centers, cities, towns, to suburban neighborhoods. Additional provisions are stated to assist the region in remaining as a vital gateway for goods and services so residents can enjoy a high quality of life complemented by easily accessible transportation options, well-maintained infrastructures, and reduced congestion on highways and arterials, express and toll lane network, public transit and active transportation (Figure 3.17.4-2, *Existing and Proposed Toll Projects*). Depending on the timing, location, and duration of construction activities, several of the proposed

FIGURE 3.17.4-2:

Existing and Proposed Toll Projects



transportation projects (including grade crossings, arterials, interchanges, and auxiliary lanes), would result in delayed emergency vehicle response times or otherwise disrupt delivery of emergency response services, could occur. For example, closing off one or more lanes of a roadway, emergency routes would be impaired. The closure of these lanes could potentially cause traffic delays and ultimately prevent access to calls for service. Coordination within local jurisdictions can and should be taken to maintain adequate emergency access for ambulance services and other public safety services in the design of projects entailed by the Plan. Construction and operation of the transportation projects, and related development projects associated with the land use strategies considered in the 2016 RTP/SCS would have the potential to conflict with emergency access plans, constituting a significant impact, requiring the consideration of mitigation measures.

IMPACT TRA-6: Potential to result in conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Less than Significant Impact

The transportation projects and land use measures considered in the 2016 SCAG RTP/SCS encourages the adoption of policies to encourage public transit, bicycle, or pedestrian facilities, and would be expected to result in less than significant impacts. The Plan is consistent with provisions of Section 15091 of the State CEQA Guidelines, SCAG Active Transportation Plan, Passenger Rail and Transit Plans, and would not result in conflict with the regulation on non-motorized transit and pedestrian facilities. The 2016 RTP/SCS includes a series of individual improvement projects and program, including public transit, bicycle and trail, and pedestrian improvements projects, to enhance Southern California's multi-modal transportation system. The proposed 2016 Active Transportation Plan has developed goals for increasing bikeway miles by increasing commute mode sharing of bicycles and pedestrian activity and by improving active transportation pathways to public transit (including ADA compliant pathways). Additionally, the Plan recommends that development influenced by land use strategies, provide an increased amount of bicycle parking increase this mode of transportation. As shown on **Table 3.17.4-6**, it is anticipated that the region would expect up to 34.5 percent of total trips in the forms of active transportation and public transit by 2040. This is a substantial increase when compared with the 26.8 percent without the Plan in 2040, and 25.9 percent at the existing baseline. To achieve implementation of these goals, SCAG will collaborate with other transportation agencies, local and regional government, and the California Active Transportation Program to implement a sustainability program in the six counties region. Currently, the shares of walking and biking in SCAG region combined is approximately 12 percent of the total modes available. SCAG is currently working with local jurisdictions to increase this percentage to approximately 16 percent (**Table 3.17.4-6**). With all the measures included in the Plan to improve public access to transit, improve safety, and encourage Active Transportation, the Plan would reduce impacts related to transportation fatality. The Plan would promote active modes of transportation and would be in congruence with the performance requirements of the public transit, bicycle, and pedestrian facilities.

**TABLE 3.17.4-6
PERCENTAGE OF MODE SHARE ON TRANSIT AND ACTIVE TRANSPORTATION**

Mode Share	2012*	2040 No Project	2040 Plan
Walk	10.6	10.7	13.5
Bike	1.3	1.6	2.2
Active Transportation	11.9	12.3	15.7
Transit	2.1	2.2	3.1
Total	25.9	26.8	34.5

SOURCE:

SCAG modeling, 2015.

NOTE:

* Please note that 2012 base year transportation network includes the 2015 project information from the 2015 Federal Transportation Improvement Program (FTIP) adopted in September 2014 and approved by Federal Highway Administration in December 2014, as well as projects listed in the 2012 RTP/SCS as last amended in September 2014.

3.17.5 CUMULATIVE IMPACTS

IMPACT TRA-1: Potential to conflict with the established measures of effectiveness for the performance of the circulation system, by increasing the daily VMT, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Significant Cumulative Impact

The 2016 RTP/SCS, in addition to other projects from other regional plans (e.g., RTPs of adjacent jurisdictions), could result in additional impacts inside and outside the SCAG region. Therefore, when considered with other projects outside the region, the Plan would have the potential to conflict with established performance of the circulation system by increasing overall VMT, constituting a significant cumulative impact requiring the consideration of mitigation measures.

IMPACT TRA-2: Potential to conflict with an applicable congestion management program, including, but not limited to, VMT and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways.

Significant Cumulative Impact

The 2016 RTP/SCS, in addition to other projects from other regional plans (e.g., the Air Quality Management Plan and RTPs of adjacent jurisdictions), could result in additional impacts inside and outside the SCAG region. The Plan, when considered with other plans in the region, would potentially contribute to a cumulatively considerable amount of increased VMT and VHD from areas outside the

SCAG region, including Kern County and San Diego. As mentioned previously, the RTDM analyzes the population, households, and employment projected for 2040, which is anticipated to be the year with the largest demand on the transportation system expected during the lifetime of the Plan. In accounting for the effects of regional growth, the model output provides a long-term and cumulative level of analysis for the impacts of the Plan on transportation resources. Forecasted urban development and growth that would be accommodated by the transportation investments in the Plan and increased mobility provided by the Plan would contribute to the significant impacts. Therefore, when considered with other additional projects outside the region, the Plan would have the potential to conflict with established performance of the circulation system by increasing overall delays and congestion, constituting a significant cumulative impact requiring the consideration of mitigation measures.

IMPACT TRA-3: Potential to result in a significant change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks.

Less than Significant Cumulative Impact

Based on California's overall aviation forecast, there is adequate capacity in provisioning for goods and passenger services. The Plan would not in itself affect air traffic patterns. However, increased or dispersed population that would occur by 2040 would likely result in increased air traffic in all nine major commercial airports in Southern California. Other RTPs also would recommend strategies which would support the regionalization of air demand; support regional and interregional projects that facilitate airport ground access; local land use efforts; development and use of transit access to the region's airports; encourage use of modes with high average vehicle occupancy; and discourage use of modes that require "deadhead" trips to/from airports. Implementation of these recommendations would avoid public safety issues associated with flight paths and safety issues as a result of collisions and congestion. Therefore, when considered with other additional projects outside the region, the Plan would result in less than significant cumulative impacts with respect to air traffic patterns.

IMPACT TRA-4: Potential to substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections), increased volumes or incompatible uses (e.g., farm equipment).

Less than Significant Cumulative Impact

In accordance with the provisions governing hazard designs from the ITS, the Plan and other projects in the region would not result in an overall increase in hazards due to design features or increase conflicts between incompatible uses. The land use strategies of other RTPs outside the SCAG region also aim to focus growth in HQTAs and TPAs. These land use strategies are generally located away from high-speed facilities where potential hazards due to design features tend to be high. Moreover, development in HQTAs would increase the number of California residents in proximity to transit and in areas with good opportunities for walking and biking, making it imperative to design facilities with bike racks, improved sidewalks, bikeways and greenways, and transit stations to promote pedestrian and other forms of active transportation. The Plan aims to facilitate such design measures. Therefore, the Plan would result in a less than significant cumulative impact with respect to hazards.

IMPACT TRA-5: Potential to result in inadequate emergency access.

Significant Cumulative Impact

The transportation and land use strategies considered in the 2016 RTP/SCS and other RTPs in surrounding areas have the potential to conflict with emergency access, constituting a significant impact. While there are provisions in many other RTPs outside the SCAG region to offer connectivity in terms of goods and services so residents can enjoy a high quality of life complemented by easily accessible transportation options, the timing, location, and duration of construction activities from transportation projects including grade crossings, arterials, interchanges, and auxiliary lanes outside the region could result in delayed emergency vehicle response times or otherwise disrupt delivery of emergency response services. For example, closing off one or more lanes of a roadway would result in impaired emergency routes. The closure of these lanes could potentially cause traffic delays and ultimately prevent access to calls for service. Construction and operation of the transportation projects, and related development projects outside the SCAG region, would have the potential to conflict with emergency access plans, constituting a significant cumulative impact requiring the consideration of mitigation measures.

IMPACT TRA-6: Potential to result in conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

No Cumulative Impact

The Plan, when considered with other projects and RTPs, would not conflict with adopted policies, and plans, regarding public transit, bicycle, or pedestrian facilities, and therefore would not contribute to cumulative impacts in the SCAG region or surrounding areas.

3.17.6 MITIGATION MEASURES

The transportation projects included in the 2016 RTP/SCS would result in significant impacts to transportation and traffic. Mitigation measures are presented in two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT TRA-1: Potential to conflict with the established measures of effectiveness for the performance of the circulation system, by increasing the daily VMT, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

SCAG Mitigation Measures

MM-TRA-1(a)(1): SCAG shall facilitate minimizing VMT and related vehicular delay by minimizing impacts to circulation and access, improve mobility, and encourage transit and Active Transportation by conducting and participating in workshops (i.e., Mobility 21 workshop and Regional Transportation Workgroups) and web-based planning tools for local governments, forums with policy makers, and County Transportation Planning Agencies, member cities, and state partners during consultation on development and implementation of the Plan.

MM-TRA-1(a)(2): SCAG shall establish transportation infrastructure practices that identify and prioritize the design, retrofit, hardening, and stabilization of critical transportation infrastructure to prevent failure, to minimize loss of life and property, injuries, and avoid long term economic disruption.

MM-TRA-1(a)(3): SCAG shall identify further reduction in VMT, and fuel consumption that could be obtained through land-use strategies, additional car-sharing programs with linkage to public transportation, additional vanpools, additional bicycle sharing and parking programs, and implementation of a universal employee transit access pass (TAP) program.

MM-TRA-1(a)(4) SCAG shall help ensure the rapid repair of transportation infrastructure in the event of an emergency. This will be accomplished by SCAG, in cooperation with local and State agencies, identifying critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities. In addition, SCAG shall establish transportation infrastructure practices that promote and enhance security.

MM-TRA-1(a)(5): SCAG shall provide the means for collaboration in planning, communication, and information sharing before, during, or after a regional emergency. This will be accomplished by the following:

- SCAG shall develop and incorporate strategies and actions pertaining to response and prevention of security incidents and events as part of the on-going regional planning activities.
- SCAG shall offer a regional repository of GIS data for use by local agencies in emergency planning, and response, in a standardized format.
- SCAG shall enter into mutual aid agreements with other MPOs (as feasible) to provide this data, in coordination with the California OES in the event that an event disrupts SCAG's ability to function.

MM-TRA-1(a)(6): SCAG shall continue to analyze and develop potential implementation strategies for a regional, market-based system to price or charge for auto trips during peak hours.

MM-TRA-1(a)(7): SCAG shall develop a vanpool program for employees for commute trips

MM-TRA-1(a)(8): SCAG shall encourage new developments to incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation.

Project-Level Mitigation Measures

MM-TRA-1(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the potential for conflicts with the established measures of effectiveness for the performance of the circulation system that are within the jurisdiction and responsibility of Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the adopted Congestion Management Plan, and other adopted local plans and policies, as applicable and feasible. Compliance can be achieved through adopting transportation mitigation measures as set forth below, or through other comparable measures identified by the Lead Agency:

- Institute teleconferencing, telecommute and/or flexible work hour programs to reduce unnecessary employee transportation.
- Create a ride-sharing program by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading for ride sharing vehicles, and providing a web site or message board for coordinating rides.
- Provide a vanpool for employees.
- Fund capital improvement projects to accommodate future traffic demand in the area.
- Provide a Transportation Demand Management (TDM) plan containing strategies to reduce on-site parking demand and single occupancy vehicle travel. The TDM shall include strategies to increase bicycle, pedestrian, transit, and carpools/vanpool use, including:
 - Inclusion of additional bicycle parking, shower, and locker facilities that exceed the requirement
 - Construction of bike lanes per the prevailing Bicycle Master Plan (or other similar document)
 - Signage and striping onsite to encourage bike safety
 - Installation of pedestrian safety elements (such as cross walk striping, curb ramps, countdown signals, bulb outs, etc.) to encourage convenient crossing at arterials
 - Installation of amenities such as lighting, street trees, trash and any applicable streetscape plan.
 - Direct transit sales or subsidized transit passes
 - Guaranteed ride home program
 - Pre-tax commuter benefits (checks)
 - On-site car-sharing program (such as City Car Share, Zip Car, etc.)
 - On-site carpooling program
 - Distribution of information concerning alternative transportation options
 - Parking spaces sold/leased separately
Parking management strategies; including attendant/valet parking and shared parking spaces.

- Promote ride sharing programs e.g., by designating a certain percentage of parking spaces for high-occupancy vehicles, providing larger parking spaces to accommodate vans used for ride-sharing, and designating adequate passenger loading and unloading and waiting areas.
- Encourage bicycling to transit facilities by providing additional bicycle parking, locker facilities, and bike lane access to transit facilities when feasible.
- Encourage the use of public transit systems by enhancing safety and cleanliness on vehicles and in and around stations, providing shuttle service to public transit, offering public transit incentives and providing public education and publicity about public transportation services.
- Encourage bicycling and walking by incorporating bicycle lanes into street systems in regional transportation plans, new subdivisions, and large developments, creating bicycle lanes and walking paths directed to the location of schools and other logical points of destination and provide adequate bicycle parking, and encouraging commercial projects to include facilities on-site to encourage employees to bicycle or walk to work.
- Build or fund a major transit stop within or near transit development.
- Work with the school districts to improve pedestrian and bike access to schools and to restore or expand school bus service using lower-emitting vehicles.
- Provide information on alternative transportation options for consumers, residents, tenants and employees to reduce transportation-related emissions.
- Educate consumers, residents, tenants and the public about options for reducing motor vehicle-related greenhouse gas emissions. Include information on trip reduction; trip linking; vehicle performance and efficiency (e.g., keeping tires inflated); and low or zero-emission vehicles.
- Purchase, or create incentives for purchasing, low or zero-emission vehicles.
- Create local “light vehicle” networks, such as neighborhood electric vehicle systems.
- Enforce and follow limits idling time for commercial vehicles, including delivery and construction vehicles.
- Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles.
- Reduce VMT-related emissions by encouraging the use of public transit through adoption of new development standards that would require improvements to the transit system and infrastructure, increase safety and accessibility, and provide other incentives.

- Project Selection:
 - Give priority to transportation projects that would contribute to a reduction in vehicle miles traveled per capita, while maintaining economic vitality and sustainability.
 - Separate sidewalks whenever possible, on both sides of all new street improvement projects, except where there are severe topographic or natural resource constraints.

- Public Involvement:
 - Carry out a comprehensive public involvement and input process that provides information about transportation issues, projects, and processes to community members and other stakeholders, especially to those traditionally underserved by transportation services.

- Transit and Multimodal Impact Fees:
 - Assess transit and multimodal impact fees on new developments to fund public transportation infrastructure, bicycle infrastructure, pedestrian infrastructure and other multimodal accommodations.
 - Implement traffic and roadway management strategies to improve mobility and efficiency, and reduce associated emissions.
- System Monitoring:
 - Monitor traffic and congestion to determine when and where new transportation facilities are needed in order to increase access and efficiency.
- Arterial Traffic Management:
 - Modify arterial roadways to allow more efficient bus operation, including bus lanes and signal priority/preemption where necessary.
- Signal Synchronization:
 - Expand signal timing programs where emissions reduction benefits can be demonstrated, including maintenance of the synchronization system, and will coordinate with adjoining jurisdictions as needed to optimize transit operation while maintaining a free flow of traffic.
- HOV Lanes:
 - Encourage the construction of high-occupancy vehicle (HOV) lanes or similar mechanisms whenever necessary to relieve congestion and reduce emissions.
- Delivery Schedules:
 - Establish ordinances or land use permit conditions limiting the hours when deliveries can be made to off-peak hours in high traffic areas.
 - Implement and supporting trip reduction programs.
 - Support bicycle use as a mode of transportation by enhancing infrastructure to accommodate bicycles and riders, and providing incentives.
- Establish standards for new development and redevelopment projects to support bicycle use, including amending the Development Code to include standards for safe pedestrian and bicyclist accommodations, and require new development and redevelopment projects to include bicycle facilities, as appropriate with the new land use are as follows:
- Bicycle and Pedestrian Trails:
 - Establish a network of multi-use trails to facilitate safe and direct off-street bicycle and pedestrian travel, and will provide bike racks along these trails at secure, lighted locations.

- Bicycle Safety Program:
 - Develop and implement a bicycle safety educational program to teach drivers and riders the laws, riding protocols, routes, safety tips, and emergency maneuvers.
- Bicycle and Pedestrian Project Funding: Pursue and provide enhanced funding for bicycle and pedestrian facilities and access projects.
- Bicycle Parking:
 - Adopt bicycle parking standards that ensure bicycle parking sufficient to accommodate 5 to 10 percent of projected use at all public and commercial facilities, and at a rate of at least one per residential unit in multiple-family developments (suggestion: check language with League of American Bicyclists).
- Adopt a comprehensive parking policy to discourage private vehicle use and encourage the use of alternative transportation by incorporating the following:
 - Reduce the available parking spaces for private vehicles while increasing parking spaces for shared vehicles, bicycles, and other alternative modes of transportation;
 - Eliminate or reduce minimum parking requirements for new buildings;
 - “Unbundle” parking (require that parking is paid for separately and is not included in the base rent for residential and commercial space);
 - Use parking pricing to discourage private vehicle use, especially at peak times;
 - Create parking benefit districts, which invest meter revenues in pedestrian infrastructure and other public amenities;
 - Establish performance pricing of street parking, so that it is expensive enough to promote frequent turnover and keep 15 percent of spaces empty at all times;
 - Encourage shared parking programs in mixed-use and transit-oriented development areas.
- Establish policies and programs to reduce onsite parking demand and promote ride-sharing and public transit at large events, including:
 - Promote the use of peripheral parking by increasing on-site parking rates and offering reduced rates for peripheral parking;
 - Encourage special event center operators to advertise and offer discounted transit passes with event tickets;
 - Encourage special event center operators to advertise and offer discount parking incentives to carpooling patrons, with four or more persons per vehicle for on-site parking;
 - Promote the use of bicycles by providing space for the operation of valet bicycle parking service.
- Parking “Cash-out” Program:
 - Require new office developments with more than 50 employees to offer a Parking “Cash-out” Program to discourage private vehicle use.

- Pedestrian and Bicycle Promotion:
 - Work with local community groups and downtown business associations to organize and publicize walking tours and bicycle events, and to encourage pedestrian and bicycle modes of transportation.
- Fleet Replacement:
 - Establish a replacement policy and schedule to replace fleet vehicles and equipment with the most fuel efficient vehicles practical, including gasoline hybrid and alternative fuel or electric models.

IMPACT TRA-2: Potential to conflict with an applicable congestion management program, including, but not limited to, VMT and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways.

SCAG Mitigation Measures

See MM-TRA-1(a) through TRA-1(a)(8).

MM-TRA-2(a)(1): SCAG shall facilitate minimizing impacts related to traffic congestion by complying with County Congestion Management Plans and via ongoing regional planning efforts, workshops, and web-based planning tools with County Congestion Management Agencies, member agencies, and state partners during consultation on development and maintenance of the Plan. Congestion relief efforts shall be in accordance with the approach outlined in the SCAG Congestion Management Appendix of the 2016 RTP/SCS.

MM-TRA-2(a)(2): SCAG shall facilitate the remote use of ITS technologies that enhance transportation security, improve surveillance, monitor and distress notification systems and to assist in the rapid evacuation of disaster areas. SCAG shall facilitate minimizing impacts related to traffic congestion by facilitating regional efforts and coordinate discussion and collaboration among public agencies related to Intelligent Transportation Systems, as described in the **Transportation Security and Safety Appendix of the 2016 RTP/SCS.**

Project-Level Mitigation

MM-TRA--2(b). Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures, capable of avoiding conflict with an applicable congestion management program that are within the jurisdictions of the lead agencies, including, but not limited to, VMT, VHD and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with the adopted Congestion Management Plan, and other adopted local plans and policies,

as applicable and feasible. Compliance can be achieved through adopting transportation mitigation measures as set forth below, or through other comparable measures identified by the Lead Agency:

- Encourage a comprehensive parking policy that prioritizes system management, increase rideshare, and telecommute opportunities, including investment in non-motorized transportation and discouragement against private vehicle use, and encouragement to maximize the use of alternative transportation:
 - Advocate for a regional, market-based system to price or charge for auto trips during peak hours.
 - Ensure that new developments incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation.
 - Coordinate controlled intersections so that traffic passes more efficiently through congested areas. Where traffic signals or streetlights are installed, require the use of Light Emitting Diode (LED) technology.
 - Encourage the use of car-sharing programs such as ZipCar. Accommodations for such programs include providing parking spaces for the car-share vehicles at convenient locations accessible by public transportation.
 - Reduce VHDs, especially daily heavy-duty truck vehicle hours of delay, through goods movement capacity enhancements, system management, increasing rideshare and work-at-home opportunities to reduce demand on the transportation system, investments in non-motorized transportation, maximizing the benefits of the land use-transportation connection and key transportation investments targeted to reduce heavy-duty truck delay.
- Determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of this project and other nearby projects that could be simultaneously under construction. Develop a construction management plan that include at least the following items and requirements:
 - A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes.
 - Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.
 - Location of construction staging areas for materials, equipment, and vehicles at an approved location.
 - A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. The manager shall determine the cause of the complaints and shall take prompt action to correct the problem. The Lead Agency shall be informed who the Manager is prior to the issuance of the first permit.
 - Provision for accommodation of pedestrian flow.
 - As necessary, provision for parking management and spaces for all construction workers to ensure that construction workers do not park in on street spaces.
 - Any damage to the street caused by heavy equipment, or as a result of this construction, shall be repaired, at the project sponsor's expense, within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to issuance of a final inspection of the building permit. All

- damage that is a threat to public health or safety shall be repaired immediately. The street shall be restored to its condition prior to the new construction as established by the Lead Agency (or other appropriate government agency) and/or photo documentation, at the sponsor's expense, before the issuance of a Certificate of Occupancy.
- Any heavy equipment brought to the construction site shall be transported by truck, where feasible.
 - No materials or equipment shall be stored on the traveled roadway at any time.
 - Prior to construction, a portable toilet facility and a debris box shall be installed on the site, and properly maintained through project completion.
 - All equipment shall be equipped with mufflers.
 - Prior to the end of each work-day during construction, the contractor or contractors shall pick up and properly dispose of all litter resulting from or related to the project, whether located on the property, within the public rights-of-way, or properties of adjacent or nearby neighbors.
 - Promote “least polluting” ways to connect people and goods to their destinations.
- Create an interconnected transportation system that allows a shift in travel from private passenger vehicles to alternative modes, including public transit, ride sharing, car sharing, bicycling and walking, by incorporating the following:
 - Ensure transportation centers are multi-modal to allow transportation modes to intersect;
 - Provide adequate and affordable public transportation choices, including expanded bus routes and service, as well as other transit choices such as shuttles, light rail, and rail;
 - To the extent feasible, extend service and hours of operation to underserved arterials and population centers or destinations such as colleges;
 - Focus transit resources on high-volume corridors and high-boarding destinations such as colleges, employment centers and regional destinations;
 - Coordinate schedules and routes across service lines with neighboring transit authorities;
 - Support programs to provide “station cars” for short trips to and from transit nodes (e.g., neighborhood electric vehicles);
 - Study the feasibility of providing free transit to areas with residential densities of 15 dwelling units per acre or more, including options such as removing service from less dense, underutilized areas to do so;
 - Employ transit-preferential measures, such as signal priority and bypass lanes. Where compatible with adjacent land use designations, right-of-way acquisition or parking removal may occur to accommodate transit-preferential measures or improve access to transit. The use of access management shall be considered where needed to reduce conflicts between transit vehicles and other vehicles;
 - Provide safe and convenient access for pedestrians and bicyclists to, across, and along major transit priority streets;
 - Use park-and-ride facilities to access transit stations only at ends of regional transit ways or where adequate feeder bus service is not feasible.
 - Upgrade and maintain transit system infrastructure to enhance public use, including:
 - Ensure transit stops and bus lanes are safe, convenient, clean and efficient;
 - Ensure transit stops have clearly marked street-level designation, and are accessible;
 - Ensure transit stops are safe, sheltered, benches are clean, and lighting is adequate;

- Place transit stations along transit corridors within mixed-use or transit-oriented development areas at intervals of three to four blocks, or no less than one-half mile.
- Enhance customer service and system ease-of-use, including:
 - Develop a Regional Pass system to reduce the number of different passes and tickets required of system users;
 - Implement “Smart Bus” technology, using GPS and electronic displays at transit stops to provide customers with “real-time” arrival and departure time information (and to allow the system operator to respond more quickly and effectively to disruptions in service);
 - Investigate the feasibility of an on-line trip-planning program.
- Prioritize transportation funding to support a shift from private passenger vehicles to transit and other modes of transportation, including:
 - Give funding preference to improvements in public transit over other new infrastructure for private automobile traffic;
 - Before funding transportation improvements that increase roadway capacity and VMT, evaluate the feasibility and effectiveness of funding projects that support alternative modes of transportation and reduce VMT, including transit, and bicycle and pedestrian access.
- Promote ride sharing programs, including:
 - Designate a certain percentage of parking spaces for ride-sharing vehicles;
 - Designate adequate passenger loading, unloading, and waiting areas for ride-sharing vehicles;
 - Provide a web site or message board for coordinating shared rides;
 - Encourage private, for-profit community car-sharing, including parking spaces for car share vehicles at convenient locations accessible by public transit;
 - Hire or designate a rideshare coordinator to develop and implement ridesharing programs.
- Support voluntary, employer-based trip reduction programs, including:
 - Provide assistance to regional and local ridesharing organizations;
 - Advocate for legislation to maintain and expand incentives for employer ridesharing programs;
 - Require the development of Transportation Management Associations for large employers and commercial/ industrial complexes;
 - Provide public recognition of effective programs through awards, top ten lists, and other mechanisms.
- Implement a “guaranteed ride home” program for those who commute by public transit, ride-sharing, or other modes of transportation, and encourage employers to subscribe to or support the program.
- Encourage and utilize shuttles to serve neighborhoods, employment centers and major destinations.

- Create a free or low-cost local area shuttle system that includes a fixed route to popular tourist destinations or shopping and business centers.
- Work with existing shuttle service providers to coordinate their services.
- Facilitate employment opportunities that minimize the need for private vehicle trips, including:
 - Amend zoning ordinances and the Development Code to include live/work sites and satellite work centers in appropriate locations;
 - Encourage telecommuting options with new and existing employers, through project review and incentives, as appropriate.
- Enforce State idling laws for commercial vehicles, including delivery and construction vehicles.
- Organize events and workshops to promote GHG-reducing activities.
- Implement a Parking Management Program to discourage private vehicle use, including:
 - Encouraging carpools and vanpools with preferential parking and a reduced parking fee;
 - Institute a parking cash-out program;
 - Renegotiate employee contracts, where possible, to eliminate parking subsidies;
 - Install on-street parking meters with fee structures designed to discourage private vehicle use;
 - Establish a parking fee for all single-occupant vehicles.

IMPACT TRA-5: Potential to result in inadequate emergency access

SCAG Mitigation Measures

MM-TRA-5(a): SCAG shall facilitate minimizing impacts to emergency access through ongoing regional planning efforts to improve emergency access through design refinements, safety and security improvements, and collaborative planning with local, regional, and state partners such as Department of Transportation, Congestion Management Agencies, Fire Department, and other local enforcement agencies to minimize, reduce, and avoid impacts to regional transportation facilities and comply with the county and cities regional plan during development of the Regional Transportation Plan.

Project-Level Mitigation Measures

MM-TRA-5(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing impacts to emergency access that are in the jurisdiction and responsibility of fire departments, local enforcement agencies, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider improving emergency access and ensuring compliance with the provisions of the county and city general plan, Emergency Evacuation Plan, and other regional and local plans establishing access during emergencies, as applicable and feasible. Compliance can be achieved through adopting transportation mitigation measures as set forth below, or through other comparable measures identified by the Lead Agency:

- Prior to construction, project implementation agencies can and should ensure that all necessary local and state road and railroad encroachment permits are obtained. The project implementation agency can and should also comply with all applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Traffic control plans can and should include the following requirements:
 - Identification of all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow.
 - Development of circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
 - Scheduling of truck trips outside of peak morning and evening commute hours.
 - Limiting of lane closures during peak hours to the extent possible.
 - Usage of haul routes minimizing truck traffic on local roadways to the extent possible.
 - Inclusion of detours for bicycles and pedestrians in all areas potentially affected by project construction.
 - Installation of traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.
 - Development and implementation of access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, affected jurisdictions can and should be asked to identify detours for emergency vehicles, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures.
 - Storage of construction materials only in designated areas.
 - Coordination with local transit agencies for temporary relocation of routes or bus stops in work zones, as necessary.
- Ensure the rapid repair of transportation infrastructure in the event of an emergency through cooperation among public agencies and by identifying critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities.
- Enhance emergency preparedness awareness among public agencies and with the public at large.
- Provision for collaboration in planning, communication, and information sharing before, during, or after a regional emergency through the following:
 - Incorporate strategies and actions pertaining to response and prevention of security incidents and events as part of the on-going regional planning activities.
 - Provide a regional repository of GIS data for use by local agencies in emergency planning, and response, in a standardized format.
 - Enter into mutual aid agreements with other local jurisdictions, in coordination with the California OES, in the event that an event disrupts the jurisdiction's ability to function.

3.17.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT TRA-1: Potential to conflict with the established measures of effectiveness for the performance of the circulation system, by increasing the daily VMT, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Implementation of Mitigation Measures MM-TRA-1(a)(1) through MM-TRA-1(a)(8) and MM-TRA-1(b) would reduce impacts to VMT. However, 2040 VMT would still be substantially greater than existing VMT. Therefore, the Plan would result in a significant and unavoidable impact related to VMT.

Impacts related to VHD were determined to be less than significant without mitigation because vehicle hours in delay would improve under the Plan.

Implementation of Mitigation Measures MM-TRA-1(a)(1) through MM-TRA-1(a)(8) and MM-TRA-1(b) would reduce VHD for heavy trucks. However, the 2040 heavy-duty truck VHD would still be substantially greater than the existing VHD. Therefore, the Plan would result in a significant and unavoidable impact related to heavy-duty truck VHD.

Impacts related to worker commute were determined to be less than significant without mitigation as the percentage of trips occurring within 45 minutes would increase under the Plan compared to today.

Impacts related transportation system fatality rates were determined to be less than significant without mitigation because fatality rates are anticipated to decrease.

Direct, indirect, and cumulative impacts related to transportation system injury rates were determined to be less than significant without mitigation because injury rates are anticipated to decrease.

IMPACT TRA-2: Potential to conflict with an applicable congestion management program, including, but not limited to, VMT and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways.

Implementation of Mitigation Measures MM-TRA-1(a)(1) through MM-TRA-1(a)(8), MM-TRA-2(a), and MM-TRA-2(b) would reduce potential impacts related to conflict with an applicable congestion management program. However, due to the substantial growth and large number of projects anticipated in the Plan, direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT TRA-5: Potential to result in inadequate emergency access.

Implementation of Mitigation Measures MM-TRA-5(a) and MM-TRA-5(b) would reduce potential impacts related to inadequate emergency access. However, due to the substantial growth and large number of projects anticipated in the Plan, direct, indirect, and cumulative impacts would remain significant and unavoidable.

UTILITIES AND SERVICE SYSTEMS

This section of the Program Environmental Impact Report (PEIR) describes utilities and service systems in the Southern California Association of Governments (SCAG) region, discusses the potential impacts of the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategies (“2016 RTP/SCS,” “Plan” or “Project”) in relation to construction of new utility infrastructure or expansion of existing infrastructure, identifies mitigation measures for the impacts, and evaluates the residual impacts. The potential for the 2016 RTP/SCS to exceed the capacity of existing utility infrastructure or create the demand for new infrastructure was evaluated in accordance with Appendix G of the 2015 State California Environmental Quality Act (CEQA) Guidelines. Consistent with the State CEQA Guidelines, the scope of the analysis of utilities and service systems addressed in this PEIR includes water supply, wastewater treatment, storm drains, and landfills. The potential to adversely affect utility capacity or infrastructure in the SCAG region was evaluated at the programmatic level of detail, in relation to the General Plans of the six counties and 191 cities within the SCAG region; a query of government data bases; a review of related literature germane to the SCAG region; as well as a review of the 2012 SCAG RTP/SCS PEIR. Section 3.6, *Energy*, addresses energy implications of the 2016 RTP/SCS, including a discussion of the potential energy impacts of the proposed policies, programs, and projects included in the 2016 RTP/SCS, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy, identifies mitigation measures for the impacts, and evaluates the residual impacts.

Water supply in the SCAG region is a function of water supply from imported sources, local water supplies, groundwater and recycling. According to the Association of California Water Agencies (ACWA), “California is home to one of the most extensive water supply systems in the nation. Comprising more than 1,000 reservoirs, hundreds of groundwater basins and dozens of local and regional water conveyance systems, California’s water infrastructure is an engineering marvel and a tribute to human ingenuity.”¹ California relies on an elaborate network of water storage and delivery systems to supply cities, farms, businesses and the environment with adequate water year-round. ACWA estimates that California receives about 200 million acre-feet of precipitation in average years. Of this total, 65 percent is lost through evaporation and the remaining 35 percent stays in the state’s system as runoff. More than 30 percent of this runoff flows out to the Pacific Ocean or other salt sinks. The rest is used by agricultural, urban, and environmental purposes. While an estimated 75 percent of the annual precipitation falls north of Sacramento, more than 75 percent of the demand for water is south of the capital city. Five of the seven major systems of aqueducts and associated infrastructure that exist today in California convey water supplies to the SCAG region.²

In addition to creating a huge demand for water supply, the SCAG population of close to 19 million generate demand for wastewater treatment, stormwater drainage, and solid waste disposal. The quality of the environment in the SCAG region has changed over time. In particular, changes in the waste discharge requirements have affected the quality and healthfulness of air, water, and soil resources that are essential to well-being of human and the other organisms that depend on aquatic

¹ Association of California Water Agencies. Accessed 11 September 2015. *California’s Water: California Water Systems*. Available at: <http://www.acwa.com/content/california-water-series/californias-water-california-water-systems>

² Association of California Water Agencies. Accessed 11 September 2015. *California’s Water: California Water Systems*. Available at: <http://www.acwa.com/content/california-water-series/californias-water-california-water-systems>

habitat. These changes resulted in new requirement of new water or wastewater treatment facilities and expansion of existing facilities. Prior to the 1960s there was limited regulation of solid waste and groundwater quality and the disposal of waste materials from these industries, as well as the general public. This lack of regulation allowed the concentration of natural and anthropogenic compounds to persist in soil, water, and air, at unhealthful levels. Numerous regulations were enacted in the late 1960s and early 1970s in an effort to manage water quality and waste discharge. Subject to the regulatory oversight of Region 9 of the U.S. Environmental Protection Agency (U.S. EPA), municipalities take the lead in handling sanitary wastewater and stormwater runoff. Properly managed municipal facilities, such as publicly owned treatment works (POTWs), and wastewater systems, such as separate and combined storm sewer systems, play an important role in protecting community health and local water quality. Safe disposal of waste is a critical part of protecting the environment. U.S. EPA Region 9 works with the California EPA (Cal/EPA) and local governments to permit and monitor waste disposal facilities in southern California. In addition to the safe operation of landfills, their efforts involve helping generators to reduce their waste by updating operations and recycling as much as possible. Reducing waste saves energy and prevents future environmental impacts. In some cases, facilities are even able to achieve zero waste (exit) generation.

Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for utilities and service systems are provided.

Nonhazardous Municipal Solid Waste: More commonly known as trash or garbage—consists of everyday items that are used and then thrown away, such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries. This comes from homes, schools, hospitals, and businesses.

Regional Water Quality Control Board (RWQCB): There are nine RWQCBs in California. The RWQCBs protect ground and surface water quality, and are responsible for implementing Water Quality Control Plans.

Sanitary Landfill: Sanitary landfills are sites where waste is isolated from the environment until it is safe. It is considered when it has completely degraded biologically, chemically and physically.

Septic Tank: An underground vessel for treating wastewater from a single dwelling or building by a combination of settling and anaerobic digestion. Effluent is usually disposed of through a dispersal system which consists of one or a combination of leach fields, seepage pits, and/or subsurface drip dispersal system. Settled solids in septic tank are pumped out periodically and hauled to a treatment facility for disposal.

Storm Water and Stormwater: In layman's terms, stormwater is defined as an abnormal amount of surface water due to a heavy rain or snowstorm. The term *storm water* is used when employed by the cited source of information. In all other instances, *stormwater* is used, consistent with the provision of Appendix G of the CEQA Guidelines and as defined by the U.S. EPA. Stormwater runoff is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces and does not percolate into the ground. As the runoff flows over the land or impervious surfaces (paved streets,

parking lots, and building rooftops), it accumulates debris, chemicals, sediment, or other pollutants that could adversely affect water quality if the runoff is discharged untreated.

Tier 1 Onsite Wastewater Treatment System (OWTS): Low Risk New or Replacement OWTS (Policy Section 7 & 8) applies to new or replacement OWTS that comply with conservative siting and design standards describe in the OWTS Policy. Tier 1 applies when a Local Agency Management Program (LAMP) has not been approved by the Regional Water Board. Maximum flow rate is 3,500 gallons per day (gpd).

Tier 2 Onsite Wastewater Treatment System (OWTS): Local Agency Management Program (LAMP) for New or Replacement OWTS (OWTS Policy Section 9) applies to new or replacement OWTS that comply with the siting and design standards in an approved LAMP. LAMPs are developed by Local Agencies based on local conditions; siting and design standards may differ from Tier 1 standards. Maximum flow rate is 10,000 gpd.

Tier 3 Onsite Wastewater Treatment System: Advanced Protection Management Program (OWTS Policy Section 10). Applies to OWTS located near impaired surface water bodies that are subject to a Total Maximum Daily Load (TMDL) implementation plan, a special provision contained in a LAMP, or is located within 600 feet of a water body listed on OWTS Attachment 2. Supplemental treatment requirements may apply to a Tier 3 system. Maximum flow rate is 10,000 gpd.

Water Supply System: A water supply system is a system for the collection, transmission, treatment, storage and distribution of water from source to consumers, for example, homes, commercial establishments, industry, irrigation facilities and public agencies for water-related activities (firefighting, street flushing, and so forth).

Wastewater: The spent or used water of a community or industry that contains dissolved and suspended matter.

3.18.1 REGULATORY FRAMEWORK

Federal

Federal Clean Water Act, Sections 404 and 401

The Federal Clean Water Act of 1972 (CWA; 33 U.S. Code [USC] §1251) established the basic structure for regulating discharges of pollutants into the waters of the U.S. and regulating quality standards for surface waters.³ Under the CWA, the U.S. EPA has implemented pollution control programs such as setting wastewater standards for industries and surface waters. Section 404 of the CWA establishes a program to regulate the discharge of dredged and fill materials into waters of the United States, including wetlands. The U.S. Army Corps of Engineers (USACOE) administers the day-to-day program, including individual permit decisions and jurisdictional determinations; develops policy and guidance; and enforces Section 404 provisions. Section 401 of the CWA made it unlawful to discharge any

³ California Water Boards. Accessed 14 September 2015. Fact Sheet: *Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy)*. Available at: http://www.waterboards.ca.gov/water_issues/programs/owts/index.shtml

pollutant from a point source into navigable waters, unless a permit was obtained. The U.S. EPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Point sources are discrete conveyances, such as pipes or manmade ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. The provisions of Section 401 of the CWA are enforced through the State Water Resources Control Board (SWRCB) and local RWQCBs.

Safe Drinking Water Act (SDWA)

The SDWA (Public Law 93-523) regulates the quality of Americans' drinking water. The law requires actions to protect drinking water and its sources—rivers, lakes, reservoirs, springs, and groundwater wells—and applies to public water systems serving 25 or more people. It authorizes the U.S. EPA to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants. In addition, it oversees the states, municipalities and water suppliers that implement the standards.

U.S. EPA standards are developed as a Maximum Contaminant Level (MCL) for each chemical or microbe. The MCL is the concentration that is not anticipated to produce adverse health effects after a lifetime of exposure, based upon toxicity data and risk assessment principles. The U.S. EPA's goal in setting MCLs is to assure that even small violations for a period of time do not pose significant risk to the public's health over the long run. National Primary Drinking Water Regulations (NPDWRs, or primary standards) are legally enforceable standards that limit the levels of contaminants in drinking water supplied by public water systems.

Secondary standards are nonenforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. The U.S. EPA recommends secondary standards to water systems but does not require systems to comply. However, states may choose to adopt them as enforceable standards.

In July 2014, implementation of the SDWA was transferred from the California Department of Public Health (DPH) to State Water Resources Control Board, Division of Drinking Water (DDW). DDW also now oversees the operational permitting and regulatory oversight of public water systems. DDW requires public water systems to perform routine monitoring for regulated contaminants that may be present in their drinking water supply. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding an MCL must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the MCL or when water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring. In addition, DDW conducts water source assessments, oversees water recycling projects, permits water treatment devices, certifies water system employees, promotes water system security, and administers grants under the State Revolving Fund and State bonds for water system improvements.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA; Public Law 94–580) establishes minimum location standards for siting municipal solid waste landfills. Because California laws and regulations governing the approval of solid waste landfills meet the requirements of Subtitle D, the U.S. EPA delegated the enforcement responsibility to the State of California.

State

Public Utilities Act of 1912

The CPUC also has jurisdiction over the IOUs in California. The CPUC, which was originally called the Railroad Commission until 1946, was established under the Public Utilities Act of 1912 as a regulatory authority for railroads, marine transportation companies, natural gas, electric, telephone, and water companies.⁴ The mission of the CPUC is to serve the public interest by protecting consumers and ensuring the provision of safe, reliable utility service and infrastructure at reasonable rates, with a commitment to environmental enhancement and a healthy California economy. CPUC regulates utility services, stimulate innovation, and promote competitive markets, where possible, in the communications, energy,⁵ transportation, and water industries.⁵

Warren-Alquist Act of 1974

The CEC was established by the Warren-Alquist Act of 1974 (PRC Division 15). The California Energy Commission (CEC) and the California Public Utilities Commission (CPUC) have jurisdiction over the investor-owned utilities (IOUs) in California As the State’s primary energy policy and planning agency committed to reducing energy costs and environmental impacts for energy use—such as greenhouse gas emissions—while ensuring a safe, resilient, and reliable source of energy.⁶

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939; Chapter 1095, Statute of 1989) was enacted to reduce, recycle, and reuse solid waste generated in the State to the maximum extent feasible. Specifically, the Act requires city and county jurisdictions to identify an implementation schedule to divert 50 percent of the total waste stream from landfill disposal by the year 2000. The Act also requires each city and county to promote source reduction, recycling, and safe disposal or transformation. Cities and counties are required to maintain the 50-percent diversion specified by AB 939 by the year 2000.

⁴ California Public Utilities Commission. Accessed 14 September 2015. *CPUC History & Structure*. Available at: <http://www.cpuc.ca.gov/PUC/aboutus/puhistory.htm>

⁵ California Public Utilities Commission. Accessed 14 September 2015. *CPUC Mission*. Available at: <http://www.cpuc.ca.gov/PUC/aboutus/pucmission.htm>

⁶ California Energy Commission. January 2015. *The California Energy Commission: Core Responsibilities*. Available at: http://www.energy.ca.gov/commission/fact_sheets/documents/core/CEC-Core_Responsibilities.pdf

For the SCAG region, the Counties' Department of Public Works (Public Works) is responsible for preparing and administering the Summary Plan and the Countywide Siting Element (CSE). The Summary Plan, approved by CalRecycle on June 23, 1999, describes the steps to be taken by local agencies, acting independently and in concert, to achieve the mandated State diversion rate by integrating strategies aimed toward reducing, reusing, recycling, diverting, and marketing solid waste generated within the County. The CSE, approved by CalRecycle on June 24, 1998, identifies how, for a 15-year planning period, the County and the cities within it would meet their long-term disposal capacity needs to safely handle solid waste generated in the County that cannot be reduced, recycled, or composted.

California Solid Waste Reuse and Recycling Act

The California Solid Waste Reuse and Recycling Act of 1991 (PRC 42900-42901) was enacted to assist local jurisdictions with accomplishing the goals of AB 939. In accordance with AB 2176, any development project that has submitted an application for a building permit must include adequate, accessible areas for the collection and loading of recyclable materials. Furthermore, the areas to be utilized must be adequate in capacity, number, and distribution to serve the proposed project. Moreover, the collection areas are to be located as close to existing exterior refuse collection areas as possible.

SB X&-6, Groundwater

Passed into law in November, 2009, SB X7-6, Groundwater (Section 12924 of the Water Code) required statewide collection and publication of groundwater elevations for the first time in California's history. SB X7-6 directs local agencies, with the assistance of DWR, to monitor and report the elevation of their groundwater basins to help manage the resource better during both average water years and drought conditions. As of December 2, 2013, DWR received monitoring notifications for more than 395 basins and subbasins. DWR has designated 124 monitoring entities who are now monitoring and reporting groundwater elevations for 152 basins and subbasins.⁷

Solid Waste: Diversion Rule (AB 341)

Under commercial recycling law (Chapter 476, Statutes of 2011), Assembly Bill (AB) 341, directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. CalRecycle initiated formal rulemaking with a 45-day comment period beginning October 28, 2011. The final regulation was approved by the Office of Administrative Law on May 7, 2012. AB 341 declared a policy goal of the state that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020.

Executive Order B-29-15

Passed on January 17, 2014, Executive Order B-29-15 mandates the SWRCB to impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage through February 28, 2016. Water reductions are measured as compared to 2013 levels. Areas with high per capita water usage

⁷ California Department of Water Resources. Accessed 15 September 2015. *California Water Today, Volume 1 – The Strategic Plan*. Available at:
http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/04_Vol1_Ch03_Ca_Water_Today.pdf

should achieve proportionally greater reductions than those areas with lower per capita water usage. The EO additionally directs the California Department of Water Resources (DWR) to work with local agencies to collectively replace 50 million square feet of lawns and ornamental turf with drought tolerant landscapes.

California Water Action Plan

The California Water Action Plan—released by Governor Brown in January 2014—is a roadmap for the first five years, 2014 to 2019, of the state’s journey toward sustainable water management. The California Water Action Plan has been developed to meet three broad objectives: more reliable water supplies, the restoration of important species and habitat, and a more resilient, sustainably managed water resources system (water supply, water quality, flood protection, and environment) that can better withstand inevitable and unforeseen pressures in the coming decades.

California Water Plan

The California Water Plan, last updated in 2013, provides a collaborative planning framework for elected officials, agencies, tribes, water and resource managers, businesses, academia, stakeholders, and the public to develop findings and recommendations and make informed decisions for California's water future. The plan, updated every five years, presents the status and trends of California's water-dependent natural resources; water supplies; and agricultural, urban, and environmental water demands for a range of plausible future scenarios. The California Water Plan also evaluates different combinations of regional and statewide resource management strategies to reduce water demand, increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship. The evaluations and assessments performed for the plan help identify effective actions and policies for meeting California's resource management objectives in the near term and for several decades to come.

State Water Resources Control Board Onsite Waste Treatment System (OWTS) Policy

The State Water Resources Control Board OWTS policy allows the continued use of OWTS, while protecting water quality and public health. This policy recognizes that responsible local agencies can provide the most effective means to manage OWTS on a routine basis. Therefore, as an important element, it is the intent of this policy to efficiently utilize, and improve upon where necessary, existing local programs through coordination between the State and local agencies. To accomplish this purpose, this policy establishes a statewide, risk-based, tiered approach for the regulation and management of OWTS installations and replacements and sets the level of performance and protection expected from OWTS. In particular, the policy requires actions for water bodies specifically identified as part this Policy where OWTS contribute to water quality degradation that adversely affect beneficial uses.

Regional

The water quality control plans and groundwater protection responsibilities for the SCAG region are described in Section 3.10, *Hydrology and Water Quality*.

Urban Water Management Plans

Under California Water Code Division 6, Part 2.6, Section 10610-10656, the Urban Water Management Planning Act (UWMPA) requires urban water suppliers that supply more than 3,000 acre-feet of water annually, or serve more than 3,000 connections, to submit an Urban Water Management Plan (UWMP). The UWMP is a public document prepared by water suppliers to support their long-term resource planning over a 20-year period and ensure adequate water supplies are available to meet existing and future water demands. The UWMP must be submitted to the DWR every 5 years, and must demonstrate progress toward reduction in 20 percent per capita urban water consumption by the year 2020, as required in the Water Conservation Bill of 2009, Senate Bill X7-7. There are 138 service districts in the SCAG region required to develop a UWMP, which is typically prepared and submitted to DWR within 30 days and reviewed 60 days prior to public hearing for plan adoption and implementation. The preparation of the plan includes guidebook, workshops, and programming for comprehensive strategies to conserve water.

Local

The County General Plans further discuss water quality regulations, including regulations of groundwater quality, for the SCAG region. These plans are available in Section 3.10, *Hydrology and Water Quality*. County and City General Plan also include goals and policies for recycling and diversion of solid waste to ensure compliance with the California Integrated Waste Management Act (AB 9393), the California Solid Waste Reuse and Recycling Act, and the Solid Waste Diversion Rule (AB 341).

3.18.2 EXISTING CONDITIONS

The utilities within the SCAG region include storm drain and sanitary sewer systems, water services, and solid waste and waste treatment facilities. This section provides a broad overview of the capacity of current water, wastewater, storm water and solid waste treatment, distribution, and disposal facilities.

Wastewater

Wastewater is defined as water that contains wastes from residential, commercial, and industrial processes. Municipal wastewater is comprised of sewage and gray water from sinks and showers. Industry, such as refineries, also generates wastewater that requires treatment to remove pollutants prior to discharge.

Wastewater Treatment Requirements

Created by the State Legislature in 1967, the SWRCB has jurisdiction throughout California, where it protects water quality by setting statewide policies. The SCAG region incorporates five of the nine Regional Water Boards in the State:

- Region 4—Los Angeles Regional Water Quality Control Board: Los Angeles, Ventura Counties, (small portions of Kern and Santa Barbara Counties).
- Region 6—Lahontan Regional Water Quality Control Board: San Bernardino, Los Angeles (N/E corner) counties.
- Region 7—Colorado River Regional Water Quality Control Board: Imperial, San Bernardino, Riverside, San Diego Counties.
- Region 8—Santa Ana Regional Water Quality Control Board: Orange, Riverside, San Bernardino Counties.
- Region 9—San Diego Regional Water Quality Control Board: San Diego, Imperial, Riverside Counties.

Wastewater Treatment Facilities

Treated wastewater is generally discharged into a water body, evaporation pond or percolation basin, or used for irrigation of farmland and landscaping. The U.S. EPA's NPDES permit program areas affect how a municipality handles its sanitary wastewater. Tertiary treatment, which involves the removal of nutrients and nearly all suspended organic matter from wastewater, is now commonly required for discharges to bodies of water, particularly where there is potential for human contact. Municipalities rely on assistance from other partners, such as industry, developers, and homeowners, to ensure that they can meet the requirements contained in their municipal NPDES permits.⁸ Properly managed municipal facilities, such as publicly owned treatment works (POTWs), and wastewater systems, such as separate and combined storm sewer systems, play an important role in protecting community health and local water quality.⁹

There are 66 major wastewater treatment facilities that serve the SCAG region (**Table 3.18.2-1, *Major Active Wastewater Treatment Facilities in the SCAG Region*; Figure 3.18.2-1, *Wastewater Treatment Plants***). Several smaller municipal wastewater systems and agencies also serve incorporated cities within the six-county region. Where municipal wastewater systems are absent, permits are available for private onsite sewage disposal systems. Most of the major wastewater treatment facilities are located in areas of higher population density. Many of the major facilities are located along the coastline to provide a close proximity of a water body for discharge of the treated water.

⁸ Environmental Protection Agency. Accessed 14 September 2015. *Municipalities and Wastewater Treatment Plants*. Available at: <http://water.epa.gov/polwaste/npdes/Municipalities-and-Wastewater-Treatment-Plants.cfm>

⁹ Environmental Protection Agency. Accessed 14 September 2015. *Municipalities and Wastewater Treatment Plants*. Available at: <http://water.epa.gov/polwaste/npdes/Municipalities-and-Wastewater-Treatment-Plants.cfm>

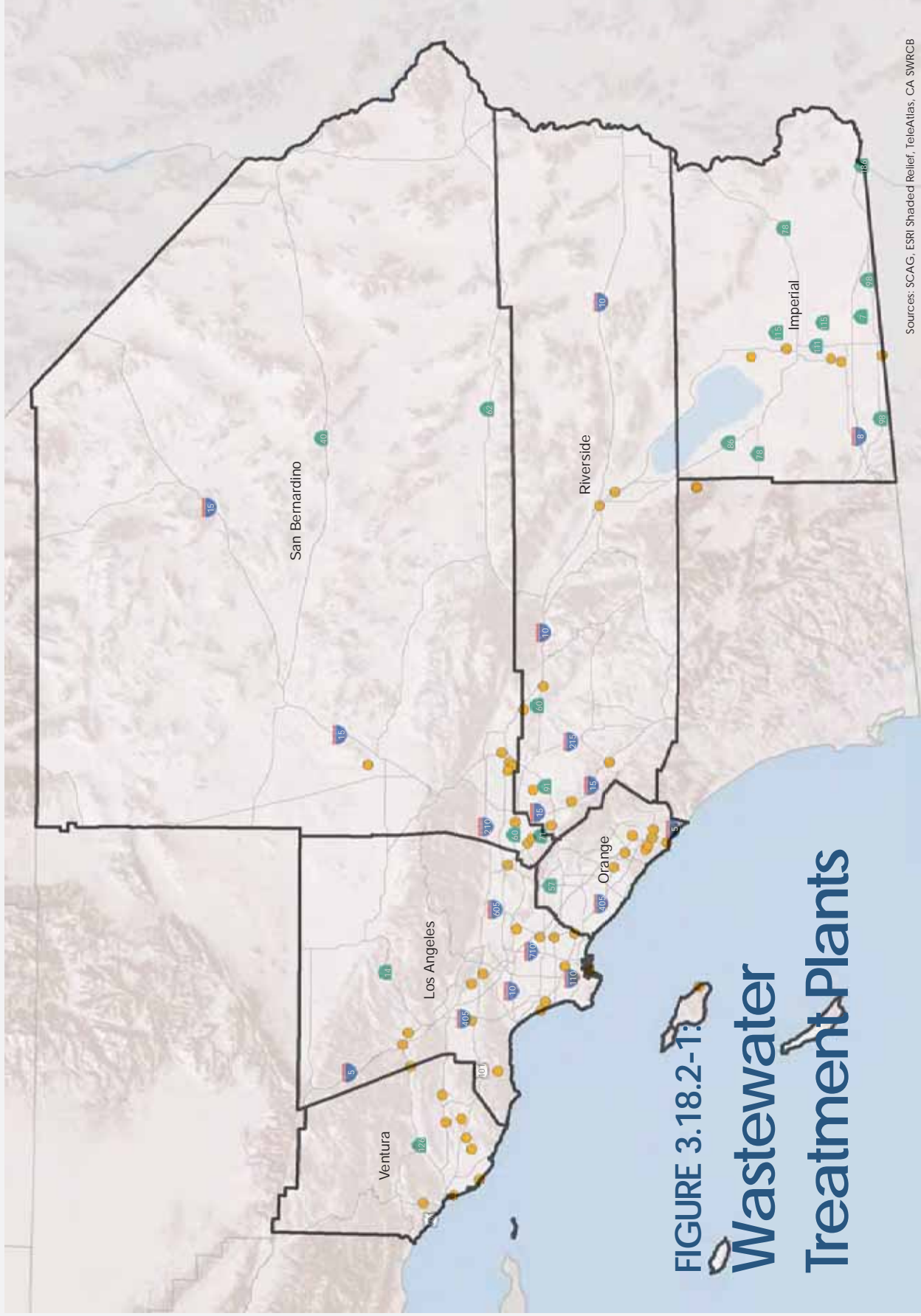


FIGURE 3.18.2-1:
Wastewater Treatment Plants

(Wastewater Treatment Plant

0 5 10 20 Miles

Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CA SWRCB

**TABLE 3.18.2-1
MAJOR ACTIVE WASTEWATER TREATMENT FACILITIES IN THE SCAG REGION**

County	Design Flow (mgd)
Imperial	21.4
Brawley City WWTP	6
Calexico City WWTP	4.3
Calipatria City WWTP	1.7
El Centro City WWTP	8
Imperial City WWTP	1.4
Los Angeles	1,238.8
Avalon WWTF	1.2
Burbank WWRP	12.5
Donald C. Tillman WWRP	80
Edward C. Little Water Recycling Plant	5.2
Hyperion WWTP	450
Joint Water Pollution Control Plant, Carson	400
Juanita Millender-McDonald Carson Regional Water Recycling Plant	1.2
Long Beach WRP	25
Los Angeles-Glendale WWRP	20
Los Coyotes WRP	37.5
Newhall Ranch WRP	2
Pomona Water Reclamation Plant	15
San Jose Creek Water Reclamation Plant	100
Saugus Water Reclamation Plant	6.5
Tapia WRF	16.1
Terminal Island Water Reclamation Plant	30
Valencia WRP	21.6
Whittier Narrows Water Reclamation Plant, El Monte	15
Orange	1,131.12
City of San Clemente WRP	38.78
El Toro WD WRP	34.37
Irvine Desalter Project Shallow GW Unit	34.37
IRWD Los Alisos WRP	34.37
Latham WWP	38.78
Los Alisos WD WWTP	33.5
Michelson WWRF	33.5
OCSD Plant 1	332
OCSD Plant 2	332
SMWD Oso Creek WRP	38.78
SMWD-Chiquita WRP	38.78

**TABLE 3.18.2-1
MAJOR ACTIVE WASTEWATER TREATMENT FACILITIES IN THE SCAG REGION**

County	Design Flow (mgd)
SOCWA Aliso Creek Ocean Outfall	34.37
SOCWA Coastal TP	34.37
SOCWA Regional TP	34.37
SOCWA San Juan Creek Ocean Outfall	38.78
Riverside	128.4
Beaumont WWTP No. 1	4
Coachella SD WWTP	2.4
Coachella Valley WD WWTP	7
Corona WWRF No. 1	11.5
Corona WWRF No. 3	1
EVMWD Regional WWRF	8
Riverside City WWRF	46
Temescal Creek Outfall	26
Valley SD WWTP	8.5
WRCRWA Regional WWRF	14
San Bernardino	413
Colton WRF	0
Colton/San Bernardino STP, RIX	40
Henry N. Wochholz WWRF	6.7
IEUA Carbon Canyon WWRF	84.4
IEUA Regional Plant No. 1	84.4
IEUA Regional Plant No. 4	84.4
IEUA Regional Plant No. 5	84.4
Margaret H Chandler WWRF	4.5
Rialto WWRF	11.7
Victor Valley Wastewater Reclamation Authority WTP	12.5
Ventura	85.45
Camarillo WRP	7.25
Camrosa Water Reclamation Facility	1.5
Hill Canyon WWTP	14
Moorpark WWTP	1.5
Ojai Valley WWTP	3
Oxnard Wastewater Treatment Plant	31.7
Simi Valley WQCP	12.5
Ventura WRF	14
Grand Total	3,018.17

SOURCE:

California Environmental Protection Agency, State Water Resources Control Board. Accessed 16 September 2015. *Regulated Facility Report (Detail)*. Available at:

<https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?reportID=2281746&inCommand=drilldown&reportName=RegulatedFacilityDetail&program=NPDES&majorminor=Major>

Storm Water Drainage Facilities

Each city and county within the SCAG region maintains a storm drain system. The systems vary by age, size, and type depending on the municipality, and may consist of day pipe, iron/steel pipe, very old brick collector sewers, and reinforced concrete pipe facilities.

California Water Board Districts 4, 6, 7, 8, and 9 manage their storm water drainage facilities independently in accordance with state and federal regulations. Each region employs the U.S. EPA's NPDES program permits for discharges from municipal storm sewers. Polluted storm water runoff is commonly transported through Municipal Separate Storm Sewer Systems (MS4s), from which the untreated substances are often discharged into local water bodies. To prevent harmful pollutants from being washed or dumped into an MS4, operators must obtain an NPDES permit and develop a storm water management program. All six counties in the SCAG region would go through the RWQCBs to obtain MS4 for dredge and fill from industrial and commercial facilities, construction sites, new development, municipal activities, and to provide public education on storm water pollution prevention.

The California State Water Board is currently in the midst of a planning process that is seeking to identify ways to expand the scope of the storm water program to better integrate watershed management, multiple benefit solutions, source control and improvement in regulatory program efficiency and effectiveness.¹⁰ On June 25, 2015, the draft of the *Storm Water Strategic Initiative: Proposal to Develop a Storm Water Program Workplan and Implementation Strategy – Including Projects for Immediate Action*, was released for public comment. The result of this planning process may reduce or reform the current methods of wastewater treatment. The initiative focuses on three main elements: (1) utilization of storm water as a resource, (2) removal of storm water pollutants by true source control, and (3) improvement of overall Water Board program efficiency and effectiveness.¹¹

Water Supply

Surface and groundwater within the SCAG region have proven insufficient to support the rapidly growing population in the region. Water imported from other areas now meets about 50 percent of fresh water demands in the region. Restrictions on imported water as well as drought conditions have necessitated water conservation measures which, at present, are voluntary. These conservation measures have slightly lessened the use of potable water in many areas of the region. In addition, the demand for water is being partially fulfilled by the increasing use of reclaimed water for non-potable purposes such as greenbelt irrigation and industrial processing and servicing.

There are 36 water treatment facilities that serve the SCAG region (**Table 3.18.2-2, *Active Water Treatment Facilities in the SCAG Region*; Figure 3.18.2-2, *Water Treatment Facilities***).

¹⁰ State Water Resources Control Board. 16 May 2014. *Storm Water Strategy Initiative Concept Paper*. Available at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/strategy_initiative/swsi_cncptppr_6092014.pdf

¹¹ State Water Resources Control Board. 16 May 2014. *Storm Water Strategy Initiative Concept Paper*. Available at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/strategy_initiative/swsi_cncptppr_6092014.pdf

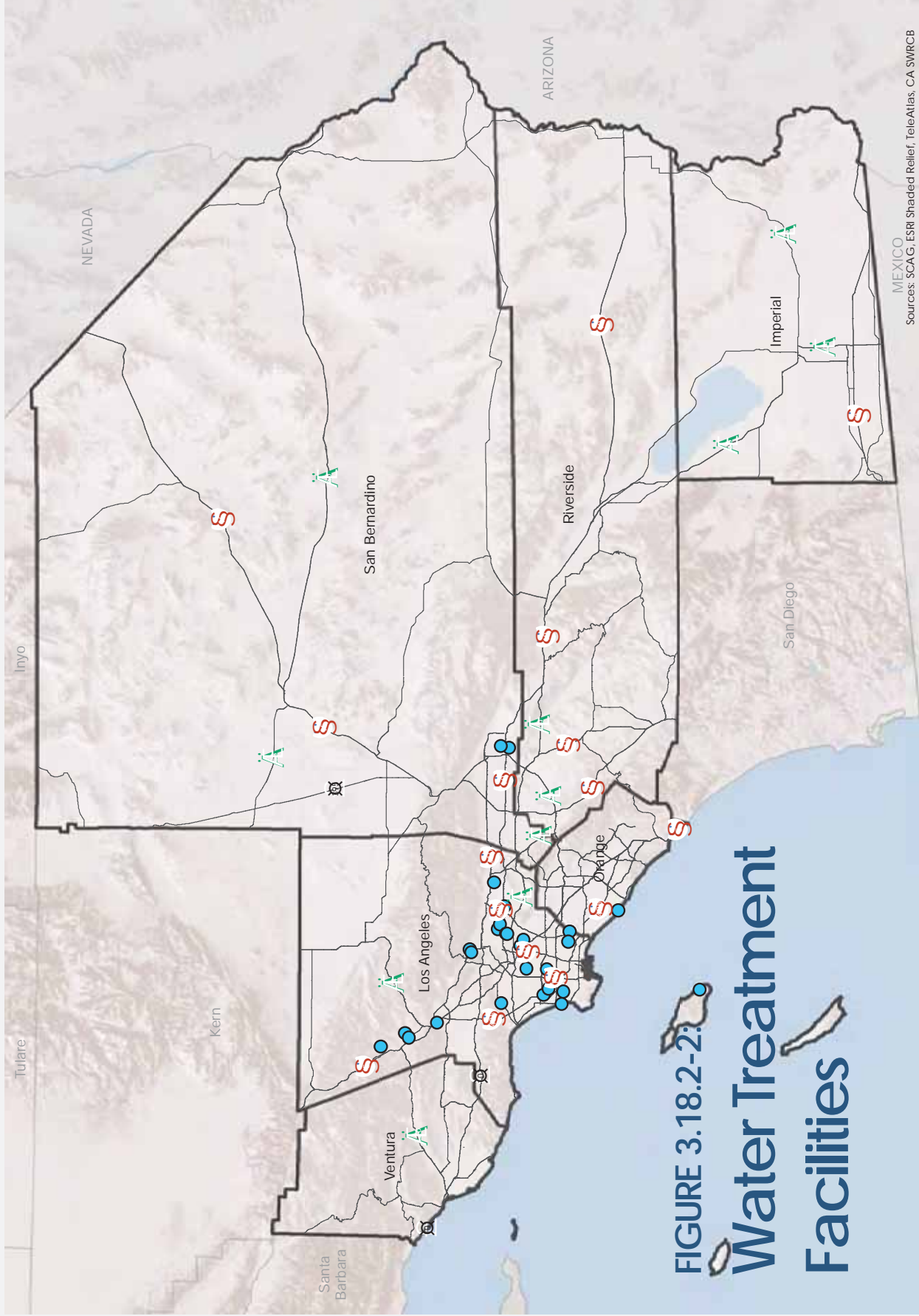
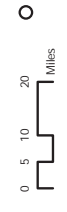


FIGURE 3.18.2-2:
Water Treatment Facilities

● Water Treatment Facility



MEXICO
 Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CA SWRCB

**TABLE 3.18.2-2
ACTIVE WATER TREATMENT FACILITIES IN THE SCAG REGION**

County	Design Flow (mgd)
Los Angeles	52.3546
Brewer Desalter (Reverse Osmosis Plant)	1
Chadron Plant	0.0216
Commision 16	0.9
Converse Plant	2.28
Delta Plant	0.49
Earl Schmidt Filtration Plant	16
East Los Angeles Operations Center	0.72
Encinita Treatment Plant	0.021
Granular Activated Carbon Treatment Plant	0.021
Hawthorne Drinking Water Treatment Plant	0.027
Los Angeles Aqueduct Filtration Plant/Reservoir Outlet UV Treatment Facility	0.2605
Pebbly Beach Desalination Plant	0.72
Potable Water Well 12C	2.2
Reverse Osmosis Water Treatment Plant	3
Rio Vista Water Treatment Plant	16
San Gabriel Treatment Plant	0.015
Saugus Perchlorate Treatment Facility	1
South Coulter Surface Water Treatment Plant	0.0185
Station No. 63-01	1.1
Temporary Ocean Water Desalination Demonstration Project	0.58
Treatment Facility and Wells 14, 15, 16	1
Treatment Facility and Wells SEW-2, SEW-3, SEW-4, SEW-5	0.4
Treatment Plant #1	0.18
Water Treatment Plant	3.6
Well 201 Perchlorate Treatment	0.5
Well No. 5 Treatment Facility	0.3
Orange	164.11
Irvine Desalter Project Potable WT System	34.37
Poseidon Huntington Beach Seawater Desalination Facility	56.59
San Juan Capistrano GW TP	38.78
SCWD Aliso Creek Water Harvesting Project	34.37
San Bernardino	0.511
CIM Water Treatment Plant	0
LLU Wellhead Treatment System	0
Richardson Treatment Plant	0
Riverside Public Utility's Wellhead Treatment Plants	0.021

**TABLE 3.18.2-2
ACTIVE WATER TREATMENT FACILITIES IN THE SCAG REGION**

County	Design Flow (mgd)
San Bernardino MWD Wellhead Treatment Systems	0.49
Ventura	0.162
Salinity Management Pipeline, Phase 2D	0.162
Grand Total	217.1376

SOURCE:

California Environmental Protection Agency, State Water Resources Control Board. Accessed 16 September 2015. *Regulated Facility Report (Detail)*. Available at:
<https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?reportID=9009425&reportName=RegulatedFacilityDetail&inCommand=displayCriteria>

California’s water-related assets and services are provided by many interdependent systems that historically have been managed on a project-by-project basis. The gap between water supplies and water demand decreased substantially between 2001 and 2010 (Table 3.18.2-3, *California Statewide Water Balance between 2001 and 2010 [in Millions of Acre-Feet]*). This narrowing gap has been further exacerbated in the SCAG region by record low snowpack in the Sierra Nevada Mountains in 2013 and 2014 and severe drought condition.¹² There are typically three sources of supply water: (1) natural sources, (2) manmade sources, and (3) reclamation. Natural water sources include rivers, lakes, streams, and groundwater stored in aquifers. Manmade sources include runoff water that is treated and stored in reservoirs and other catchment structures. Reclaimed water is wastewater that has been conveyed to a treatment plant and then treated to a sufficient degree that it may again be used for certain uses (such as irrigation). However, reclaimed water is not potable (drinkable) and must be conveyed in a separate system in order to ensure there is no possibility of direct human consumption.

**TABLE 3.18.2-3
CALIFORNIA STATEWIDE WATER BALANCE BETWEEN 2001-2010 (IN MILLIONS OF ACRE-FEET)**

Statewide	Water Year									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Percentage of normal precipitation	72%	81%	93%	94%	127%	127%	62%	77%	77%	104%
Water entering the region										
Precipitation	139.2	160.1	184.4	186.5	251.9	251.1	123.3	152.2	151.8	205
Inflow from Oregon/Mexico	1.1	1.1	1.1	1.1	1	2.3	1.2	1.2	1	0.9
Inflow from Colorado River	5.2	5.4	4.5	4.8	4.2	4.6	4.7	4.9	4.6	4.7
Imports from Other Regions	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total	145.5	166.6	190	192.4	257.1	258	129.2	158.3	157.4	210.6
Water leaving the region										
Consumptive use of applied water ^a (agriculture, municipal and industrial, wetlands)	26.5	27.7	25.7	28.2	23.7	25.6	28.6	29	28.1	25

¹² United States Department of Agriculture. 11 March 2015. *Record Low Snowpack in Cascades, Sierra Nevada*. Available at: <http://www.usda.gov/wps/portal/usda/usdamediafb?contentid=2015/03/0062.xml&printable=true&contentidonly=true>

**TABLE 3.18.2-3
CALIFORNIA STATEWIDE WATER BALANCE BETWEEN 2001-2010 (IN MILLIONS OF ACRE-FEET)**

Statewide	Water Year									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Outflow to Oregon/Nevada/Mexico	0.5	0.8	1.1	0.8	1.4	2.1	0.8	0.9	1	1.1
Exports to other regions	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Statutory required outflow to salt sink	12.6	23.1	31	26	24.6	43.7	20.3	20.6	18.3	24.4
Additional outflow to salt sink	14.8	13.6	18.7	18.1	20	48.4	9.2	10.6	8.6	13.8
Evaporation, evapotranspiration of native vegetation, groundwater subsurface outflows, natural and incidental runoff, agriculture effective precipitation, other outflows	105.4	111.2	118.7	133.2	183.7	142.9	89.8	114.3	113.4	149.2
Total	159.8	176.4	195.2	206.3	253.4	262.7	148.7	175.4	169.4	213.5
Change in supply										
Surface reservoirs	-4.6	0.1	3.7	-4.1	7.9	1.4	-8	-3.9	1.1	5.1
Groundwater ^b	-9.7	-9.6	-8.7	-9.8	-4.1	-6.1	-11.5	-13.1	-13.1	-8
Total	-14.3	-9.5	-5	-13.9	3.8	-4.7	-19.5	-17	-12	-2.9
Applied water ^a (agriculture, urban, wetlands)	43.7	46.6	43.3	47.2	41.6	44.4	48.1	47.9	46.5	42.7

NOTE:

^a Consumptive use is the amount of applied water used and no longer available as a source of supply. Applied water is greater than consumptive use because it includes consumptive use, reuse, and outflows.

^b Change in Supply: Groundwater – The difference between water extracted from and water recharged into groundwater basins in a region. All regions and years were calculated using the following equation: change in supply: groundwater = intentional recharge + deep percolation of applied water + conveyance deep percolation and seepage - withdrawals. This does not include unknown factors such as natural recharge and subsurface inflow and outflow.

SOURCE:

California Department of Water Resources. Accessed 15 September 2015. *California Water Today, Volume 1 – The Strategic Plan*. Available at: http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/04_Vol1_Ch03_Ca_Water_Today.pdf

Surface and groundwater resources are largely managed as separate resources, when they are, in fact, a highly interdependent system of watersheds and groundwater basins. Water quality, land use, and flood management are also integral to the effective management of these systems.¹³

Within the SCAG region, water supply comes from a variety of sources. While the Metropolitan Water District of Southern California (MWD) imports water from Colorado River and State Water Project and provides wholesale water supply to its coverage area, many cities and some county areas rely on groundwater, especially those along the coast. San Bernardino and Riverside Counties, for example, rely on a mixture of groundwater and surface water.

¹³ California Department of Water Resources. Accessed 15 September 2015. *California Water Today, Volume 1 – The Strategic Plan*. Available at: http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/04_Vol1_Ch03_Ca_Water_Today.pdf

The eastern portion of Riverside County, the majority of which is desert, also relies on water from the Colorado River, northern California, and local groundwater. This portion of the county is largely undeveloped, with uncertain increases in the water resource available to meet increases in water demand being a major factor that might constrain future development. Riverside County's water supply is uncertain for two reasons: recent water apportionments from northern California have been reduced as part of the CALFED Bay-Delta Program, as well as decreased supplies to California from the Colorado River. Additionally, most of the county's sources of water are currently at capacity. Water storage to meet peak demand, or a two-day to one-day supply, is provided by many local water agencies within Riverside County. However, long-term storage of large quantities of water is provided only in the MWD and DWR facilities. Total storage capacity in the existing reservoir system is 871,000 acre-feet (af). Three of these storage facilities are located in Riverside County: Lake Mathews, Lake Skinner, and Lake Perris.

Together, these storage facilities have a total of 342,300 af of storage capacity. Diamond Valley Lake triples this capacity with an additional 800,000 af of storage, bringing the total storage capacity available within Riverside County to 1,142,300 af. Even though the creation of Diamond Valley Lake has allowed for three times the current storage of water, there is no increase in the total amount of water available to the county that can be identified. This increase in water storage will benefit the whole South Coast region, which includes other significant jurisdictional water users such as San Diego County, as well as Riverside County. Currently, approximately three-eighths of existing storage capacity may be used to meet seasonal demand. The remaining five-eighths is reserved for emergency need such as severe droughts and/or use when a natural disaster, such as an earthquake, makes it impossible to meet demand through usual supply facilities. Projected 2020 water use and population levels indicate an expected water shortage for the two hydrologic regions that comprise Riverside County: the South Coast and Colorado River regions. Though these regions include most of Southern California, and not just Riverside County, they are each representative of the types of supply and demand within the County. The two regions are defined as follows:

- **South Coast:** Basins draining into the Pacific Ocean from the southeastern boundary of Rincon Creek Basin in western Ventura County to the Mexican border.
- **Colorado River:** Basins south and east of the South Coast and South Lahontan regions; areas that drain into the Colorado River, the Salton Sea, and other closed basins north of the Mexican border.

Following are the descriptions of the two hydrologic regions as well as regional water budgets (Tables 3.18.2-4, *South Coast Region Water Budget with Existing Facilities and Programs* and 3.18.2-5, *Colorado River Region Water Budget with Existing Facilities and Programs*).

**TABLE 3.18.2-4
SOUTH COAST REGION WATER BUDGET WITH EXISTING FACILITIES AND PROGRAMS**

Water Use	1995		2020	
	Average	Drought	Average	Drought
Urban	4,340	4,382	5,519	5,612
Agricultural	784	820	462	484
Environmental	100	82	104	86
Total	5,224	5,283	6,084	6,181
Supplies				
Surface water	3,839	3,196	3,625	3,130
Groundwater	1,177	1,371	1,243	1,462
Recycled and desalted	207	207	273	273
Total	5,224	4,775	5,141	4,865
Shortage	0	508	944	1,317

NOTE:

Figures in thousands of acre-feet of water.

SOURCE: SCAG data, 2015.

**TABLE 3.18.2-5
COLORADO RIVER REGION WATER BUDGET WITH EXISTING FACILITIES AND PROGRAMS**

Water Use	1995		2020	
	Average	Drought	Average	Drought
Urban	418	418	740	740
Agricultural	4,118	4,118	3,583	3,583
Environmental	39	38	44	43
Total	4,575	4,574	4,367	4,366
Supplies				
Surface water	4,154	4,128	3,920	3,909
Groundwater	337	337	285	284
Recycled and desalted	15	15	15	15
Total	4,506	4,479	4,221	4,208
Shortage	69	95	147	158

NOTE:

Figures in thousands of acre-feet of water.

SOURCE: SCAG data, 2015.

Water Supply and Use in the South Coast Hydrologic Region

The region has a diverse mix of both local and imported water supply sources. Local water sources include water recycling, groundwater storage and conjunctive use, conservation, brackish water desalination, water transfer and storage, and infrastructure enhancements. The region imports water through the State Water Project, the Colorado River Aqueduct, and the Los Angeles Aqueduct. These resources allow the region flexibility in managing supplies and resources in wet and dry years. The MWD wholesales the water to a consortium of 26 member agencies, including 14 cities, 11 municipal water districts, and one county authority that serve nearly 19 million people living in six counties stretching from Ventura to San Diego. MWD imported an average of 1 million af of water per year from

the SWP from 1995 to 2010, and just under 1 million af per year from the CRA during the same time period.

Water Supply and Use in the Colorado River Hydrologic Region

About 85 percent of the region's urban and agricultural water supply comes from surface water deliveries from the Colorado River. Water from the river is delivered to the region via the All American and Coachella canals, local diversions, and the Colorado River Aqueduct by means of an exchange for SWP water. The Colorado River is an interstate and international river whose use is apportioned among the seven Colorado River Basin states and Mexico by a complex body of statutes, decrees, and court decisions known collectively as the "Law of the River." Local surface water, groundwater, and the SWP provide the remainder of water to the region. In addition, many of the alluvial valleys in the regions are underlain by groundwater aquifers that are the sole source of water for many local communities. However, some alluvial valleys contain groundwater of such poor quality it is not suitable for potable uses.

Other cities such as Banning, Coachella, Indio, Palm Desert, Hesperia, and Victorville, are solely dependent on groundwater; while other cities in the SCAG region have supplemented their groundwater supplies with water from the State Water Projects or local streams and reservoirs.

Local Water Supply

Local sources of water account for approximately 30 percent of the total volume consumed annually in the SCAG region.¹⁴ Local sources include surface water runoff, groundwater, and water reclamation.

Local Surface Water (within Each HU Region)

The infiltration of surface runoff augments groundwater and surface water supplies. However, the regional water demand exceeds the current natural recharge of runoff water. The arid climate, summer drought, and increased impervious surface associated with urbanization contribute to this reduction in natural recharge. Urban and agricultural runoff often contains pollutants that decrease the quality of local water supplies. Runoff captured in storage reservoirs varies widely from year to year depending on the amount of local precipitation. On average, precipitation contributes approximately 38,000 acre-feet per year (afy) within the MWD service area (not including San Diego County).¹⁵ Within the desert regions, the amount is considerably less, owing to climatic differences.

¹⁴ California Department of Water Resources. Accessed 15 September 2015. *California Water Plan Update 2013*. Available at: <http://www.waterplan.water.ca.gov/cwpu2013/final/index.cfm>

¹⁵ California Department of Water Resources. Accessed 15 September 2015. *California Water Plan Update 2013*. Available at: <http://www.waterplan.water.ca.gov/cwpu2013/final/index.cfm>

Local Groundwater

Groundwater represents most of the SCAG region’s fresh water supply, making up approximately 34 percent of total water use, depending on precipitation levels.¹⁶ This proportion increases to roughly 40 percent in dry years (Figure 3.18.2-3, *CASGEM Final Basin Prioritization Results*). The hydrologic regions vary in their dependence on groundwater for urban and agricultural uses (Table 3.18.2-6, *Groundwater Dependence in the SCAG Region*). The DWR estimates that the state has a groundwater overdraft of approximately 1 to 2 maf in average years.¹⁷

**TABLE 3.18.2-6
GROUNDWATER DEPENDENCE IN THE SCAG REGION**

Hydrologic Region	Percentage of Total Urban and Agricultural Water Supply Provided by Groundwater
Central Coast ^a	86%
South Coast ^b	34%
South Lahonton ^c	66%
Colorado River ^d	9%

NOTE:

^a Includes part of Ventura County. The remainder is outside of the SCAG Region.

^b Includes Orange County, most of San Diego and Los Angeles counties, parts of Riverside, San Bernardino, Ventura, Kern and Santa Barbara counties.

^c Includes most of San Bernardino County, as well as Inyo, and parts of Mono, Kern and Los Angeles counties.

^d Includes all of Imperial County, most of Riverside, and parts of San Bernardino and San Diego counties.

SOURCE:

California Department of Water Resources. Accessed 15 September 2015. *California Water Today, Volume 1 – The Strategic Plan*. Available at: http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/04_Vol1_Ch03_Ca_Water_Today.pdf

Recent efforts to store recycled water and surplus water in groundwater basins for use during drought periods have proven successful. MWD has 10 projects with various water agencies for groundwater storage, resulting in approximately 421,900 af of added capacity per year.¹⁸ A number of agencies within the region are also active in the recharge of surface water, including the Orange County Water District, Los Angeles County Department of Water and Power, Foothill Municipal Water District, San Bernardino County Water and Flood Control District, Coachella Valley Water District, the Water Replenishment District of Southern California, the San Gabriel Valley Municipal Water District, and the Calleguas Municipal Water District.

¹⁶ California Department of Water Resources. Accessed 15 September 2015. *California Water Today, Volume 1 – The Strategic Plan*. Available at: http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/04_Vol1_Ch03_Ca_Water_Today.pdf

¹⁷ California Department of Water Resources. Accessed 15 September 2015. *California Water Today, Volume 1 – The Strategic Plan*. Available at: http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/04_Vol1_Ch03_Ca_Water_Today.pdf

¹⁸ Metropolitan Water District of Southern California. Accessed 15 September 2015. *The Regional Urban Water Management Plan 2010*. Available at: <http://www.water.ca.gov/urbanwatermanagement/2010uwmps/Municipal%20Water%20District%20of%20Orange%20County/MWDOC%20Final%202010%20RUWMP.pdf>

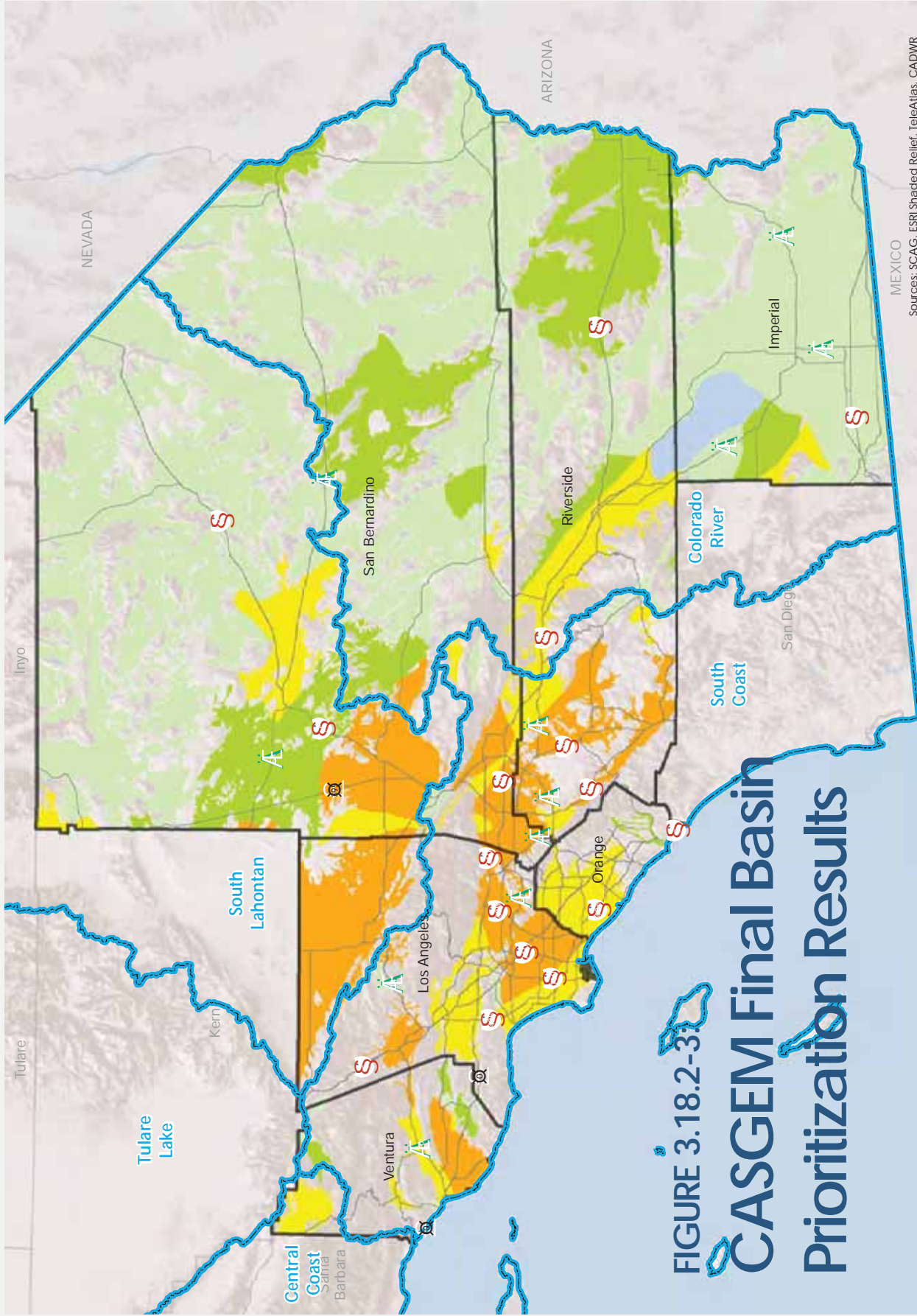


FIGURE 3.18.2-3
CASGEM Final Basin
Prioritization Results

CASGEM Basin Prioritization Ranking

- High
- Medium
- Low
- Very Low

 Hydrologic Region

Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CADWR

0 5 10 20 Miles

Reclaimed/Recycled Water (Regional Wastewater Management)

Water reclamation and recycling involves the secondary, and sometimes tertiary, treatment of polluted groundwater and wastewater effluent. Recycled water is used for three main purposes: ocean outfall, in-stream discharge, or reuse. Recycled water may be reused for many purposes, including landscape irrigation, surface water amenities in public places, including parks, industrial processes, groundwater recharge, and nonpotable interior uses such as toilets. The use of recycled water for these various purposes augments the region's local water supplies and reduces reliance on water imports. According to MWD, current recycled water projects, either planned or in operation in the SCAG region, will account for approximately 751,384 af annually by the year 2020.¹⁹

Recycled water could be a significant source of water for industry, which often needs highly processed, but nonpotable water for industrial processes. Recycled water can also play a major role in replenishing saltwater intrusion barriers and other groundwater sources, but there are still significant hurdles to these uses with regards to health regulations, cost, and public acceptance of water recycling.

Storage

Water agencies in the region are also modifying existing reservoirs or creating new reservoirs to accommodate the expected future growth in water demand. MWD has completed filling Diamond Valley Lake near Hemet in Riverside County. This reservoir provides approximately 800,000 acre-feet of additional storage. In addition to surface storage, MWD is implementing various groundwater storage projects both within the SCAG area and in other areas of California. These "conjunctive use" projects store excess water during wet years in underground basins and can be accessed during dry years when surface water supplies are limited.

The SCAG region currently has more than 3.5 million af of storage capacity in all of its reservoirs; however, the anticipated increase in the region's population and growing uncertainty regarding water imports make increasing storage capacity a priority for the region. Increasing storage capacity can be a difficult process, with associated social and environmental impacts.²⁰

Imported Water

Imported sources of water (including the Colorado River Aqueduct, the State Water Project's California Aqueduct, and the Los Angeles Aqueduct) currently supply approximately 3 million af of water to the SCAG region annually, accounting for nearly two-thirds of the total water used in the region.²¹

¹⁹ Metropolitan Water District of Southern California. Accessed 15 September 2015. *The Regional Urban Water Management Plan 2010*. Available at:
<http://www.water.ca.gov/urbanwatermanagement/2010uwmps/Municipal%20Water%20District%20of%20Orange%20County/MWDOC%20Final%202010%20RUWMP.pdf>

²⁰ Association of California Water Agencies. June 2011. *California's Water: Storing Water. California Water Series*.

²¹ Metropolitan Water District of Southern California. Accessed 15 September 2015. *The Regional Urban Water Management Plan 2010*. Available at:
<http://www.water.ca.gov/urbanwatermanagement/2010uwmps/Municipal%20Water%20District%20of%20Orange%20County/MWDOC%20Final%202010%20RUWMP.pdf>

Access to water in the SCAG region has traditionally been a potential constraint to growth, since local supplies alone are unable to support expansive development. Beginning with the completion of the Los Angeles Aqueduct in 1913, the region has imported water from other parts of the state to supplement local supplies.

The All-American Canal and Coachella Canal were completed in 1940, supplying water to irrigation districts in the Imperial and Coachella Valleys for agricultural operations. The Colorado River Aqueduct, completed in 1941 by MWD, brings Colorado River water to the urban coastal areas, ranging from Ventura County to San Diego County. The California Aqueduct, completed in the 1970s, delivers water from the Sacramento Delta to MWD for distribution to retail agencies throughout Southern California. **Figure 3.18.2-4, *Imported Water Areas Serviced by State Water Project***, depicts the areas served by these imported water supplies.

Watershed Management

Watershed management relates to sustaining watersheds at an acceptable level of quality, contributing to resource quality, and maintaining groundwater supplies. The watersheds in the SCAG region are shown in **Figure 3.10.2-2, *Watersheds in the SCAG Region***. These large watersheds are further divided into smaller sections by internal surface water drainage areas and groundwater basins.

Colorado River

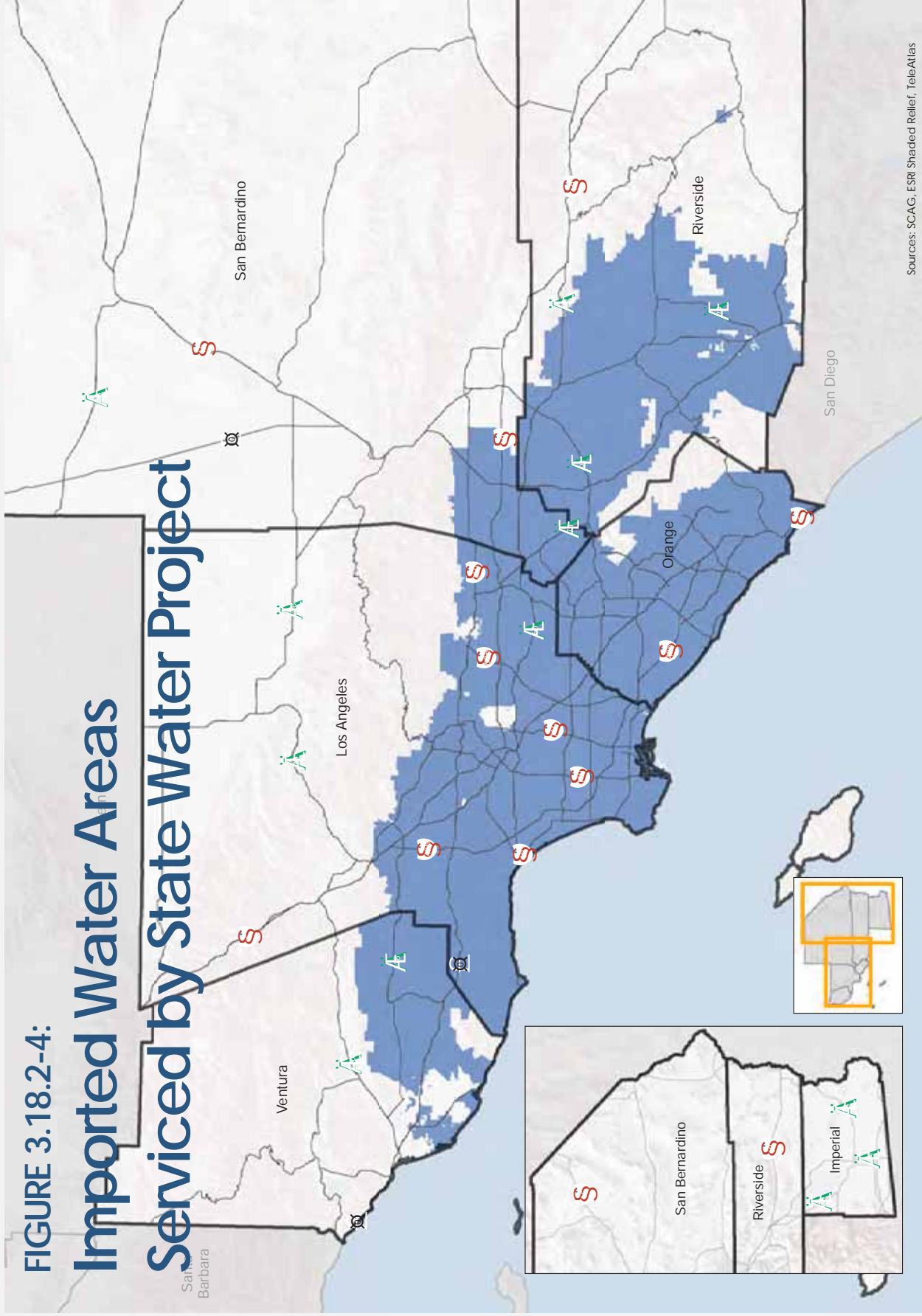
The Colorado River is a major source of water for Southern California, and is imported via the Colorado River Aqueduct, owned and operated by MWD. The Colorado River Region is of particular concern because it encompasses the Coachella Valley in the West Basin and the desert in the East Basin. Irrigation needs in the Coachella Valley are met almost exclusively by water imported from the Colorado River. Historical extraction of groundwater in the Coachella Valley has caused overdraft. Currently, an extensive groundwater recharge project is being undertaken by the Coachella Valley Water District that recharges Colorado River Water into spreading basins. Within the East Basin, irrigation and domestic water is provided by the Colorado River with only approximately 1 percent groundwater use and little direct reclamation. Agricultural runoff and some domestic wastewater do get returned to the Colorado River. Therefore, the water source at the southern end of the watershed is actually a mixture of Colorado River water, agricultural runoff, and reclaimed water.

Under water delivery contracts with the United States, California entities have enjoyed legal entitlements to Colorado River water since the early twentieth century. There have been several compacts, treaties, and negotiations between the seven states that use Colorado River water, beginning with the 1922 Colorado River Compact. California was entitled to 4.4 million af, as well as half on any surplus, as defined by the U.S. Department of the Interior. Typically, the river's surplus has allowed California entities to take an additional 800,000 af annually.

However, with increased urbanization in the Colorado River Basin states and limitation agreements between those states, surplus water for California was eliminated; the State will gradually return to its original allotment of 4.4 million af. Given these new terms, California water agencies are pursuing various strategies to offset this gradual, but certain loss of future water supply. Examples of these strategies include additional reservoir and storage agreements, new water transfers between

FIGURE 3.18.2-4:

Imported Water Areas Serviced by State Water Project



Sources: SCAG, ESRI Shaded Relief, TeleAtlas



State Water Project Serviced Area

agricultural and urban users, and more water conservation and recycling.²²

A record eight-year drought in the Colorado River basin has reduced current reservoir storage throughout the river system to just over 50 percent of total storage capacity.²³

State Water Project

The State Water Project supplies water to Southern California via the California Aqueduct, with delivery points in Los Angeles, San Bernardino, and Riverside Counties. SWP was constructed and is managed by DWR, and is the largest state-owned, multipurpose water project in the country. State Water Project has historically provided 25 to 50 percent of MWD's water, anywhere from 450,000 af to 1.75 million af annually.²⁴ Southern California's maximum State Water Project yield is about 2.0 million af per year. The State Water Project provides water to approximately 25 million people and irrigation water for roughly 750,000 acres of agricultural lands annually.

In 2007, a federal judge ordered the pumps that bring water from the Sacramento Bay Delta into Southern California be shut off, to protect an endangered fish species, the Delta smelt. Although pumping later resumed, it did so at only two-thirds of capacity, reducing by one-third the amount of water coming into Southern California through that system. It is unclear when, or even if, full capacity pumping will resume. The situation in the Bay Delta highlights the uncertainty and vulnerability of the region's dependence on imported water. Although the situation in the Delta will eventually be resolved, it will likely be a matter of decades before a satisfactory new system is in place.

Los Angeles Aqueduct

The Los Angeles Aqueduct, originally built in 1913, carries water 233 miles south from Owens Valley to Los Angeles. The original aqueduct project was extended in 1940 to the Mono Basin. The system was supplemented by a second project, parallel to the first, completed in 1970. These two aqueducts have historically supplied an average of approximately 256,000 af per year in normal years, and as little as 106,000 af per year in drier years.²⁵ Recent deliveries have been cut almost in half due to dwindling Sierra snowpack and a court decision restricting the amount of water that can be removed from the Owens Valley and Mono Basin in order to restore their damaged ecosystems.

²² Metropolitan Water District of Southern California. Accessed 15 September 2015. *The Regional Urban Water Management Plan 2010*. Available at:
<http://www.water.ca.gov/urbanwatermanagement/2010uwmps/Municipal%20Water%20District%20of%20Orange%20County/MWDOC%20Final%202010%20RUWMP.pdf>

²³ California Department of Water Resources. Accessed 15 September 2015. *California Water Today, Volume 1 – The Strategic Plan*. Available at:
http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/04_Vol1_Ch03_Ca_Water_Today.pdf

²⁴ California Department of Water Resources. Accessed 15 September 2015. *California Water Today, Volume 1 – The Strategic Plan*. Available at:
http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/04_Vol1_Ch03_Ca_Water_Today.pdf

²⁵ California Department of Water Resources. Accessed 15 September 2015. *California Water Today, Volume 1 – The Strategic Plan*. Available at:
http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/04_Vol1_Ch03_Ca_Water_Today.pdf

Transfers

In an effort to diversify water sources and reduce reliance on specific water imports, water agencies have engaged in water transfer agreements. These contractual agreements, made with irrigation districts, reduce water use on agricultural lands either through agricultural conservation or fallowing land.²⁶ The water “freed” by these reductions is transferred to a municipal water district, where it may be used or stored in aquifers for future use, a practice called *water banking*. Water banking is also done during wet years, when rainwater is collected and directed toward recharge facilities for future use.

Water Suppliers

The SCAG region is served by many water suppliers, both retail and wholesale; the largest of these agencies is MWD. Created under state law in 1931, MWD serves the urbanized coastal plain from Ventura to the Mexican border in the west to parts of the rapidly urbanizing counties of San Bernardino and Riverside in the east. It provides water to about 90 percent of the urban population of Southern California. MWD is comprised of 26 member agencies, 12 of which supply wholesale water to retail agencies and other wholesalers, and 14 of which are individual cities which directly supply water to their residents. The Imperial Irrigation District (IID) in Imperial County, the largest irrigation district in the country, and the Palo Verde Irrigation District primarily serve agricultural users.

Solid Waste

Solid waste diversion at the SCAG region is primarily done with landfills. Over the past 13 years, disposal tonnage has decreased significantly in the SCAG region as the emphasis on recycling to meet the requirements of AB 939 has served to divert tonnage from landfills and conserve landfill capacity. Table 3.18.2-7, *Solid Waste Disposed of in the SCAG Region—2014*, shows data from the CalRecycle’s Solid Waste Information System (SWIS) regarding the number of tons disposed in 2014 (the most recent year for which information is available), for each county in the SCAG region and the total tonnage for the state. The total amount of solid waste disposed of in SCAG is 11.9 million tons. This is about 50 percent of the total solid waste disposed of for all of California.

²⁶ Some urban agencies also have the ability to enter “spot” water markets and to purchase water on an “as needed” basis.

**TABLE 3.18.2-7
SOLID WASTE DISPOSED OF IN THE SCAG REGION—2014**

County	Total Tonnage
Imperial	146,577
Los Angeles	3,685,010
Orange	3,317,724
Riverside	2,637,388
San Bernardino	1,209,880
Ventura	891,727
Total SCAG Region	11,888,306
Total California	23,476,311

SOURCE:

California Department of Resources Recycling and Recovery (CalRecycle). Accessed 15 September 2015. *Landfills*. Available at: <http://www.calrecycle.ca.gov/SWFacilities/LandfillsTonnages>

Waste Diversion and Recycling

Since the enactment of AB 939 in 1989, local governments have implemented recycling programs on a widespread basis, making efforts to meet the 25 percent and 50 percent diversion mandates of AB 939. Statewide, the CWIMB reports that diversion increased from 10 percent in 1989 to 42 percent in 2000 and to 48 percent in 2002. Recent legislation, AB 341, requires that 75 percent of the waste stream be recycled by 2020 and planning is under way to achieve that goal.

Landfills

A landfill is a waste management unit at which waste is discharged in or on land for disposal. Landfills do not include surface impoundment, waste pile, land treatment unit, injection well, or soil amendments.²⁷ Landfills that receive solid waste in the SCAG region are listed in **Table 3.18.2-8, SCAG Region Active Solid Waste Disposal Landfills by County**.

²⁷ California Department of Resources Recycling and Recovery (CalRecycle). Accessed 15 September 2015. *Landfills*. Available at: <http://www.calrecycle.ca.gov/SWFacilities/Landfills>

**TABLE 3.18.2-8
SCAG REGION ACTIVE SOLID WASTE DISPOSAL LANDFILLS BY COUNTY**

County	Location	Operator
Imperial	Calexico	County Of Imperial Public Works
Imperial	Niland	County Of Imperial Public Works
Imperial	Imperial	Imperial Landfill, Inc.
Imperial	Imperial	County Of Imperial Public Works
Imperial	Brawley	Desert Valley Co.
Imperial	Niland	County Of Imperial Public Works
Imperial	Salton City	Burrtec Waste Industries, Inc.
Los Angeles	Palmdale	Antelope Valley Recycling and Disposal
Los Angeles	Burbank	City Of Burbank
Los Angeles	Agoura (unincorp. LA County)	County Of Los Angeles Sanitation Dist
Los Angeles	Castaic	Chiquita Canyon, Inc.
Los Angeles	Lancaster	Waste Management of California, Inc.
Los Angeles	Avalon	CR and R Environmental Services
Los Angeles	San Clemente Island	San Clemente Island Landfill-Navy Reg.Sw
Los Angeles	Whittier	City Of Whittier
Los Angeles	Glendale	County Of Los Angeles Sanitation Dist
Los Angeles	Sunshine LF (in Los Angeles County)	Browning-Ferris Ind. Of Calif., Inc.
Orange	Irvine	OC Waste and Recycling
Orange	Brea	OC Waste and Recycling
Orange	San Juan Capistrano	OC Waste and Recycling
Riverside	Moreno Valley	County Of Riverside Waste Mgmt Dept
Riverside	Blythe	County Of Riverside Waste Mgmt Dept
Riverside	Desert Center	County Of Riverside Waste Mgmt Dept
Riverside	Desert Center	County Of Riverside Waste Mgmt Dept
Riverside	Corona	USA Waste Services of California, Inc.
Riverside	Hemet	Ron Hedman ans Aldea Hedman-McNair
Riverside	Indio	Jim Neuberger
Riverside	Beaumont	County Of Riverside Waste Mgmt Dept
Riverside	Mecca	County Of Riverside Waste Mgmt Dept
Riverside	Oasis	County Of Riverside Waste Mgmt Dept
Riverside	Aguanga	Marana J
San Bernardino	Barstow	County of San Bernardino S.W. Mgt Div
San Bernardino	Redlands	City Of Redlands
San Bernardino	Fort Irwin (Mil Res)	US Dept Of Army-Fort Irwin
San Bernardino	Landers	County of San Bernardino S.W. Mgt Div
San Bernardino	Rialto	County of San Bernardino S.W. Mgt Div
San Bernardino	Lucerne Valley	Mitsubishi Cement Corp
San Bernardino	Oro Grande	Riverside Cement Co
San Bernardino	Redlands	County of San Bernardino S.W. Mgt Div

**TABLE 3.18.2-8
SCAG REGION ACTIVE SOLID WASTE DISPOSAL LANDFILLS BY COUNTY**

County	Location	Operator
San Bernardino	Twentynine Palms	United States Marine Corps
San Bernardino	Victorville	County of San Bernardino S.W. Mgt Div
Ventura	Simi Valley	Waste Management Of California (Simi Val
Ventura	Santa Paula	Ventura Regional Sanitation District

SOURCE:

California Department of Resources Recycling and Recovery (CalRecycle). Accessed 15 September 2015. *Landfills*. Available at: <http://www.calrecycle.ca.gov/SWFacilities/Landfills>

In viewing facilities on a county-by-county basis, it is important to note that landfills in one county may import waste generated elsewhere. Currently, Orange County offers capacity to out-of-county waste at a “tipping fee” low enough to attract waste from Los Angeles and San Bernardino Counties. In Riverside County, the El Sobrante Landfill is licensed to accept up to 10,000 tons of waste per day from Riverside, Los Angeles, Orange, San Diego, and San Bernardino Counties. In Ventura County, 25 percent of the waste accepted by the Simi Valley Landfill & Recycling Center comes from other counties. **Figure 3.18.2-5, *Landfill Locations in the SCAG Region***, show the landfill locations spatially.

3.18.3 THRESHOLDS OF SIGNIFICANCE

The potential for the 2016 RTP/SCS to result in impacts related to utilities and service systems was analyzed in relation to the questions contained in Appendix F of the CEQA Guidelines. The Plan would result in a potentially significant impact if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have sufficient water supplies available to serve the project from existing entitlements and resources or will require new or expanded entitlements.
- Result in a determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments.
- Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs.
- Does not comply with federal, state, and local statutes and regulations related to solid waste.

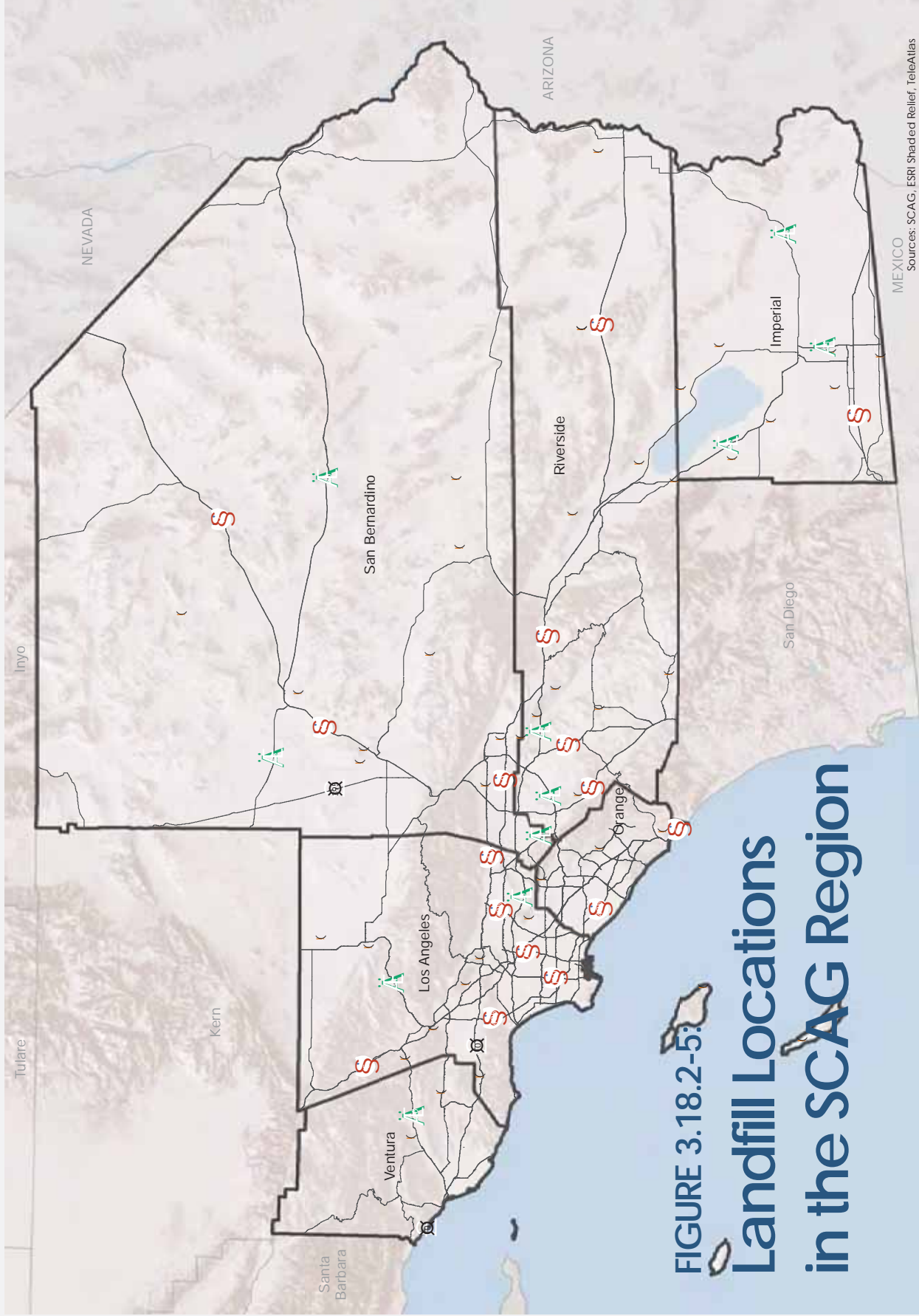


FIGURE 3.18.2-5:
Landfill Locations
in the SCAG Region

(Landfills

0 5 10 20
 Miles

MEXICO
 Sources: SCAG, ESRI Shaded Relief, TeleAtlas

Methodology

The methodology for determining the significance of impacts utilities and service systems compares existing conditions to the expected future use of potable water supplies, wastewater, stormwater facilities, and landfills with the Plan. The criteria above were applied to compare current energy usage to expected future 2040 Plan conditions.

Implementation of the 2016 RTP/SCS would affect the use of utility and service systems in the SCAG region. The analysis of these impacts is programmatic at the regional level. The Plan would result in impacts to utilities and service systems as a result of increased impervious surfaces associated with new and expanded and rehabilitated transportation infrastructure and potential changes in residential and commercial land use patterns, particularly in HQTAs associated with implementation of the 2016 RTP/SCS.

3.18.4 IMPACT ANALYSIS

IMPACT USS-1: Potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Less than Significant Impact

Transportation projects or development encouraged by land use strategies included in the 2016 RTP/SCS would result in less than significant impacts in relation to wastewater treatment requirements of the applicable RWQCB, because there is adequate capacity to accommodate the anticipated growth in population over the planning horizon. Wastewater treatment facilities throughout the SCAG region can accommodate 3,018.17 million gallons per day (MGD). The remaining wastewater treatment capacity in the SCAG region is estimated at 54 percent remaining (Table 3.18.2-1). However, recycling of waters and treatment of wastewaters would reduce the amount of wastewater to be discharged, although the total benefits from wastewater reduction would be limited. Population growth over the four year period is about 17 percent, and the average household has conserved at least 17 percent or more per EO B-29-15.

. Given that wastewater generation rates are closely tied to population growth and that the total population is expected to grow by approximately 17 percent across the SCAG region by 2040, wastewater generation would proportionally increase by up to 17 percent (513 MGD) or 31 percent of the remaining capacity. While Wastewater generation would increase over the planning horizon for the 2016 RTP/SCS, it will not exceed the wastewater treatment capacity, or the RWQCB standards for treatment of wastewater in the SCAG region.

Additionally, water conservation practices and compliance with best management practices (i.e., low flow toilets and automatic sinks) are likely to substantially reduce wastewater. Assuming that wastewater capacity would be shared among the agencies in each county and that population growth would be somewhat dispersed throughout the SCAG region, it is estimated that the SCAG region would not outgrow its wastewater treatment capacity by the year 2040 due to aggressive water conservation strategies. Impacts would be less than significant, and the consideration of mitigation measures is not required.

IMPACT USS-2: Potential to require or result in construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Less than Significant Impact

Transportation projects or development encouraged by land use strategies included in the 2016 RTP/SCS would result in less than significant impacts in relation to construction of new water or wastewater treatment facilities or expansion of existing facilities effects. Although wastewater generation will increase over the planning horizon for the 2016 RTP/SCS, it will not exceed the wastewater treatment capacity or the RWQCB standards for treatment of wastewater in the SCAG region. While the RTP/SCS encourages changes in residential and commercial land use patterns, it does not induce growth beyond that anticipated for the SCAG region; therefore, the 2016 RTP/SCS would not be expected to require or result in construction of new water or wastewater treatment facilities or expansion of existing facilities. As stated before, water conservation is likely to substantially reduce increases in wastewater. The remaining wastewater treatment capacity, in the SCAG region, is estimated at 54 percent (Table 3.18.2-1) Wastewater generation rates are closely tied to population growth, and the total population is expected to grow by approximately 17 percent across the SCAG region by 2040; therefore, wastewater generation could increase by up to 17 percent (513 MGD) or 31 percent of the remaining capacity. Broadly assuming that wastewater capacity would be shared among the agencies in each county and that population growth would be somewhat dispersed throughout the SCAG region, it is estimated that the SCAG region would not outgrow its wastewater treatment capacity by the year 2040 especially given aggressive water conservation strategies. Therefore, impacts would be less than significant, and the consideration of mitigation measures is not required.

IMPACT USS-3: Potential to require or result in construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Significant Impact

Transportation projects or development encouraged by land use strategies included in the 2016 RTP/SCS would require or result in construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. The new, expanded, rehabilitated transportation improvement projects, and other development encouraged by land use strategies. that comprise the Plan would require or result in construction of new storm water drainage facilities or expansion of existing facilities that have the potential to result in significant environmental effects, requiring the consideration of mitigation measures. Projects that increase impervious surface areas including new development may increase urban runoff. This would result in greater quantities of contaminants to receiving waters that may currently be impaired, and would require the construction of new storm water drainage facilities or expansion of existing ones. Construction activities related or identified in the Plan could increase pollutant loads carried by storm water runoff. For example, road cut erosion can increase long-term siltation in local receiving waters. Studies from across the country report that roads, parking lots, and sidewalks comprise 55 to 75 percent of existing impervious surface areas. Residential, commercial, and industrial structures constitute the remaining 25 to 45 percent. These factors explain the inverse relationship between water quality and

impervious area, which tends to become problematic when impervious surfaces within a watershed exceed 10 percent of land area. Where this percentage is greater than 25 percent, water quality is generally degraded and inhospitable for habitat or for recreation activities.²⁸ In addition, many of the pollutants in urban runoff are attributable to landscape irrigation, highway runoff, and illicit dumping. Highway runoff is a component of urban runoff contributing oil and grease, sediment, nutrients, heavy metals, and toxic substances.

The 2016 RTP/SCS would increase impervious surfaces in the SCAG region through a combination of transportation projects and development, resulting in construction or expansion of water drainage facilities (Table 3.18.4-1, *Base Year 2012 Lane Miles by County (PM Peak Network)* and Table 3.18-4.2, *2040 Plan Lane Miles by County (PM Peak Network)*). The 2016 RTP/SCS anticipates lane mile additions of approximately 8,000 total lane miles in the region, with the most increase in San Bernardino County (from 14,800 to 17,618 lane miles). Among all facilities, toll has the most increase in lane miles, from 336 in 2012 to 2,149 lane miles in 2040 with the Plan.

**TABLE 3.18-4.1
BASE YEAR 2012 LANE MILES BY COUNTY (PM PEAK NETWORK)**

County	Freeway (Mixed-Flow)	Toll*	Major Arterial	Minor Arterial	Collector	Freeway (HOV)	Total (All Facilities)
Imperial	380	0	612	546	2,465	0	4,002
Los Angeles	4569	12	8,353	8,948	6,697	507	29,087
Orange	1296	322	3,493	2,729	929	244	9,011
Riverside	1721	3	1,208	2,871	4,746	82	10,631
San Bernardino	2525	0	1,799	3,865	6,570	105	14,800
Ventura	527	0	802	992	1,009	0	3,331
Total	11,017	336	16,271	19,962	22,354	938	70,862

NOTE:

* Toll includes truck and High-occupancy toll (HOT)

SOURCE:

SCAG modeling, 2015. *2016 Regional Transportation Plan/Sustainable Communities Strategy: Highways & Arterials Appendix*. Los Angeles, CA.

²⁸ Center for Watershed Protection. 1988. *Rapid Watershed Planning Handbook – A Resource Guide for Urban Subwatershed Management*. Ellicott City, MD.

**TABLE 3.18-4.2
2040 PLAN LANE MILES BY COUNTY (PM PEAK NETWORK)**

County	Freeway (Mixed-Flow)	Toll*	Major Arterial	Minor Arterial	Collector	Freeway (HOV)	Total (All Facilities)
Imperial	417	0	661	539	2,465	0	4,082
Los Angeles	4,759	767	8,701	9,067	6,675	331	30,300
Orange	1,862	747	3,801	3,143	1,053	211	10,381
Riverside	2,671	164	1,619	3,625	5,548	131	12,951
San Bernardino	2,742	471	2,410	4,677	7,242	147	17,618
Ventura	554	0	846	1,004	1,016	52	3,472
Total	11,690	2,149	18,038	22,055	23,997	872	78,804

NOTE:

* Toll includes truck and High-occupancy toll (HOT)

SOURCE:

SCAG modeling, 2015. *2016 Regional Transportation Plan/Sustainable Communities Strategy: Highways & Arterials Appendix*. Los Angeles, CA.

With the implementation of the 2016 RTP/SCS, approximately 8,000 new lane miles for all facilities would be added to the region (Table 3.18.4-1 and Table 3.18.4-2). Some of the lane additions may be constructed using existing right of way, reducing the contribution to increased impervious surfaces. Rail lines and their associated structures would not be expected to result in a substantial change in the amount of impervious surface, as most would be located within existing rights of way. This would be the case for at-grade and elevated light rail as well as heavy rail. Proposed goods movement enhancement projects would be expected to increase the amount of runoff, creating need for new storm water drainage facilities. Additionally, new lane miles that are expected in 2040 would include new facilities, new right-of-way on existing facilities and/or re-striping of existing facilities. Transportation projects involving construction of new rail lines, new stations, and upgrades to existing stations and anticipated development patterns encouraged by land use strategies are not included in this calculation. Where installation of additional impervious surfaces is required, there would a potential to have adverse impacts on groundwater infiltration.

Under natural conditions, vegetation intercepts and retains rainfall before infiltration or runoff occurs. Without hard-surfaced land areas, this hydrology cycle favors groundwater recharge. With a roadway or other hard surface this infiltration dynamic is impeded. The magnitude of this effect is reported by studies indicating that the volume of storm water washed off one-acre of roadway is about sixteen times greater than that of a comparably sized meadow.²⁹

The increase in impervious surfaces due to additional miles of roadway, in addition to urban development encouraged by land use strategies and associated population distribution in 2040, would increase runoff and potentially affect groundwater recharge rates. However, this should be read together with strategies in the Plan that would encourage the use of a complete street approach to roadway improvements, by including traffic calming, bicycle priority streets (bicycle boulevards), and pedestrian connectivity.³⁰ Additionally, the complete street approach is closely related to the green

²⁹ Scheuler, T.R. 1994. The Importance of Imperviousness. *Watershed Protection Techniques* 1(3): 100-111.

³⁰ Southern California Association of Governments. December 2015. *Draft Program Environmental Impact Report for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy: Chapter 2.0 Project Description*. Los Angeles, CA.

street approach, which uses landscaping element to address runoff and stormwater quality and quantity.³¹ However, when considering the 2016 RTP/SCS as a whole, due to the anticipated 8,000 new lane miles and anticipated development pattern, there would be a potential that construction of new storm water drainage facilities or expansion of existing facilities would be needed, thereby resulting in a potentially significant impact, requiring the consideration of mitigation measures.

IMPACT USS-4: Potential to have sufficient water supplies available to serve the project from existing entitlements and resources or will require new or expanded entitlements.

Significant Impact

The 2016 RTP/SCS could result in insufficient water supplies available to serve the transportation projects and anticipated development from existing entitlements and resources or would require new or expanded entitlements, resulting in significant impacts requiring the consideration of mitigation measures. Transportation projects and land use patterns encouraged and/or identified in the Plan would have the potential to generate consumptive use of water that may exceed available water supply due to vulnerability and uncertainty of water supply, in relation to climate variability, resulting from increased temperatures and wildlife fires, as well as regulatory or legislative decisions that could affect the availability of imported water. Water agencies in the SCAG region produce Urban Water Management Plans (UWMPs) and other long-range planning studies to provide a system adequate to supply water demand. At existing usage rates, the existing water supplies and infrastructure would not be sufficient to meet demand in 2040.³² The volume of water and water delivery infrastructure currently available within the SCAG region would not be sufficient to meet the future multiple dry year or average year water demand in 2040. As population increases and disperses throughout the SCAG region, the demand for municipal water would increase. Development attributed to land use strategies would also increase water demand. However, many agencies are implementing aggressive water conservation, recycling and planning strategies (water transfer and water banking) to sustain the supply of water during wet and dry years. The City of Los Angeles for example has maintained relatively constant water demand over the past ten years as a result of water conservation, and the 2010 UWMP³³ anticipates that water demand will continue to remain relatively constant through the year 2040 despite increasing population. Additionally, the proposed land use strategies in the 2016 RTP/SCS would have a potential to result in more compact development and smaller single-family lots in urbanized areas such as high quality transit areas (HQTAs). Compact development pattern tends to consume water more efficiently (also see Section 3.10, *Hydrology and Water Quality*, of this PEIR). When considering the 2016 RTP/SCS as a whole for the region, there would be a potential to exceed water supplies, constituting a potentially significant impact.

Meeting future water demand is the responsibility of local and regional water agencies. Water supplies are either produced locally from groundwater and surface water sources or are imported via the Los

³¹ Smart Growth America. Accessed 3 November 2015. *Green Streets*. Available at: <http://www.smartgrowthamerica.org/complete-streets/implementation/factsheets/green-streets/>

³² California Department of Water Resources (water use and crop acreage data; all numbers are for 1998-2010), U.S. Bureau of Economic Analysis (gross state product).

³³ California Department of Water Resources, U.S. Bureau of Economic Analysis. Accessed 16 November 2015.: Urban Waste Management Plans. Available at: <http://www.water.ca.gov/urbanwatermanagement/>

Angeles Aqueduct, the California Aqueduct, the Colorado River Aqueduct, the All American Canal, or the Coachella Canal. Other means of providing water without increasing imported supplies include reclamation and recycling, conservation, water transfers, groundwater banking, developing brackish groundwater, and ocean desalination.

The Urban Water Management Plan Act of 1990 requires that local water agencies prepare plans showing projected water supplies and demands for average years and multiple dry years. These plans are updated every five years. As part of the statewide continued efforts on reducing water usage, the UWMP has been amended to further require urban water suppliers to include narrative descriptions of their water demand management measures in the UWMPs. The descriptions includes discussion on progress on water demand management measures implemented over the last five year, and identify additional measures and water saving practices that will help suppliers achieve water use reduction targets. Additionally, the amended Act requires UWMPs to quantify distribution system water losses as a new category of past and current water use, and allows water use projections to account for estimated water savings resulting from implementation of applicable codes, building design standards, ordinances, and transportation and land use plans. SCAG will monitor the implementation of the amended Act and provide updates to the Regional Council and Policy Committees. Some water agencies project average year water deficits by the year 2020 if current management and supply efforts are not augmented. Other agencies project no deficits owing to the development of new supplies and management efforts.³⁴ These projections all face the same uncertainty in regard to the long-term effects of global climate change on the region's water supply.

The Metropolitan Water District of Southern California has prepared the 2010 Integrated Water Resources Plan (IRP)³⁵ that provides a roadmap for maintaining regional water supply reliability over the next 25 years. The framework places an increased emphasis on regional collaboration. Earlier plans dating back to 1996 set a regional reliability goal of meeting full-service demands at the retail level under all foreseeable hydrologic conditions. This updated plan seeks to stabilize Metropolitan's traditional imported water supplies and to continue developing additional local resources.

It also advances long-term planning for potential future contingency resources, such as storm water capture and large-scale seawater desalination, in close coordination with MWD's 26 member public agencies and other utilities. The updated IRP strikes a balance through a three-component approach:

- A core resources strategy represents baseline efforts to manage water supply and demand conditions and to stabilize MWD's traditional imports from the Colorado River and Northern California through the Sacramento-San Joaquin Delta. This strategy is based on known factors, including detailed planning assumptions about future demographic scenarios, water supply yields, and a range of observed historical weather patterns. Under this strategy, MWD and its member agencies will advance water use efficiency through conservation and recycling, and with further local development such as groundwater recovery and seawater desalination.

³⁴ California Department of Water Resources, U.S. Bureau of Economic Analysis. Accessed 16 November 2015.: Urban Waste Management Plans. Available at: <http://www.water.ca.gov/urbanwatermanagement/>

³⁵ Metropolitan Water District of Southern California. Accessed 16 November 2015. Integrated Water Resources Plan. Available at: http://www.mwdh2o.com/Reports/2.4.1_Integrated_Resourses_Plan.pdf

- A cost-effective “supply buffer” will enable the region to adapt to future circumstances and foreseeable challenges. The buffer seeks to help protect the region from possible shortages caused by conditions that exceed the core resources strategy, starting with increased conservation and water-use efficiency on a region-wide basis.
- Foundational actions guide the region in determining alternative supply options for long-range planning. If future changed conditions—such as climate change or the availability of resources—exceed what is covered by MWD’s core resources and supply buffer, these alternatives would provide a greater contribution to water reliability than MWD’s imported water sources or any other single supply. These actions—including feasibility studies, research and regulatory review—would provide the foundation to develop alternative resources, if needed.

Over 80 percent of the projected population in the SCAG region for the year 2040 is within the MWD service area.³⁶ Additionally, the majority of development encouraged by land use strategies would potentially result in a distributed pattern. It is anticipated that moderate density development in suburban areas, and compact development in urbanized areas, would reduce the need to extract and haul waters to distances outside of the urbanized and undeveloped areas excessively. Supplying the water necessary to meet future demand and/or minimizing that demand based on anticipated land use distribution would mitigate anticipated impacts. Each water district develops its own policy for determining its planning horizon and for acquiring and building water facilities. Water districts would provide water for the growth planned and authorized by the appropriate land use authority. However, given the challenges to imported water supplies, meeting future demand is difficult. Therefore, impacts would be significant, requiring the consideration of mitigation measures.

IMPACT USS-5: Potential to result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s commitments.

Less than Significant Impact

The 2016 RTP/SCS would result in potentially significant impacts in relation to a determination by the wastewater treatment provider which serves or may serve the existing population that it has adequate capacity to serve the future population demand, in addition to the provider’s existing commitments. Table 3.18.2-2 illustrates the capacity of wastewater treatment plants within the Plan area. Wastewater generation rates are closely tied to population growth, and the total population is expected to grow by approximately 20.7 percent across the SCAG region by 2040 (Table 3.14.2-1 in Section 3.14, *Population, Housing and Employment*, of this PEIR); therefore, wastewater generation could increase as well. The projected development would increase demand for wastewater treatment facilities. The proposed development projects would either be accommodated by existing infrastructure, or project proponents would be required, by local ordinances and state regulations, to make wastewater infrastructure improvements. In less developed areas of the region, new housing and employment developments would require additional wastewater infrastructure and control measures to minimize additional

³⁶ Metropolitan Water District of Southern California. n.d. Members Agency Map.

wastewater generation. The higher density development proposed as part of the 2016 RTP/SCS would also require construction of wastewater infrastructure with greater conveyance capacity, which would result in a significant impact. Additional wastewater could enter the existing wastewater treatment facilities and overload the current capacity levels of the wastewater treatment facilities. Supplying the water necessary to meet future demand and/or minimizing that demand would mitigate anticipated impacts. Each water district develops its own policy for determining its planning horizon and for acquiring and building water facilities. Water districts provide water for the growth planned and authorized by the appropriate land use authority. However, given the challenges to imported water supplies, meeting future demand is difficult. The remaining wastewater treatment capacity, in the SCAG region, is estimated at 54 percent (Table 3.18.2-1) Wastewater generation rates are closely tied to population growth, and the total population is expected to grow by approximately 17 percent across the SCAG region by 2040; therefore, wastewater generation could increase by up to 17 percent (513 MGD) or 31 percent of the remaining capacity. Broadly assuming that wastewater capacity would be shared among the agencies in each county and that population growth would be somewhat dispersed throughout the SCAG region, it is estimated that the SCAG region would not outgrow its wastewater treatment capacity by the year 2040 especially given aggressive water conservation strategies. There is a less than significant impact in relation to a determination by the wastewater treatment provider which serves or may serve the existing population that it has adequate capacity to serve the future population demand, in addition to the provider's existing commitments, requiring the consideration of mitigation measures.

IMPACT USS-6: Potential to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Significant Impact

The construction and operation of transportation projects and the land use development that would result from the strategies considered in the 2016 RTP/SCS would have the potential to result in significant impacts, on a case-by-case basis, where there is insufficient capacity in the landfill designated for the project area to accommodate the r solid waste disposal needs. Although there are over 40 landfills that serve the SCAG region (Table 3.18.2-8), the total population is expected to grow by approximately 21 percent across the SCAG region by 2040 (Table 3.14.2-1 in Section 3.14, *Population, Housing and Employment, of this PEIR*). Existing landfills are currently operating at 80 percent capacity across the SCAG region (Table 3.18.2-7). Per capita generation of solid waste is decreasing across the SCAG region due to increased recycling, compliance with the requirements of AB 939 and other sustainable conservation measures. Additionally, transportation projects and development encouraged by land use strategies would be required to comply with AB 341, in which 75 percent of the waste stream be recycled by the year 2020. However, the potential to exceed capacity over the planning horizon remains significant, requiring the consideration of mitigation measures.

IMPACT USS-7: Potential to comply with federal, state, and local statutes and regulations related to solid waste.

Less than Significant Impact

Construction and operation of transportation projects and development encouraged by land use strategies identified in the 2016 RTP/SCS would be required to comply with federal, state, and local statutes and regulation related to solid waste, including County and City General Plan also include goals and policies for recycling and diversion of solid waste to ensure compliance with the California Integrated Waste Management Act (AB 9393), the California Solid Waste Reuse and Recycling Act, and the Solid Waste Diversion Rule (AB 341). There are over 40 landfills that serve the SCAG region (Table 3.18.2-8). Existing landfills are currently operating at 80 percent capacity across the SCAG region (Table 3.18.2-7). The effectiveness of county and city general plan goals and policies in the SCAG region in facilitating compliance with federal, State, and local statutes and regulations related to solid waste is evident in the data that demonstrates per capita generation of solid waste is decreasing across the SCAG region due to increased recycling, compliance with the requirements of AB 939 and other sustainable conservation measures. Additionally, transportation projects and development encouraged by land use strategies would be required to comply with AB 341, in which 75 percent of the waste stream be recycled by the year 2020. Therefore, impacts would be less than significant, and the consideration of mitigation measures is not required.

3.18.5 CUMULATIVE IMPACTS

IMPACT USS-1: Potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Less than Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute to less than significant cumulative impacts incrementally with related projects in the SCAG region to contributing to exceeding wastewater treatment requirements. Wastewater treatment facilities throughout the SCAG region can accommodate 3,018.17 million gallons per day (MGD). The remaining wastewater treatment capacity in the SCAG region is estimated at 54 percent remaining (Table 3.18.2-1). However, recycling of waters and treatment of wastewaters would reduce the amount of wastewater to be discharged, although the total benefits from wastewater reduction would be limited.

IMPACT USS-2: Potential to require or result in construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Less than Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute to less than significant cumulative impacts incrementally with related projects in the SCAG region to contributing to new water or wastewater treatment facilities or expansion of existing facilities. Although wastewater generation will increase

over the planning horizon for the 2016 RTP/SCS, it will not exceed the wastewater treatment capacity or the RWQCB standards for treatment of wastewater in the SCAG region. While the RTP/SCS encourages changes in residential and commercial land use patterns, it does not induce growth beyond that anticipated for the SCAG region; therefore, the 2016 RTP/SCS would not be expected to require or result in construction of new water or wastewater treatment facilities or expansion of existing facilities.

IMPACT USS-3: Potential to require or result in construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts on contributing to new stormwater drainage systems. Paved surfaces and drainage conduits can accelerate the velocity of runoff, concentrating peak flows in downstream areas faster than under natural conditions. Significant increases to runoff and peak flow can overwhelm drainage systems and alter flood elevations in downstream locations. Increased runoff velocity can promote scouring of existing drainage facilities, reducing system reliability and safety.

IMPACT USS-4: Potential to have sufficient water supplies available to serve the project from existing entitlements and resources or will require new or expanded entitlements.

Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts on having sufficient water supplies available to serve the project. The volume of water and water delivery infrastructure currently available within the SCAG region would not be sufficient to meet the future multiple dry year or average year water demand in 2040. As population increases and disperses throughout the SCAG region, the demand for municipal water would increase. Development attributed to land use strategies would also increase water demand. The 2016 RTP/SCS would contribute to cumulative significant impacts in the region in consideration of related projects in regard to water supply. Much of the water that is consumed in the SCAG region is imported from other parts of the state. As a result, any increase in water demand in the SCAG region would affect areas outside the region by consuming water that could be used in other areas. As noted above, it is anticipated that aggressive water conservation as well as other water management strategies (water transfers, water banking, etc.) will result in adequate supplies to the region. However, due to the uncertainties associated with water supply and management, this impact is considered cumulatively considerable.

IMPACT USS-5: Potential to result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's commitments.

Less than Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to less than significant cumulative impacts on having sufficient wastewater treatment capacity to serve the project. The projected development would increase demand for wastewater treatment facilities. The proposed development projects would either be accommodated by existing infrastructure, or project proponents would be required, by local ordinances and state regulations, to make wastewater infrastructure improvements. In less developed areas of the region, new housing and employment developments would require additional wastewater infrastructure and control measures to minimize additional wastewater generation. The higher density development proposed as part of the 2016 RTP/SCS would also require construction of wastewater infrastructure with greater conveyance capacity, which would result in a significant impact. The 2016 RTP/SCS would contribute to cumulative less than significant impacts to wastewater treatment facilities within the region.

IMPACT USS-6: Potential to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts on having sufficient landfill capacity. Existing landfills are currently operating at 80 percent capacity across the SCAG region (Table 3.18.2-7). Per capita generation of solid waste is decreasing across the SCAG region due to increased recycling, compliance with the requirements of AB 939 and other sustainable conservation measures. Additionally, transportation projects and development encouraged by land use strategies would be required to comply with AB 341, in which 75 percent of the waste stream be recycled by the year 2020. However, the potential to exceed capacity over the planning horizon remains significant.

IMPACT USS-7: Potential to comply with federal, state, and local statutes and regulations related to solid waste.

Less than Significant Cumulative Impact

The 2016 RTP/SCS would be expected to contribute to less than significant cumulative impacts incrementally with related projects in the SCAG region regarding complying with federal, state, and local statutes and regulations related to solid waste. The effectiveness of County and city general plan goals and policies in the SCAG region in facilitating compliance with federal, State, and local statutes and regulations related to solid waste is evident in the data that demonstrates per capita generation of solid waste is decreasing across the SCAG region due to increased recycling, compliance with the requirements of AB 939 and other sustainable conservation measures. Additionally, transportation

projects and development encouraged by land use strategies would be required to comply with AB 341, in which 75 percent of the waste stream be recycled by the year 2020.

The 2016 RTP/SCS would contribute to cumulative significant impacts in the region in regard to landfill capacity and other regions nearby. Aggressive recycling and other waste diversions programs in the area are reducing the amount of solid waste disposal in the region; however, impacts would remain cumulatively considerable.

3.18.6 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to utilities and service systems are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by Lead Agency for transportation and development projects, as applicable and feasible.

IMPACT USS-3: Require or result in construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

SCAG Mitigation Measures

MM-HYD-5(a).

Project-Level Mitigation Measures

MM-USS-3(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on utilities and service systems, particularly for construction of storm water drainage facilities including new transportation and land use projects that are within the responsibility of local jurisdictions including the Riverside, San Bernardino, Los Angeles, Ventura, and Orange Counties Flood Control District, and County of Imperial. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with Regional Water Quality Control Boards of (Regions 4, 6, 8, and 9) pursuant to the provisions of the National Flood Insurance Act, stormwater permitting requirements for stormwater discharges for new constructions, Urban Waste Management Plan, and all other applicable regulations.

Such mitigation measures, or other comparable measures, capable of avoiding or reducing significant impacts on the use of existing storm water drainage facilities and can and should be adopted where Lead Agencies identify significant impacts on new storm water drainage facilities.

MM-HYD-1(b).

IMPACT USS-4: Have sufficient water supplies available to serve the project from existing entitlements and resources or will require new or expanded entitlements.

SCAG Mitigation Measures

MM-USS-4(a)(1): SCAG, in coordination with regional water agencies and other stakeholders, shall encourage the kind of regional coordination throughout California and the Colorado River Basin that develops and supports sustainable water supply management policies in accommodating growth. In particular, SCAG will coordinate with local water agencies to evaluate future water demands and establish the necessary supply and infrastructure to meet that demand, as documented in their Urban Water Management Plans.

MM-USS-4(a)(2): SCAG, in coordination with regional water agencies and other stakeholders, shall facilitate information sharing about the management and status of the Sacramento River Delta, the Colorado River Basin, and other water supply source areas of importance to local water supply.

MM-USS-4(a)(3): SCAG shall encourage regional water agencies, to the greatest extent feasible, to consider potential climate change and attendant impacts on available water supplies and reliability in the process of creating or modifying systems to manage water resources for both year-round use and ecosystem health. As the methodology and base data for such decisions is still developing, SCAG shall encourage public agencies to use the best available science in decision-making regarding future water supply and reliability.

Project-Level Mitigation Measures

MM-USS-4(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects on water supplies from existing entitlements requiring new or expanded services in the vicinity of HQTAs that are in the jurisdiction and responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance with EO B-29-15, provisions of the Porter –Cologne Water Quality Control Act, California Domestic Water Supply Permit requirements, and applicable County, City or other Local provisions. Such measures may include the following or other comparable measures identified by the Lead Agency:

- Reduce exterior consumptive uses of water in public areas, and should promote reductions in private homes and businesses, by shifting to drought-tolerant native landscape plantings (xeriscaping), using weather-based irrigation systems, educating other public agencies about water use, and installing related water pricing incentives.
- Promote the availability of drought-resistant landscaping options and provide information on where these can be purchased. Use of reclaimed water especially in median landscaping and hillside landscaping can and should be implemented where feasible.

- Implement water conservation best practices such as low-flow toilets, water-efficient clothes washers, water system audits, and leak detection and repair.
- Ensure that projects requiring continual dewatering facilities implement monitoring systems and long-term administrative procedures to ensure proper water management that prevents degrading of surface water and minimizes, to the greatest extent possible, adverse impacts on groundwater for the life of the project. Comply with appropriate building codes and standard practices including the Uniform Building Code.
- Maximize, where practical and feasible, permeable surface area in existing urbanized areas to protect water quality, reduce flooding, allow for groundwater recharge, and preserve wildlife habitat. Minimized new impervious surfaces to the greatest extent possible, including the use of in-lieu fees and off-site mitigation.
- Avoid designs that require continual dewatering where feasible.
- Where feasible, do not site transportation facilities in groundwater recharge areas, to prevent conversion of those areas to impervious surface.

IMPACT USS-6: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

SCAG Mitigation Measures

MM-USS-6(a): During the planning, design, and project-level CEQA review process for individual development projects, SCAG shall coordinate with waste management agencies and the appropriate local and regional jurisdictions to facilitate the development of measures and to encourage diversion of solid waste such as recycling and composting programs. This includes discouraging siting of new landfills unless all other waste reduction and prevention actions have been fully explored to minimize impacts to neighborhoods.

Project-Level Mitigation Measures

MM-USS-6(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the significant effects to serve landfills with sufficient permitted capacity to accommodate solid waste disposal needs, in which 75 percent of the waste stream be recycled and waste reduction goal by 50 percent that are within the responsibility of public agencies and/or Lead Agencies. Where the Lead Agency has identified that a project that has the potential for significant effects, the Lead Agency can and should consider mitigation measures to ensure compliance pursuant to the provisions of the Solid Waste Diversion Goals and Integrated Waste Management Plan. Such measures may include the following or other comparable measures identified by the Lead Agency:

- Integrate green building measures consistent with CALGreen (California Building Code Title 24) into project design including, but not limited to the following:
 - Reuse and minimization of construction and demolition (C&D) debris and diversion of C&D waste from landfills to recycling facilities.
 - Inclusion of a waste management plan that promotes maximum C&D diversion.
 - Source reduction through (1) use of materials that are more durable and easier to repair and maintain, (2) design to generate less scrap material through

- dimensional planning, (3) increased recycled content, (4) use of reclaimed materials, and (5) use of structural materials in a dual role as finish material (e.g., stained concrete flooring, unfinished ceilings, etc.).
- Reuse of existing structure and shell in renovation projects.
 - Design for deconstruction without compromising safety.
 - Design for flexibility through the use of moveable walls, raised floors, modular furniture, moveable task lighting and other reusable building components.
 - Development of indoor recycling program and space.
 - Discourage the siting of new landfills unless all other waste reduction and prevention actions have been fully explored. If landfill siting or expansion is necessary, site landfills with an adequate landfill-owned, undeveloped land buffer to minimize the potential adverse impacts of the landfill in neighboring communities.
 - Discourage exporting of locally generated waste outside of the SCAG region during the construction and implementation of a project. Encourage disposal within the county where the waste originates as much as possible. Promote green technologies for long-distance transport of waste (e.g., clean engines and clean locomotives or electric rail for waste-by-rail disposal systems) and consistency with SCAQMD and 2016 RTP/SCS policies can and should be required.
 - Encourage waste reduction goals and practices and look for opportunities for voluntary actions to exceed the 50 percent waste diversion target.
 - Encourage the development of local markets for waste prevention, reduction, and recycling practices by supporting recycled content and green procurement policies, as well as other waste prevention, reduction and recycling practices.
 - Develop ordinances that promote waste prevention and recycling activities such as: requiring waste prevention and recycling efforts at all large events and venues; implementing recycled content procurement programs; and developing opportunities to divert food waste away from landfills and toward food banks and composting facilities.
 - Develop alternative waste management strategies such as composting, recycling, and conversion technologies.
 - Develop and site composting, recycling, and conversion technology facilities that have minimum environmental and health impacts.
 - Require the reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).
 - Integrate reuse and recycling into residential industrial, institutional and commercial projects.
 - Provide recycling opportunities for residents, the public, and tenant businesses.
 - Provide education and publicity about reducing waste and available recycling services.
 - Continue to adopt programs to comply with state solid waste diversion rate mandates and, where possible, encourage further recycling to exceed these rates.
 - Implement or expand city or county-wide recycling and composting programs for residents and businesses. This could include extending the types of recycling services offered (e.g., to include food and green waste recycling) and providing public education and publicity about recycling services.

3.18.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT USS-3: Require or result in construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Implementation of Mitigation Measures MM-HYD-5(a) and MM-HYD-5(b) would reduce impacts to utilities and service systems in anticipated development; however, direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT USS-4: Have sufficient water supplies available to serve the project from existing entitlements and resources or will require new or expanded entitlements.

Implementation of Mitigation Measures MM-USS-4(a) and MM-USS-4(b) would reduce impacts to utilities and service systems in anticipated development; however, direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT USS-6: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Implementation of Mitigation Measures MM-USS-6(a) and MM-USS-6(b) would reduce impacts to utilities and service systems in anticipated development; however, direct, indirect, and cumulative impacts would remain significant and unavoidable.

4.0 ALTERNATIVES

This section of the Program Environmental Impact Report (PEIR) describes alternatives to the proposed 2016 Regional Transportation Plan/Sustainable Communities Strategy (“2016 RTP/SCS,” “Plan,” or “Project”). Alternatives have been analyzed consistent with Section 15126.6 of the California Environmental Quality Act Guidelines (State CEQA Guidelines), which requires evaluation of a range of reasonable alternatives to the Project, or to the location of the Project, that would feasibly attain most of the basic objectives of the Project but would avoid or substantially lessen any of the significant effects of the Project, and evaluation of the comparative merits of the alternatives.

4.1 RATIONALE FOR ALTERNATIVES SELECTION

This section describes the ability of alternatives to meet, or partially meet, most of the basic objectives, and their ability to avoid or reduce the significant effects of the Project. The alternatives were developed to be substantially aligned with planning scenarios that were used to develop the 2016 RTP/SCS. Key provisions of the State CEQA Guidelines pertaining to the alternatives analysis are summarized below.¹

- The discussion of alternatives shall focus on alternatives to the project including alternative locations that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.
- The No Project Alternative shall be evaluated along with its potential impacts. The No Project Alternative analysis shall discuss the existing conditions at the time the notice of preparation is published, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.
- The range of alternatives required in an EIR is governed by a “rule of reason.” Therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

¹ CEQA Guidelines, California Code of Regulations (CCR), Title 14, Division 6, Chapter 3, § 15126.6, 2011.

4.2 RANGE OF REASONABLE ALTERNATIVES

The range of feasible alternatives is selected and discussed in a manner intended to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in State CEQA Guidelines Section 15126.6(f)(1)) are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to the alternative site.

An EIR must briefly describe the rationale for selection and rejection of alternatives. The lead agency may make an initial determination as to which alternatives are feasible, and, therefore, merit in-depth consideration.² Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet project objectives, are infeasible, or do not avoid any significant environmental effects.³

Project Objectives

Consistent with the provisions of Section 15126.6(a) of the State CEQA Guidelines, the EIR must consider “alternatives ... which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” SCAG has established nine goals to serve as project objectives (see **Table 2.4.1-1, 2016 RTP/SCS Goals**, in *Section 2.0, Project Description*). In addition, while not specifically required under CEQA, other parameters may be used to further establish criteria for selecting alternatives such as adjustments to phasing, and other “fine-tuning” that could shape feasible alternatives in a manner that could result in reducing identified environmental impacts.

SCAG lacks the legal authority to require the elected decision makers of cities and counties to adopt or amend their respective land use policies, such as general plan and zoning code amendments that would be required to implement the land use patterns included in the SCS component of the Plan. Furthermore, SCAG lacks the legal authority to implement land use designations in the SCS component of the Plan or the alternatives. Nevertheless, pursuant to CEQA, the range of alternatives considered in the PEIR illustrates the different environmental consequences of potential alternatives to the Plan.

Limits of SCAG Authority

SCAG also does not have any legal jurisdiction to control population and employment levels in the region. The accuracy of growth projections at the regional scale, over both the short and long term, are inherently estimates that are subject to a wide variety of factors outside of the control of SCAG or any of its member counties and cities, such as the global recession. Accordingly, all alternatives assume the same forecasted regional growth in population and employment.

Estimating the environmental consequences of regional growth within the SCAG region is also subject to a wide variety of uncertainties that are outside of the control of SCAG, and for many topical areas are outside the control of SCAG’s member counties and cities.

² CEQA Guidelines, CCR, Title 14, Division 6, Chapter 3, §15126.6(f)(3), 2005.

³ CEQA Guidelines, CCR, Title 14, Division 6, Chapter 3, §15126.6(c), 2005.

4.3 ALTERNATIVES TO THE PROPOSED PROJECT

The alternatives were identified during the RTP/SCS scenario planning development process as having the potential to avoid significant effects of the Project. Section 15126.6(e) of the State CEQA Guidelines requires that a “No Project” Alternative must be evaluated. In addition to the No Project Alternative required to be considered pursuant to CEQA, this PEIR evaluates two other alternatives: (1) 2012 RTP/SCS Updated with Local Input Alternative and (2) Intensified Land Use Alternative (see **Table 4.3-1, Summary of Proposed Project and Alternatives**). Each of the three alternatives consists of a transportation network element and a land use pattern element, and is substantively aligned with the scenarios for developing the Plan.⁴ The No Project Alternatives is based on and aligned with the 2016 RTP/SCS Scenario 1 (“No Build/Baseline: No build network and trend SED”⁵). The 2012 RTP/SCS Updated with Local Input Alternative is based on and aligned with the 2016 RTP/SCS Scenario 2 (“Updated 2012 Plan/Local Input: Updated growth forecast”) of the Draft Scenario Planning Matrix. The Intensified Land Use Alternative is based on a combination of a transportation network of the 2016 RTP/SCS Scenario 3 and land use pattern of the 2016 RTP/SCS Scenario 4.

The alternatives are evaluated at a comparative level of detail, consistent with the provisions of Section 15126.6(d) of the State CEQA Guidelines (**Table 4.3-1**). Concentration of development to improve the transportation network and accommodated anticipated population growth are among the guiding principles for the 2016 RTP/SCS. Development of greenfields varies widely among the alternatives (**Table 4.3-1**). At 151 square miles, the No Project Alternative has the greatest anticipated conversion of greenfields, while Alternative 3: Intensified Land Use Alternative would reduce that development of greenfields to 90 square miles.

⁴ Southern California Association of Governments. Accessed 7 November 2015. *2016-2040 RTP/SCS Draft Scenario Planning Matrix*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/osw021915draftscenario.pdf>

⁵ SED is social-economic data.

TABLE 4.3-1
SUMMARY OF PROPOSED PROJECT AND ALTERNATIVES

Elements	Proposed Project: 2016 RTP/SCS	Alternative 1: No Project	2012 RTP/SCS Updated with Local Input Alternative	Alternative 3: Intensified Land Use Alternative
Greenfield Land Consumption	118 square miles	151 square miles	138 square miles	90 square miles
Highway Network	78,819 lane mile 1.9 billion capacity mile	71,710 lane mile 1.7 billion capacity mile	78,819 lane mile 1.9 billion capacity mile	78,819 lane mile 1.9 billion capacity mile
Transit Network (route mile)	15,130	13,943	14,421	15,130
Transit Boarding (daily)	4.5 million	3.4 million	4.1 million	4.6 million
Congestion (speed)	36.0 (AM Peak) 34.0 (PM Peak)	30.5 (AM Peak) 29.1 (PM Peak)	35.7 (AM Peak) 33.7 (PM Peak)	36.3 (AM Peak) 34.1 (PM Peak)
Vehicle Miles Traveled (VMT) ¹	503,803,907 (total) 22.79 (VMT per capita)	540,435,712 (total) 24.22 (VMT per capita)	510,300,297 (total) 23.07 (VMT per capita)	497,006,245 (total) 22.47 (VMT per capita)
Vehicle Hours Traveled (VHT) ¹	12,977	15,633	13,225	12,763
Vehicle Hours Delay ¹ (1,000 hours)	2,021 (total) 5.48 (Delay per capita)	3,741 (total) 10.15 (Delay per capita)	2,117 (total) 5.74 (Delay per capita)	1,954 (total) 5.30 (Delay per capita)
Active Transportation Strategies	12,700 miles local, regional and greenway networks; First mile/last mile strategy at and around 224 rail or fixed-guide way bus stations; 670 miles livable corridors; 880 stations and 8,800 bicycles for bike share services; 10,500 new or improved sidewalks; 50% of schools covered for Safe Routes to School (SRTS) programs and projects (approx. \$280 million)	7,042 mile local bikeway network; Remaining as, 755 greenways; 7,576 miles of bikeways repaired/constructed Limited First mile/last mile strategy; No Livable Corridors; SRTS not available	10,000 mile local bikeway network; 1,8000 mile greenways; Limited First mile/last mile strategy; No Livable Corridors; 40% of schools covered for SRTS programs and projects	Same as the Plan 12,702 Local, regional, and greenway network; 880 stations for bike share services; 670 miles of Livable Corridors; 50% of schools covered for SRTS programs and projects
Active Transportation (billions of dollars)	12.9	0.520	6.7	12.9
Land Use and Transit Coordination (HOTAs)	47% homes 56% employees	36% homes 44% employees	39% homes 48% employees	50% homes 60% employees
Land Pattern Focus	13% urban infill 49% compact walkable 38% standard suburban	3% urban infill 11% compact walkable 86% standard suburban	13% urban infill 32% compact walkable 55% standard suburban	13% urban infill 52% compact walkable 35% standard suburban
Land Consumption (greenfield)	118 square miles	154 square miles	138 square miles	90 square miles
Housing Mix	41% Multifamily 8% Townhome 19% Single Family (SF) small lot 32% SF large lot	36% Multifamily 7% Townhome 18% SF small lot 39% SF large lot	39% Multifamily 8% Townhome 18% SF small lot 36% SF large lot	41% Multifamily 8% Townhome 19% SF small lot 32% SF large lot
Cumulative Residential and Commercial Building Energy Consumed and Energy Costs	19,559 trillion Btu \$735 billion	20,306 trillion Btu \$762 billion	19,983 trillion Btu \$750 billion	19,356 trillion Btu \$728 billion
Cumulative Residential and Commercial Building Water Use and Water Costs	133,135,367 acre-feet \$186 billion	133,996,824 acre-feet \$186 billion	133,468,304 acre-feet \$185 billion	132,723,264 acre-feet \$184 billion
Per Household Total Cost (driving + utilities)	\$13,993	\$15,966	\$14,680	\$13,340

NOTE:
1. This includes light and medium-duty vehicles, and heavy-duty trucks.
SOURCE:
SCAG Modeling, 2015.

Alternative 1: No Project Alternative

The No Project Alternative is required by Section 15126.6(e)(2) of the CEQA Guidelines and assumes that the Plan would not be implemented. The No Project Alternative allows decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The No Project Alternative evaluates “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services” (CEQA Guidelines Section 15126.6(e)(2)).

For purposes of this document, the No Project Alternative is aligned with the 2016 RTP/SCS “Baseline” scenario (Scenario 1 in the Draft Scenario Planning Matrix⁶). The No Project Alternative includes those transportation projects that are in place at the time of preparation of the 2016 RTP/SCS and that are included in the first year of the previously conforming transportation plan and/or transportation improvement program (TIP), or have completed environmental review by December 2014. “Exempt projects” that include safety projects and certain mass transit projects, transportation control measures (“TCMs”) that are approved by the State Implementation Plan, and project phases that were authorized by the FHWA/FTA prior to expiration of SCAG’s conformity finding for the adopted 2012 RTP/SCS, would also be included in the No Project Alternative since they could move forward in the absence of an adopted 2016 RTP/SCS.⁷ These reasonably foreseeable projects fulfill the definition of the CEQA mandated “No Project Alternative.”

The land use strategies included in the No Project Alternative are based on the trending socioeconomic growth projection to the future (2040) using data from 1990 to the present, and updated with the same jurisdictional local input population, household and employment data as those in the 2016 RTP/SCS to reflect the most recent local input growth estimates in the region. This “trend baseline” is a “no build” scenario.

Alternative 2: 2012 RTP/SCS Updated with Local Input Alternative

For purposes of this document, the 2012 RTP/SCS Updated with Local Input Alternative is aligned with Scenario 2 in the Draft Scenario Planning Matrix.⁸ It retains transportation investments and land use strategies of the 2012 RTP/SCS, updated with the same local input incorporated in the 2016 RTP/SCS to reflect the most recent local input growth estimates in the region. This alternative does not include land use strategies included within the 2016 RTP/SCS, but includes all of the modifications and projects in the 2012 RTP/SCS through Amendment 2. This Alternative will consider continued implementation of the policies, strategies and projects included in the 2012 RTP/SCS.⁹

⁶ Southern California Association of Governments. Accessed 7 November 2015. *2016-2040 RTP/SCS Draft Scenario Planning Matrix*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/osw021915draftscenario.pdf>

⁷ Federal Highway Administration. *Transportation Conformity: A Basic Guide for State and Local Officials (Revised 2010)*, FHWA-HEP-11-001. Available at: http://www.fhwa.dot.gov/environment/air_quality/conformity/guide/guide10.cfm

⁸ Southern California Association of Governments. Accessed 7 November 2015. *2016-2040 RTP/SCS Draft Scenario Planning Matrix*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/osw021915draftscenario.pdf>

⁹ Southern California Association of Governments. Adopted April 2012. *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*. Available at: <http://scagtrp.com/Pages/2012RTPSCS.asp>

Alternative 3: Intensified Land Use Alternative

This Intensified Land Use Alternative is based on a transportation network for the 2016 RTP/SCS (Scenario 3 in the Draft Scenario Planning Matrix), plus more aggressive densities and land use patterns of Scenario 4 in the Draft Scenario Planning Matrix. This Alternative's transportation network is based off the Plan's network with minor changes to the goods movement and transit projects. The land use pattern in this Alternative build on the land use strategies as described in the 2016 RTP/SCS and beyond. Specifically, it increases densities and intensifies land use patterns of the Plan, especially around high-quality transit areas (HQTAs) in an effort to maximize transit opportunities. The growth pattern associated with this Alternative optimizes urban areas and suburban town centers, transit oriented developments (TODs), HQTAs, livable corridors, and neighborhood mobility areas. It also includes a greater progressive job-housing distribution optimized for TODs and infill in HQTAs. This Alternative considers the basis of the Project with enhancements to increase benefits related to the region's accelerated SB 375 GHG emissions reduction trend into 2040 and beyond, and related improvements for air quality, livability, public health, active transportation opportunities, Environmental Justice, and affordability benefits. This Alternative assumes enhanced benefits from technology over the 25-year planning horizon.

4.4 COMPARATIVE ANALYSIS OF IMPACTS

The effectiveness of each of the alternatives to achieve the basic objectives of the Plan has been evaluated in relation to the statement of vision, goals, guiding policies and performance measures described in **Section 2.0, Project Description** (see **Table 4.4-1, Summary of Adequacy of Proposed Project and Alternatives to Attain Project Goals**). The Project would meet all of the goals of the Plan (**Table 4.4-1**). Although the No Project Alternative is not capable of meeting most of the goals of the Project, it has been analyzed, as required by CEQA. Alternative 2, meets some but not all the project goals. Specifically, it is less effective than the Plan in meeting three goals:

- Protect the environment and health for our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).
- Actively encourage and create incentives for energy efficiency, where possible.
- Encourage land use and growth patterns that facilitate transit and non-motorized transportation.

Alternative 3 is capable of meeting most of the goals of the Plan. Specifically, it is less effective in meeting two goals:

- Maximize mobility and accessibility for all people and goods in the region.
- Ensure travel safety and reliability for all people and goods in the region.

Consistent with the requirements of Section 15126.6(d) of the State CEQA Guidelines, this section of the analysis provides information for the alternatives, including the No Project Alternative, to allow meaningful evaluation, analysis, and comparison with the Project, inclusive of direct, indirect, and cumulative impacts (**Table 4.4-2, Summary of Impacts for Proposed Project and Alternatives**). The evaluation demonstrates if the alternative is able to avoid or reduce the significant and unavoidable effects of the Project.

TABLE 4.4-1
SUMMARY OF ADEQUACY OF PROPOSED PROJECT AND ALTERNATIVES TO ATTAIN PROJECT GOALS

Goals	Proposed Project: 2016 RTP/SCS	Alternative 1: No Project	Alternative 2: 2012 RTP/SCS Updated with Local Input Alternative	Alternative 3: Intensified Land Use Alternative
Align the Plan investments and policies with improving regional economic development and competitiveness	Yes	No	Yes	Yes
Maximize mobility and accessibility for all people and goods in the region	Yes	No	Yes	No
Ensure travel safety and reliability for all people and goods in the region	Yes	No	Yes	No
Preserve and ensure a sustainable regional transportation system	Yes	No	Yes	Yes
Maximize the productivity of our transportation system	Yes	No	Yes	Yes
Protect the environment and health for our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking)	Yes	No	No	Yes
Actively encourage and create incentives for energy efficiency, where possible	Yes	No	No	Yes
Encourage land use and growth patterns that facilitate transit and non-motorized transportation	Yes	No	No	Yes
Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	Yes	No	Yes	Yes

SOURCE:

Southern California Association of Governments. December 2015. Draft 2016 Regional Transportation Plan/Sustainable Communities Strategy Chapter 4.

**TABLE 4.4-2
SUMMARY OF IMPACTS FOR PROPOSED PROJECT AND ALTERNATIVES**

Issue Area	Proposed Project: 2016 RTP/SCS	Alternative 1: No Project	Alternative 2: 2012 RTP/SCS Updated with Local Input Alternative	Alternative 3: Intensified Land Use Alternative
Aesthetics				
Scenic Views	Significant and Unavoidable	Less (Significant and Unavoidable)	Less (Significant and Unavoidable)	Somewhat Less (Significant and Unavoidable)
Scenic Highways	Less than Significant	Less (Less than Significant)	Less (Less than Significant)	Similar (Significant and Unavoidable)
Visual Character or Quality	Significant and Unavoidable	Greater (Significant and Unavoidable)	Somewhat Greater (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Light and Glare/Shade and Shadow	Significant and Unavoidable	Greater (Light & Glare)/Less (Shade & Shadow) (Significant and Unavoidable)	Greater (Light & Glare)/Less (Shade & Shadow) (Significant and Unavoidable)	Similar (Light & Glare)/Greater in Urban Areas (Shade & Shadow) (Significant and Unavoidable)
Agriculture and Forestry Resources				
Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance	Significant and Unavoidable	Somewhat Greater (Significant and Unavoidable)	Somewhat Greater (Significant and Unavoidable)	Somewhat Less (Significant and Unavoidable)
Conflict with zoning for agricultural use, or a Williamson Act contract	Significant and Unavoidable	Somewhat Greater (Significant and Unavoidable)	Somewhat Greater (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Conflict with zoning for forest land, timberland, or Timberland Production	Less than Significant	Similar (Less than significant)	Similar (Less than Significant)	Similar (Less than Significant)
Loss or conversion of forest land	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Conversion of Farmland to non-agricultural or forest land to non-forest use	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Somewhat Less (Significant and Unavoidable)
Air Quality				
Conflict with or obstruct implementation of an air quality plan	Less than Significant	Greater (Significant and Unavoidable)	Similar (Less than Significant)	Similar (Less than Significant)
Violate any air quality standard	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Cumulatively considerable net increase for pollutants in nonattainment	Less than Significant	Greater (Significant and Unavoidable)	Greater (Less than Significant)	Less (Less than Significant)
Sensitive receptors and public health	Significant and Unavoidable	Greater (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Greater in some areas (Significant and Unavoidable)
Objectionable odors	Less than Significant	Similar (Less than Significant)	Similar (Less than Significant)	Similar (Less than Significant)
Biological Resources				
Listed, Sensitive, special status species	Significant and Unavoidable	Somewhat Greater (Significant and Unavoidable)	Somewhat Greater (Significant and Unavoidable)	Somewhat Less (Significant and Unavoidable)
Riparian habitat	Significant and Unavoidable	Somewhat Greater (Significant and Unavoidable)	Somewhat Greater (Significant and Unavoidable)	Somewhat Less (Significant and Unavoidable)
Federally protected wetlands	Less than Significant after Mitigation	Somewhat Greater (Less than Significant after Mitigation)	Somewhat Greater (Less than Significant after Mitigation)	Somewhat Less (Less than Significant after Mitigation)
Wildlife movement and corridors	Significant and Unavoidable	Somewhat Greater (Significant and Unavoidable)	Somewhat Greater (Significant and Unavoidable)	Somewhat Less (Significant and Unavoidable)
Conflict with local policies and ordinances	Significant and Unavoidable	Somewhat Greater (Significant and Unavoidable)	Somewhat Greater (Significant and Unavoidable)	Somewhat Less (Significant and Unavoidable)

TABLE 4.4-2
SUMMARY OF IMPACTS FOR PROPOSED PROJECT AND ALTERNATIVES

Issue Area	Proposed Project: 2016 RTP/SCS	Alternative 1: No Project	Alternative 2: 2012 RTP/SCS Updated with Local Input Alternative	Alternative 3: Intensified Land Use Alternative
Conflict with HCP or NCCP	Less than Significant after Mitigation	Somewhat Greater (Less than Significant after Mitigation)	Somewhat Greater (Less than Significant after Mitigation)	Somewhat Less (Less than Significant after Mitigation)
Cultural Resources				
Historical Resources	Significant and Unavoidable	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Less (Significant and Unavoidable)
Archeological Resources	Significant and Unavoidable	Greater (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Less (Significant and Unavoidable)
Paleontological Resources	Significant and Unavoidable	Greater (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Less (Significant and Unavoidable)
Human Remains	Significant and Unavoidable	Greater (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Less (Significant and Unavoidable)
Energy				
Non-renewable energy consumption	Less than Significant	Greater (Less than Significant)	Greater (Less than Significant)	Less (Less than Significant)
Residential energy consumption	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Building energy consumption	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Water and water-energy consumption	Less than Significant	Greater (Less than Significant)	Greater (Less than Significant)	Less (Less than Significant)
Geology/Soils				
Seismicity	Significant and Unavoidable	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Soil Erosion and Loss of Topsoil	Significant and Unavoidable	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Unstable soil, landslide, lateral spreading, subsidence, liquefaction	Significant and Unavoidable	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Expansive soils	Significant and Unavoidable	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Less (Significant and Unavoidable)
Suitability of soils for septic tanks	Less than Significant	Less than Significant	Less than Significant	Less than Significant
Greenhouse Gas Emissions				
GHG Emissions compared to existing conditions (2015)	Less than Significant	Greater (Less than Significant)	Greater (Less than Significant)	Less (Less than Significant)
Conflict with SB 375	Less than Significant	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Less than Significant)
Conflict with AB 32 or other applicable plans, policy, or regulation adopted for the purpose of reducing GHG emissions	Significant and unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Hazards & Hazardous Materials				
Routine transport, use, or disposal of hazardous materials	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Accidental release of hazardous materials	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Hazardous emissions or materials emission or handling near a school	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)

TABLE 4.4-2
SUMMARY OF IMPACTS FOR PROPOSED PROJECT AND ALTERNATIVES

Issue Area	Proposed Project: 2016 RTP/SCS	Alternative 1: No Project	Alternative 2: 2012 RTP/SCS Updated with Local Input Alternative	Alternative 3: Intensified Land Use Alternative
Hazardous sites database	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Airport hazards within an airport land use plan	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Private airstrip safety hazard	Less than Significant	Greater (Less than Significant)	Greater (Less than Significant)	Less (Less than Significant)
Interference with an emergency response or emergency evacuation plan	Less than Significant	Greater (Less than Significant)	Greater (Less than Significant)	Less (Less than Significant)
Expose people or structures to wild land fires	Less than Significant after Mitigation	Greater (Less than Significant after Mitigation)	Greater (Less than Significant after Mitigation)	Less (Less than Significant after Mitigation)
Hydrology / Water Quality				
Violate water quality or waste discharge standards	Less than Significant after Mitigation	Greater (Less than Significant after Mitigation)	Greater (Less than Significant after Mitigation)	Less (Less than Significant after Mitigation)
Deplete groundwater supplies or interfere with groundwater recharge	Significant and Unavoidable	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Less (Significant and Unavoidable)
Alter existing drainage pattern	Less than Significant after Mitigation	Greater (Less than Significant after Mitigation)	Similar (Less than Significant after Mitigation)	Similar (Less than Significant after Mitigation)
create or contribute to runoff water	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Degrade water quality	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Place housing in a 100-year flood plain	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
place structures in a 100-year flood hazard area	No Impact	Similar (No Impact)	Similar (No Impact)	Similar (No Impact)
Expose people or structures to loss and flooding from dam or levee failure	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Inundation by seiche, tsunami, or mudflow	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Land Use / Planning				
Conflict with an applicable land use plan, policy, or regulation	Significant and Unavoidable	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Physically divide an established community	Significant and Unavoidable	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Conflict with HCP or NCCP	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Mineral Resources				
loss of availability of a known mineral resource	Significant and Unavoidable	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Result in the loss of availability of a locally important mineral resource	Significant and Unavoidable	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Noise				
Exposure to or generation of noise in excess of standards	Significant and Unavoidable	Less (Significant and Unavoidable)	Less (Significant and Unavoidable)	Greater (Significant and Unavoidable)

TABLE 4.4-2
SUMMARY OF IMPACTS FOR PROPOSED PROJECT AND ALTERNATIVES

Issue Area	Proposed Project: 2016 RTP/SCS	Alternative 1: No Project	Alternative 2: 2012 RTP/SCS Updated with Local Input Alternative	Alternative 3: Intensified Land Use Alternative
Ground borne vibration	Significant and Unavoidable	Less (Significant and Unavoidable)	Less (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Increase in ambient noise levels	Significant and Unavoidable	Less (Significant and Unavoidable)	Less (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Temporary or periodic increase in ambient noise levels	Significant and Unavoidable	Less (Significant and Unavoidable)	Less (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Airport noise levels	Less than Significant	Less (Less than Significant)	Less (Less than Significant)	Greater (Less than Significant)
Private airstrip noise levels	Less than Significant	Less (Less than Significant)	Less (Less than Significant)	Greater (Less than Significant)
Population / Housing				
Induce population growth	Significant and Unavoidable	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Displace existing housing	Significant and Unavoidable	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Displace people requiring construction of replacement housing	Significant and Unavoidable	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Public Services				
Require additional Fire Protection and Emergency Response Service facilities	Less than Significant after Mitigation	Similar (Less than Significant after Mitigation)	Similar (Less than Significant after Mitigation)	Similar (Less than Significant after Mitigation)
Require additional Public Protective Security Service facilities	Less than Significant after Mitigation	Similar (Less than Significant after Mitigation)	Similar (Less than Significant after Mitigation)	Similar (Less than Significant after Mitigation)
Require additional School service facilities	Less than Significant after Mitigation	Similar (Less than Significant after Mitigation)	Similar (Less than Significant after Mitigation)	Similar (Less than Significant after Mitigation)
Recreation				
Increase use of existing recreational facilities	Significant and Unavoidable	Somewhat Less (Significant and Unavoidable)	Somewhat Less (Significant and Unavoidable)	Greater in urban areas (Significant and Unavoidable)
Require expansion or construction of recreation facilities	Significant and Unavoidable	Similar (Significant and Unavoidable)	Less (Significant and Unavoidable)	Similar (Significant and Unavoidable)
Transportation, Traffic, and Safety				
Conflict with a plan, ordinance, or policy	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Conflict with a congestion management plan	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)
Change in air traffic patterns	Less than Significant	Greater (Less than Significant)	Greater (Less than Significant)	Less (Less than Significant)
Increase hazards due to design features	Less than Significant	Greater (Less than Significant)	Greater (Less than Significant)	Greater (Less than Significant)
Inadequate emergency access	Less than Significant with Mitigation	Greater (Less than Significant with Mitigation)	Greater (Less than Significant with Mitigation)	Greater (Less than Significant with Mitigation)
Conflict with policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities	Less than Significant	Greater (Less than Significant)	Greater (Less than Significant)	Less (Less than Significant)

TABLE 4.4-2
SUMMARY OF IMPACTS FOR PROPOSED PROJECT AND ALTERNATIVES

Issue Area	Proposed Project: 2016 RTP/SCS	Alternative 1: No Project	Alternative 2: 2012 RTP/SCS Updated with Local Input Alternative	Alternative 3: Intensified Land Use Alternative
Utilities / Service Systems				
Exceed RWQCB wastewater treatment requirements	Less than Significant	Greater (Less than Significant)	Greater (Less than Significant)	Less (Significant and Unavoidable)
Construction of new water or wastewater treatment facilities	Less than Significant	Greater (Less than Significant)	Greater (Less than Significant)	Greater (Significant and Unavoidable)
Construction of new or expansion of existing stormwater drainage facilities	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Water supply	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Determination by wastewater treatment provider of inadequate capacity	Less than Significant	Greater (Less than Significant)	Greater (Less than Significant)	Less (Less than Significant)
Landfill capacity and solid waste	Significant and Unavoidable	Greater (Significant and Unavoidable)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Noncompliance with federal, state, and local statutes and regulations related to solid waste	Less than Significant	Greater (Less than Significant)	Greater (Less than Significant)	Less (Significant and Unavoidable)

Alternative 1: No Project Alternative

Aesthetics

The No Project Alternative would result in less impacts to scenic vistas, scenic highways, and shade and shadow, and greater impacts to visual character and light and glare. With the exception of exempt projects, the No Project Alternative would result in fewer transportation projects than the Plan and would have a lesser impact in terms of obstructing views and scenic resources, creating contrasting visual elements and adding visual elements to existing natural, rural and open space areas. The No Project Alternative would not affect any State Scenic Highways or vista points.

The No Project Alternative is expected to accommodate the same increase in total population, households, and jobs as the Plan. However, the Plan includes strategies to focus growth in HQTAs, which would help reduce the consumption and disturbance of natural lands and reduce impacts to aesthetics and views. Under the No Project Alternative, these land use strategies may not occur—although individual jurisdictions may still seek to reduce the urban footprint through their general plans. The Plan also includes transportation improvements that facilitate access to undeveloped lands, making those lands more attractive for development than under the No Project Alternative. However, the Plan includes policies to dissuade such encroachment on open space and vacant lands and is anticipated to result in far fewer impacts.

The No Project Alternative's impacts to visual character would be greater than the Plan impacts because of the increased consumption of greenfield land (151 square miles, as opposed to 118 square miles under the Plan) that would result in loss of scenic resources and changes in visual character. As shade/shadow and glare impacts typically occur in urban areas, these impacts would be reduced under the No Project Alternative.

In addition, the No Project Alternative would result in greater light and glare impacts as many of the transportation projects would occur in areas that are currently undeveloped or underdeveloped and would introduce new sources of light and materials that cause glare.

Agriculture and Forestry Resources

The No Project Alternative would result in somewhat greater impacts to agriculture and forestry resources when compared with the Plan, with similar impacts in regard to the loss or conversion of forest land. The No Project Alternative would not include transportation and land use strategies that focus growth along existing corridors and in urbanized areas, nor would it encourage additional greenways. As a result, development would be more scattered throughout the region when compared to the Plan, and conversion of farmland and agricultural areas would increase, as would the potential for conflicts with zoning for agricultural uses, or a Williamson Act contract. The Plan includes transportation and land use strategies that focus growth along existing corridors and in urbanized areas, rather than allowing development of vacant, open space/recreation, and agricultural lands. This compact development pattern included in the Plan would concentrate population in urban areas. Without the Plan development pattern, impacts to agricultural resources would be more widespread throughout the region. Approximately 3.89 million people are expected to move into the SCAG region by 2040. This population growth is the same across all alternatives and the Plan. The type of construction associated with housing the increase would be influenced by the Plan and alternatives. Examination of the Trend

Baseline for the No Project Alternative indicates that there would likely be more construction of large lot single-family homes (39 percent as opposed to 32 percent for the Plan), concurrently with a fewer number of multifamily home construction (36 percent as opposed to 41 percent for the Plan) (Table 4.3-1). Impacts to agricultural resources are directly linked to the amount of agricultural land conversion in non-urban areas. Single-family homes will require more acreage to accommodate the influx of people into the SCAG region than multi-family homes, and will therefore result in additional conversion of agricultural lands and greater impacts to agriculture and forestry resources.

Air Quality

Under the No Project Alternative, no new transportation investments would be made, beyond those that are currently programmed. As a result, fewer transportation projects would be built than under the Plan resulting in less construction emissions. However, construction emissions would still likely exceed the significance thresholds established in the CEQA Guidelines. Similar to the Plan, construction emissions would result in a significant short-term impact. Projected long-term emissions are considered to be cumulatively significant if they are not consistent with the local air quality management plans and state implementation plans. Unlike the Plan, the No Project Alternative may not conform to the local air quality management plans and could have a significant cumulative impact.

In the long term, Alternative 1 would have a similar impact to the local AQMPs and a reduced cumulative impact since development projects would be more efficient by design. As with the Plan, Alternative 1 achieves order of magnitude reductions in cancer risk levels associated with diesel particulate matter. As with the Plan, Cancer Risk for Alternative 1 remain above the acceptable standard of 1, established by U.S. Environmental Protection Agency. With respect to cancer risk and impact to public health for the No Project Alternative would be greater compared to the Plan due to the increase in VMT (Table 4.4-3, *Plan Compared to Alternative 1: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk*). Three of the sixteen segments analyzed for Alternative 1 reduce Cancer Risk, beyond the reductions achieved by the Plan. However, for thirteen of the segments analyzed, result in increased Cancer Risk. The Cancer Risk in Segment 1, 2, 3, 5, 6, 11, 12, and 14 is substantially higher for Alternative 1 than the Plan; therefore, the sensitive receptors in these areas would be expected to result in exposure to greater health risk than the Plan .

**TABLE 4.4-3
PLAN COMPARED TO ALTERNATIVE 1: SUMMARY MAXIMUM EXPOSED INDIVIDUAL
RESIDENTIAL 30-YEAR EXPOSURE CANCER RISK**

Segment No.	Transportation Segment	County/Region	No Project Alternative	2016 RTP/SCS
1	IMP I-8	Imperial / El Centro	44	19
2	IMP SR-78	Imperial / Westmoreland	64	9
3	LA I-110	Los Angeles / Carson	62	46
4	LA I-710	Los Angeles / Compton	58	55
5	LA SR-60 DB	Los Angeles / Diamond Bar	93	60
6	LA SR-60 SEM	Los Angeles / South El Monte	55	44
7	ORA I-5	Orange / Orange	40	33
8	ORA I-405	Orange / Seal Beach	81	78
9	RIV I-10	Riverside / Banning	15	15
10	RIV I-15	Riverside / Temecula	27	38
11	RIV SR-91	Riverside / Corona	64	55
12	SB I-15 ONT	San Bernardino / Ontario	46	25
13	SB I-15 VIC	San Bernardino / Victorville	48	64
14	SB SR-60	San Bernardino / Ontario	44	39
15	VEN US-101 SB	Ventura / San Buenaventura	12	11
16	VEN US-101 TO	Ventura / Thousand Oaks	54	48

SOURCE:

Health Risk Assessment (Appendix D).

NOTE:

Cancer Risk Threshold is 10 per 1 million.

Objectionable odors are expected to be similar as well since construction impacts will be similar to the Plan. Objectionable odors are expected to be similar to the Plan since there would be fewer construction projects causing these odors but also higher VMT, causing more diesel emission odors.

Biological Resources

The No Project Alternative would result in somewhat greater impacts to biological resources when compared with the implementation of the Plan. Conversion of open space to development would be more dispersed as there would be 10 percent more standard residential and 11 percent less housing in HQTAs resulting in an additional 36 square miles of greenfield land to be converted (Table 4.3-1). As such, more sensitive biological resources would be expected to be affected under the No Project Alternative.¹⁰ The No Project Alternative would not include transportation and land use strategies that focus growth along existing corridors and in urbanized areas, nor would it encourage additional greenways. As a result, development would be more scattered throughout the region when compared to the Plan, and native habitat conversion and fragmentation would increase. The Plan includes transportation and land use strategies that focus growth along existing corridors and in urbanized areas, rather than allowing development of vacant, open space/recreation, and agricultural lands. This

¹⁰ SCAG modeling, 2015.

compact development pattern included in the Plan would concentrate population in urban areas. Without the Plan development pattern, impacts to biological resources would be more widespread throughout the region. Approximately 3.89 million people are expected to move into the SCAG region by 2035. The type of construction associated with housing the increase would be influenced by the Plan and alternatives. Examination of the Trend Baseline for the No Project Alternative indicates that there would likely be more construction of large lot single-family homes (39 percent as opposed to 32 percent for the Plan), concurrently with a fewer number of multifamily home construction (36 percent as opposed to 41 percent for the Plan) (Table 4.3-1). Additionally land use patterns would shift from 4 percent urban in the Plan to 2 percent urban in the No Project Alternative.¹¹ Impacts to biological resources are directly linked to the amount of native habitat conversion in non-urban areas. Single-family homes will require more acreage to accommodate the influx of people into the SCAG region than multi-family homes, and will therefore result in additional conversion in natural habitats and greater impacts to biological resources.

Cultural Resources

The No Project Alternative would result in greater impacts in regards to cultural resources when compared with the implementation of the Plan. Approximately 3.89 million people are expected to move into the SCAG region by 2040. The type of construction associated with housing the increase would be influenced by the Plan and alternatives. Examination of the Trend Baseline for the No Project Alternative indicates that there would be more construction of large lot single-family homes concurrently with a much lower emphasis on multifamily home construction. Impacts to cultural resources are directly linked to the amount of ground disturbance a potential project proposes. Single-family homes will require more acreage to accommodate the influx of people into the SCAG region than multi-family, and will therefore result in additional ground disturbance and greater impacts to cultural resources. In addition, under the No Project Alternative, conversion of open space to development would be more dispersed as there would be 10 percent more standard residential and 11 percent less housing in HQTAs resulting in an additional 36 square miles of greenfield land to be consumed (Table 4.3-1). Development of vacant land may result in the disturbance of previously undiscovered archaeological, paleontological, or human remains. Moreover, the Plan's greater focus on urban areas could result in greater impacts to historical buildings, although many jurisdictions have policies and ordinances in place to protect historic resources.

Energy

The No Project Alternative would result in greater impacts to energy across all categories as compared to the Plan. The No Project Alternative contains fewer transportation projects than the Plan, but would result in greater VMT as growth is not focused on HQTAs (Table 4.3-1). Therefore, the No Project Alternative will result in greater transportation fuel consumption. The No Project Alternative also includes a large proportion of standard development, leading to a higher proportion of larger single-family homes, which are typically less energy-efficient.

At 20,306 trillion Btu and \$762 billion, Alternative 1 would result in similar but somewhat higher consumptive energy use and estimated cost of energy use than the Plan.

¹¹ SCAG modeling, 2015.

Geology and Soils

Implementation of the 2016 RTP/SCS would result in a greater amount of transportation projects and would increase the amount of transportation infrastructure that would be subject to risk as a result of surface rupture, ground-shaking liquefaction, landslides, and other risks associated with seismic events. Impacts related to geologic and seismic resources would be similar to the Plan under the No Project Alternative because the population would be the same and entire region is subject to seismic risk. The No Project Alternative would result in similar impacts to the Plan as anticipated population growth would remain constant over all of the alternatives and the Project, and the entire region is subject to seismic risk. The No Project Alternative contains fewer transportation projects than the Plan, but new development would still occur as a result of population growth with a larger proportion of single-family homes and a more dispersed development pattern.

The No Project Alternative would result in similar impacts as the Plan with regard to the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault, Strong seismic ground shaking, seismic-related ground failure, including liquefaction, and landslides due to anticipated population growth, remaining constant over all of the alternatives, and the entire region's seismic risk.

The No Project Alternative would result in less impacts than the Plan with regard to substantial soil erosion or the loss of topsoil due to there being fewer transportation projects than the Plan.

The No Project Alternative would result in less impacts than the Plan with regard to being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse due to there being fewer transportation projects than the Plan.

The No Project Alternative would result in less impact than the Plan with regard to being located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property due to the No Project Alternative having fewer transportation projects than the Plan.

Greenhouse Gas Emissions and Climate Change

The greenhouse gas (GHG) emissions for building energy and water-related energy (58.1 million metric tons CO_{2e} [MMTCO_{2e}]) would be greater with the No Project Alternative compared to the Plan (54.8 MMTCO_{2e}) (Table 4.3-1). For transportation, the GHG emissions with No Project Alternative (197,241 tons of CO₂ per day) are also greater compared to the Plan (185,519 tons of CO₂ per day). The Plan would improve regional GHG emissions compared to the No Project Alternative.

Unlike the Plan, the No Project Alternative would not achieve SB 375 targets due to the inability to complete the transportation investments and increase density of development in HQTAs that were identified in the 2012 RTP/SCS that are required to achieve the GHG emission reductions made possible by the Plan. Because SCAG has no control over many future emissions factors (e.g., energy and water demand), SCAG made extremely conservative assumptions regarding these factors.

Senate Bill (SB) 375 requires CARB to develop regional CO₂ emission reduction targets, compared to 2005 emissions, for cars and light trucks only for 2020 and 2035 for each of the state's MPOs. Significantly, where SCAG has control over transportation network improvements and growth distribution as part of its Plan, it is able to meet the SB 375 target with the SCS. According to **Table 3.8.4-3, SB 375 Analysis**, in **Section 3.8, Greenhouse Gas Emissions and Climate Change**, regional per capita GHG emissions would decrease under the No Project Alternative compared to the 2005 baseline, but would not achieve the 8 percent target set for 2020. As a result, the No Project Alternative would not achieve the SB 375 emissions targets (as compared to the Plan which would meet the targets).

Hazards and Hazardous Materials

The No Project Alternative would result in greater impacts from hazardous materials when compared with the 2016 RTP/SCS. The transportation system improvements incorporated in the 2016 RTP/SCS, vehicle miles traveled (VMT) and vehicle hours of delay (VHD) would increase more by 2040 for the No Project Alternative than for the project (**Table 4.3-1**). Thus, there would be more opportunities for accidents with vehicles transporting hazardous materials in the No Project Alternative than in the Plan. Also, with fewer new roadways constructed, hazardous materials transport would be concentrated on existing routes, and could not be diverted to dedicated lanes or grade-separated from automobile traffic. Construction related to improvements and other projects in the 2016 RTP/SCS could involve construction on or adjacent to a greater number of potentially contaminated sites than under the No Project Alternative. In addition, the Plan assumes the implementation of land use strategies that would encourage greater property reuse and more infill development than under the No Project Alternative. Thus, it is more likely that previously contaminated sites would be encountered under the Plan than the No Project Alternative.

With the construction of fewer new lane miles and other transportation projects in the No Project Alternative compared to the Plan, more transportation demand could be transferred to surrounding counties, and therefore, more hazardous materials transportation could potentially be facilitated in those counties. The No Project Alternative could have fewer adverse cumulative hazardous materials impacts than the Plan.

Hydrology and Water Quality

The No Project Alternative would result in greater impacts from hydrology and water quality when compared with the 2016 RTP/SCS. Under the No Project Alternative, fewer areas would be impacted by excavation and construction activities related to transportation projects as compared to the 2016 RTP/SCS. While the No Project Alternative would reduce the number of transportation projects built in the SCAG region, it would result in greater vacant land consumption that would, in turn, increase the amount of impervious surfaces and increase impacts to water resources. Therefore, the No Project Alternative impacts to water resources would be greater than the impacts from the 2016 RTP/SCS.

Additionally, because the No Project Alternative would consume greater amounts of vacant land and result in a more spread out growth pattern which would result in the development of land, the No Project Alternative's cumulative impacts to water resources would be greater than those of the 2016 RTP/SCS.

With fewer transportation projects than the 2016 RTP/SCS, the direct effects of the No Project Alternative on water resources would be reduced when compared with the 2016 RTP/SCS. As the currently planned projects included in the No Project alternative are built, the impacts resulting from increased roadway runoff and drainage patterns would remain significant. Likewise, the impacts to groundwater infiltration caused by the increased impervious surfaces of roadway projects, and to increased flooding hazards, would remain significant. While the Plan and the No Project Alternative would result in the same total population, the more dispersed growth pattern under the No Project Alternative would result in less efficient use of water (more single-family homes with landscaping) and therefore would result in a greater per capita use of water. As the Plan's more compact growth pattern would be more water efficient, the Plan's water supply impacts would be less than the No Project.

Similar to water supply, wastewater could be increased through the less efficient land use patterns. More new development would be located in areas that are not served by existing infrastructure which could result in additional impacts. The impacts to water quality would be greater under the No Project Alternative as the projected urbanized acreage under the No Project Alternative would be greater compared to the Plan. Due to a more dispersed growth pattern, the No Project Alternative's impacts to both water quality and flood risk would be greater than those associated with the 2016 RTP/SCS. Flooding impacts would generally be site specific although with greater consumption of vacant land, the No Project Alternative has a greater risk of locating RTP projects and/or development in flood prone areas. Overall, it is anticipated that the Plan would result in fewer impacts to water resources because of a compact growth pattern that would result in less impervious surfaces and less demand for water.

Cumulatively, both the 2016 RTP/SCS and the No Project Alternative would impact water quality, groundwater recharge, flood hazards, and water supply. The No Project Alternative would accommodate the same increase in population as projected for the Plan but in a more dispersed pattern. To reduce land consumption, the Plan includes land use measures that encourage development targeted in HQTAs. These measures are largely absent in the No Project alternative. As discussed above, the larger lot development associated with the No Project Alternative would result in greater demands on water supply. This increase in water consumption would pull additional water from imported sources, thereby limiting water available for other parts of the state. Therefore, the No Project Alternative would result in greater cumulative impacts to water supply than the Plan.

Impacts to water quality would be greater under the No Project Alternative as increased impervious surface (which contributes to water quality impacts) would be greater under the No Project Alternative. This would result in greater impacts to water quality and could affect water in areas outside the SCAG region. Therefore, cumulative water quality impacts would be greater under the No Project Alternative than the 2016 RTP/SCS alternative.

Land Use and Planning

Under the No Project Alternative, no new transportation investments would be made, beyond those that are currently programmed. As a result, fewer transportation projects would be built than under the Plan and new growth would occur consistent with local general plans. As a result, there would be less potential for there to be conflicts with applicable plans, policies, and regulations. The No Project Alternative does not include any land use strategies and would result in less transportation projects being constructed than the Plan.

The 2016 RTP/SCS, No Project Alternative would result in less impacts with regard to conflicts with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect due to there being fewer transportation projects being programmed and no land use strategies to direct future growth into HQTAs and increase density.

The No Project Alternative would result in less impacts with regard to physically dividing an established community due to there being fewer transportation projects being programmed and no land use strategies to direct future growth into high-quality transit areas and increase density.

The No Project Alternative would result in greater impacts with regard to conflicting with an HCP or NCCP. The No Project Alternative would not include transportation and land use strategies that focus growth along existing corridors and in urbanized areas; nor would it encourage additional greenways. As a result, development would be more scattered throughout the region when compared to the Plan, and native habitat conversion and fragmentation would increase. The Plan includes transportation and land use strategies that focus growth along existing corridors and in urbanized areas, rather than allowing development of vacant, open space/recreation, and agricultural lands. This compact development pattern included in the Plan would concentrate population in urban areas. Without the Plan development pattern, impacts to biological resources would be more widespread throughout the region and the likelihood of conflicts with an existing HCP or NCCP would be greater.

Mineral Resources

The No Project Alternative would result in less impacts to mineral resources than the Plan. Less transportation projects would be constructed requiring less aggregate resources for construction of the transportation network. However, the No Project Alternative includes transportation projects likely to be implemented if the Plan were not adopted and population growth, and subsequent related development would still occur requiring limited aggregate resources for construction.

The No Project Alternative would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state due to significant impacts from transportation projects likely to be implemented if the Plan were not adopted and population growth, and subsequent related development would still occur requiring limited aggregate resources for construction.

The No Project Alternative would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan due to significant impacts from transportation projects likely to be implemented if the Plan were not adopted and population growth, and subsequent related development would still occur requiring limited aggregate resources for construction.

Noise

The No Project Alternative would result in reduced impacts from noise when compared with the 2016 RTP/SCS. Under the No Project Alternative, no new transportation investments would be made, beyond those that are currently programmed. Therefore, the No Project Alternative would not include transportation and land use strategies that focus growth along existing corridors and in urbanized areas,

would not result in construction or operation of new transportation infrastructure, and would not develop new HQTAs. As a result, fewer transportation projects would be built than under the 2016 RTP/SCS, resulting in less construction noise. However, construction noise would still exceed the significance thresholds established in the CEQA Guidelines. Development would be more scattered throughout the region when compared to the 2016 RTP/SCS, which concentrates population in urban areas to increase transportation efficiency. Therefore, operational noise would likely be reduced when compared to the 2016 RTP/SCS since transportation-related activities would be more dispersed throughout the region rather than focused on HQTAs. However, operational noise would still likely exceed the significance thresholds established in the CEQA Guidelines.

The No Project Alternative would result in less impacts from the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies due to significant impacts from temporary construction noise and permanent operational noise.

The No Project Alternative would result in less impacts from the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels due to significant impacts from temporary construction vibration and permanent operational vibration from heavy trucks and trains.

The No Project Alternative would result in less impacts from the substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project due to the significant impacts from permanent operational noise.

The No Project Alternative would result in less impacts from the substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project due to the significant impacts from permanent operational noise.

The No Project Alternative would result in less impacts from the substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project due to significant impacts from temporary construction noise.

The No Project Alternative would result in less than significant impacts for projects located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, that result in the exposure of people residing or working in the project area to excessive noise levels.

The No Project Alternative would result in less than significant impacts for projects within the vicinity of a private airstrip that result in the exposure of people residing or working in the project area to excessive noise levels.

Population and Housing

The No Project Alternative is expected to accommodate the same increase in total population, housing, and employment as the Plan. Therefore, the No Project Alternative would result in the same population growth impacts as the Plan. Under the No Project Alternative, no new transportation investments would be made, beyond those that are currently programmed. As a result, fewer transportation projects would be built than under the Plan. However, the same population growth will still occur for

Plan, the No Project Alternative, and the remaining two alternatives. With regard to population displacement and the need to construct replacement housing, the No Project Alternative would result in less impacts as no new transportation investments would be made, beyond those that are currently programmed resulting in less likelihood that transportation projects will result in the displacement of people and the need to construct replacement housing.

The No Project Alternative would result in similar impacts as the Plan with regard to the Inducement of substantial population growth in an area, either directly or indirectly due to all alternatives accommodating the same increase in total population growth.

The No Project Alternative would result in less impacts as the Plan with regard to the displacement of substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere due to there being fewer transportation projects.

The No Project Alternative would result in less impacts than the Plan with regard to the displacement of substantial numbers of people, necessitating the construction of replacement housing elsewhere due to there being fewer transportation projects.

Public Services

The No Project Alternative would result in similar impacts to the Plan with regard to requiring additional fire protection and emergency response service facilities, and additional public protective security service facilities. Although the number of transportation improvement projects would be less, there would still be a need for new public services as a result of population growth. Population growth would remain constant over all of the alternatives and the No-Project, would result in a similar need for fire protection and emergency response service facilities, and additional public protective security service facilities, but the congestion that would result from a lack of additional transportation improvements and a more dispersed population distribution would result in delayed emergency vehicle response times that would require the provision of additional fire protection and emergency response facilities as well as public protective security service facilities to provide adequate service levels. In particular, additional fire protection facilities would be necessary than under the Plan in order to meet emergency response time standards, which range from 5 minutes in urban areas to 12 minutes in more rural areas.. Police protection standards are based on sworn officers per 1,000 persons. As a result, the same population growth for the SCAG region over all alternatives would mean that same number of sworn officers would be required. With regard to the need for additional schools, impacts would be similar to the Plan as a more dispersed land pattern would result in more need for additional school facilities in rural areas but less need for additional school facilities than in the areas targeted for increased population densities, such as TOD areas, HQTAs, and urban infill areas under the Plan.

Recreation

Under the No Project Alternative, there would be the same population growth that is anticipated for the Plan. With no concentration of growth, the park usage would be more disperse in urban and suburban areas, resulting in less accelerated deterioration of urban park facilities and fewer communities with planned high-density growth that would not be able to meet Quimby Act targets for parks than under the Plan. Therefore, there would be less but still significant impacts to the increase use of existing recreational facilities due to the population growth. Considering the same population growth and less

density in this alternative, there would be a reduced need for expansion or construction of recreation facilities since the use is more dispersed. This would result in similar impacts to expansion or construction of recreation facilities, as the reduced need for parks would also be associated with construction of recreational facilities in less urban areas where there is a greater potential for adverse physical effects on the environment to occur.

Transportation, Traffic, and Safety

The No Project Alternative would result in more impact to transportation, traffic, and safety when compared to without implementation of the Plan. The relationship between the VMT in 2040 with implementation of the Plan and without implementation of the Plan is shown in **Table 3.17.4-1, *Daily Vehicle Miles Traveled in 2015 and 2040***, in **Section 3.17, *Transportation, Traffic, and Safety***. The No Project Alternative would not include transportation and land use strategies that focus growth along existing corridors and in urbanized areas. Nor would the No Project Alternative encourage additional greenways, First and Last Mile strategies, Livable Corridors, increase HQTAs and Limited Safe Routes to School (SRTS). As a result, population would be more scattered throughout the region when compared to the Plan, and per capita VMT and overall efficiency of the system would not be reduced and other transportation metrics would not be improved. The No Project Alternative would generally be expected to result in more miles traveled, more hours traveled and more delay. In 2040, the No Project Alternative would result in 24.44 VMT per capita, 15,633 vehicle hours traveled (VHT) and 10.15 vehicle hours of delay in thousands of hours (VHD) per capita (**Table 4.3-1**). Implementation of the Plan would reduce vehicle miles traveled by approximately 7 percent to 22.78 VMT per capita, reduce VHT by 17 percent to 12,977 VHT, and reduce VHD by 46 percent to 5.48 VHD per capita. The relationships between the percent of work opportunities within 45 minutes travel time with implementation of the Plan and without implementation of the Plan are shown in **Table 3.17.4-4, *Percentage of PM Peak Period Work Trips Complete within 45 Minutes***. Implementation of the No Project Alternative would decrease the work opportunities within 45 minutes travel time by single occupancy vehicle in 2040 as compared to the Plan from 89.1 percent to 82.4 percent, would decrease the work opportunities within 45 minutes travel time by transit from 23 to 20 percent. Passenger vehicle fuel use would reduce from 161.4 billion gallons to 138.1 billion gallons comparing No Project to the Plan. Additionally, the No Project Alternative has a much weaker land use and transit coordination in HQTAs (36% homes and 44% jobs) than that for the Plan (47% homes and 56% jobs) (**Table 4.3-1**).

Furthermore, the Plan would result in a system-wide daily fatality rate of 0.17 fatalities per million persons for all travel modes, a decrease of 0.01 daily fatalities per million persons when compared to the No Project Alternative. Lastly, implementation of the Plan would result in a system-wide daily injury rate of 12.93 injuries per million persons for all travel modes, a decrease of 0.74 daily injuries per million persons when compared to the No Project Alternative rate of 13.67¹².

The Plan includes transportation and land use strategies that focus growth along existing corridors and in urbanized areas, rather than allowing development of vacant, open space/recreation and agricultural lands. This compact pattern of development is complemented by Active Transportation Strategies that encourages development of walking and biking infrastructure, and supportive first mile/last mile strategies. This compact development pattern included in the Plan would concentrate population in

¹² SCAG modeling, 2015.

urban areas and encourage alternative modes of travel other than automobiles. Without the Planned development patterns, vehicles miles travels, vehicle hours of delay, worker commute trips, and accident rates would be higher than under the Plan.

Utilities and Service Systems

The No Project Alternative would result in greater impacts related to utilities as compared to the 2016 RTP/SCS. Contrary to the Plan, there would be less compact development under Alternative 1. With a less compact development pattern, the need for solid waste disposal facilities for construction related material would be greater under the No Project Alternative than the 2016 RTP/SCS. The need for new or expanded wastewater treatment facilities and stormwater drainage facilities to accommodate the less compact development patterns would be greater under the No Project Alternative than under the 2016 RTP/SCS. There would be a greater extension of solid waste transport and disposal infrastructure under the No Project Alternative. At 133,996,824 acre-feet comparing to 133,135,367 acre-feet under the Plan, Alternative 1 would result in similar consumptive water use and estimated cost of water to the Plan.

Alternative 2: 2012 RTP/SCS Updated with Local Input Alternative

Aesthetics

Alternative 2 would result in greater impacts to visual character and light and glare, similar impacts to scenic vistas and scenic highways, and less impacts to shade and shadow than the Plan. Conversion of greenfield to development would be more dispersed as there would be more standard suburban residential and less compact walkable land use and homes in HQTAs, resulting in an additional 20 square miles of greenfield land to be consumed (see **Table 4.3-1** and **Table 4.4-1**). Alternative 2 would not have a direct impact on the scenic highways because of the dispersion of population growth. Therefore, there would be a similar impact as the Plan to scenic highways. Because population growth would be less concentrated in existing open areas than the 2016 RTP/SCS, there would be greater overall impacts to visual character and quality than the Plan, and greater nighttime lighting impacts would occur in undeveloped areas, yet fewer shadow-sensitive uses, such as homes, near grade separation projects as the projects are more dispersed. Therefore, shade/shadow under Alternative 2 would have less but still significant and unavoidable impacts compared to the Plan.

Agriculture and Forestry Resources

Alternative 2 would result in somewhat greater impacts to agriculture and forestry resources when compared with the Plan. Alternative would include transportation and land use strategies that focus growth along existing corridors and in urbanized areas. However, the focused growth land use strategies would be at a lesser degree than the Plan. As a result, development would be more scattered thought the region when compared to the Plan, and conversion of farmland and agricultural areas would increase, as would the potential for there to be conflicts with zoning for agricultural uses, or a Williamson Act contract. The Plan includes transportation and land use strategies that focus growth along existing corridors and in urbanized areas, discouraging development of vacant natural lands, open space, and agricultural lands. This compact development pattern included in the Plan would concentrate population in urban areas. Without the Plan development pattern, impacts to agricultural resources would be more widespread throughout the region. Approximately 3.89 million people are

expected to move into the SCAG region by 2040. This population growth is the same across all alternatives and the Plan. The type of construction associated with housing the increase would be influenced by the Plan and alternatives.

While Alternative 2 includes the most recent jurisdictional-level local input-based growth forecast (same as that included in the Plan) and captures the HQTAs strategies in the 2016 RTP/SCS, this Alternative has a slightly less aggressive land use pattern compared to the Project. Alternative 2 encourages a land use pattern and housing mix that is slightly less compact (39 percent homes and 48 percent jobs in HTQAs) than the Plan (47 percent and 56 percent, respectively) and includes more construction of large lot single-family homes (36 percent or 4 percent more as opposed to 32 percent for the Plan), concurrently with fewer construction of multifamily home (2 percent less from 41 percent for the Plan to 39 percent for Alternative 2) (Table 4.3-1). Impacts to agricultural resources are directly linked to the amount of agricultural land conversion in non-urban areas. Neither the Plan nor this Alternative are expected to result in the loss of forest land or the conversion of forest land to no-forest use. Single-family homes, especially large lot single-family homes, will require more acreage to accommodate the influx of people into the SCAG region than multi-family homes, and will therefore result in additional conversion of agricultural lands and greater impacts to agriculture and forestry resources.

Air Quality

Alternative 2 would have the same population, housing, and employment as the Plan, but in a less dense fashion. Similar to the No Project Alternative, construction emissions would still likely exceed the significance thresholds established in the CEQA Guidelines and result in a significant short-term impact. However, in the long term, Alternative 2 would have a similar less than significant impact to the local AQMPs and a greater but still less than significant cumulative impact. In the long term, Alternative 2 would have a similar impact to the local AQMPs and a reduced cumulative impact since development projects would be more efficient by design. As with the Plan, Alternative 2 achieves order of magnitude reductions in cancer risk levels associated with diesel particulate matter. As with the Plan, Cancer Risk for Alternative 2 remains above the acceptable standard of 1, established by the U.S. Environmental Protection Agency. The cancer risk and impact to public health for Alternative 2 would be substantively similar compared to the Plan since the transportation network is the same as the Plan (Table 4.4-4, *Plan Compared to Alternative 2: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk*). Three of the sixteen segments analyzed for Alternative 2 reduce Cancer Risk by a factor of 1, beyond the reductions achieved by the Plan.

**TABLE 4.4-4
PLAN COMPARED TO ALTERNATIVE 2: SUMMARY MAXIMUM EXPOSED INDIVIDUAL
RESIDENTIAL 30-YEAR EXPOSURE CANCER RISK**

Segment No.	Transportation Segment	County/Region	Alternative 2	2016 RTP/SCS
1	IMP I-8	Imperial / El Centro	19	19
2	IMP SR-78	Imperial / Westmoreland	9	9
3	LA I-110	Los Angeles / Carson	45	46
4	LA I-710	Los Angeles / Compton	55	55
5	LA SR-60 DB	Los Angeles / Diamond Bar	60	60
6	LA SR-60 SEM	Los Angeles / South El Monte	43	44
7	ORA I-5	Orange / Orange	32	33
8	ORA I-405	Orange / Seal Beach	78	78
9	RIV I-10	Riverside / Banning	15	15
10	RIV I-15	Riverside / Temecula	38	38
11	RIV SR-91	Riverside / Corona	56	55
12	SB I-15 ONT	San Bernardino / Ontario	25	25
13	SB I-15 VIC	San Bernardino / Victorville	64	64
14	SB SR-60	San Bernardino / Ontario	39	39
15	VEN US-101 SB	Ventura / San Buenaventura	11	11
16	VEN US-101 TO	Ventura / Thousand Oaks	48	48

SOURCE:

Health Risk Assessment (Appendix D).

NOTE:

Cancer Risk Threshold is 10 per 1 million.

Objectionable odors are expected to be similar as well since construction impacts will be similar to the Plan. Objectionable odors would be expected to be similar as well, since construction impacts would be similar to the Plan.

Biological Resources

Alternative 2 would result in somewhat greater impacts to biological resources when compared with the Plan. While Alternative 2 includes the most recent jurisdictional-level local input-based growth forecast (same as that included in the Plan) and captures the HQTAs strategies in the 2016 RTP/SCS, this Alternative has slightly less aggressive land use pattern compared to the Project. Alternative 2 encourages a land use pattern and housing mix that is slightly less compact (39 percent homes and 48 percent jobs in HTQAs) than the Plan (47 percent and 56 percent, respectively) and includes more construction of large lot single-family homes (36 percent or 4 percent more as opposed to 32 percent for the Plan), concurrently with less construction of multifamily homes (2 percent less from 41 percent for the Plan to 39 percent for Alternative 2) (Table 4.3-1). In addition, conversion of greenfield to development would be more dispersed under Alternative 2 as there would be 4 percent more standard residential and 8 percent less housing in HQTAs resulting in an additional 20 square miles of greenfield land to be converted.¹³ Without a more compact land use development pattern as included in the Plan,

¹³ SCAG modeling, 2015.

impacts to biological resources would be more widespread throughout the region. Impacts to biological resources are directly linked to the amount of ground disturbance and habitat conversion in non-urban areas a potential project proposes. Single-family homes, especially large lot single-family homes will require more acreage to accommodate the influx of people into the SCAG region than multi-family homes, and would therefore result in additional conversion in natural habitats and open space and greater impacts to biological resources.

Cultural Resources

Alternative 2 would result in similar impacts in regards to cultural resources when compared with the implementation of the Plan. Impacts to cultural resources are directly linked to the amount of ground disturbance a potential project proposes. Alternative 2 encourages a land use pattern and housing mix that is slightly less compact (39 percent homes and 48 percent jobs in HTQAs) than the Plan (47 percent and 56 percent, respectively) and includes more construction of large lot single-family homes (36 percent or 4 percent more as opposed to 32 percent for the Plan), concurrently with less construction of multifamily homes (2 percent less from 41 percent for the Plan to 39 percent for Alternative 2) (Table 4.3-1). In addition, conversion of greenfield to development would be more dispersed under Alternative 2 as there would be 4 percent more standard residential and 8 percent less housing in HQTAs resulting in an additional 20 square miles of greenfield land to be converted.¹⁴ Single-family homes, especially large lot single-family homes would require more acreage to accommodate the influx of people into the SCAG region than multi-family homes, and would therefore result in additional conversion in previously undeveloped land and greater impacts to cultural resources.

Energy

Alternative 2 would have greater impacts on the residential energy consumption, building energy consumption, water consumption, and water-related energy consumption than the Plan, because this Alternative has lower density and more single-family homes, particularly large lot single-family homes than the 2016 RTP/SCS (Table 4.3-1). Non-renewable energy consumption will also have greater impacts than the Plan because transportation fuel consumption increases with the increased VMT for this Alternative. At 19,983 trillion Btu and \$750 billion, Alternative 2 would result in similar but somewhat higher consumptive energy use and estimated cost of energy use than the Plan.

Geology and Soils

Alternative 2 would result in similar impacts to the Plan as anticipated population growth would remain constant over all of the alternatives and the Project, as the entire region is subject to seismic risk. Alternative 2 would result in slightly more compact development and more development in HQTAs. However, new development would still occur as a result of population growth placing people at risk from seismic activity, and there would be a similar number of transportation projects as the Plan.

Alternative 2 would result in similar impacts as the Plan with regard to the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault

¹⁴ SCAG modeling, 2015,

Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, and landslides due to anticipated population growth remaining constant over all of the alternatives and the Project, and the entire region's seismic risk.

Alternative 2 would result in similar impacts as the Plan with regard to substantial soil erosion or the loss of topsoil because there would be a similar amount of transportation projects as the Plan.

Alternative 2 would result in similar impacts as the Plan with regard to being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse due to there being a similar amount of transportation projects as the Plan.

Alternative 2 would result in similar impacts as the Plan with regard to being located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property due to Alternative 2 having fewer transportation projects than the Plan.

Greenhouse Gas Emissions and Climate Change

The GHG emissions for building energy and water-related energy (56.6 MMTCO_{2e}) would be greater under Alternative 2 compared to the Plan (54.8 MMTCO_{2e}). For transportation, the GHG emissions are projected to be greater under Alternative 2 compared to the Plan because of increased VMT. The Plan would improve regional GHG emissions compared to Alternative 2.

Unlike the Plan, the Alternative 2 would not achieve SB 375 targets for 2020, because the 2012 RTP/SCS transportation network and land use pattern, as updated by local input, fails to achieve the GHG emission reductions made possible by the more integrated transportation and land use strategies in the Plan. Because SCAG has no control over many future emissions factors (e.g., energy and water demand), SCAG made extremely conservative assumptions regarding these factors. Similarly, per capita GHG emissions would decrease compared to the baseline, but not enough to achieve the 8 percent target set for 2020. In addition, Alternative 2 would not be able to accomplish the accelerated goals.

Hazards and Hazardous Materials

Alternative 2 would result in greater impacts related to hazardous materials. Alternative 2 would not include the land use strategies included in the SCS of the Plan that are intended to focus new growth in existing urban and developed areas. Alternative 2 would not include as much redevelopment of urban infill properties or properties that would have already been developed in the past as the 2016 RTP/SCS and, therefore, may result in a greater chance related to disturbance of contaminated sites, and hazards and hazardous materials as compared to the Plan and greater potential impacts.

Hydrology and Water Quality

Alternative 2 would result in greater impacts to hydrology and water quality. Under Alternative 2, more areas would be impacted by excavation and construction activities related to transportation projects as compared to the Plan. Alternative 2 would result in a land use pattern and housing mix that is slightly less compact (39 percent homes and 48 percent jobs in HTQAs) than the Plan (47 percent and 56

percent, respectively) and includes more construction of large lot single-family homes (36 percent or 4 percent more as opposed to 32 percent for the Plan), concurrently with less construction of multifamily homes (2 percent less from 41 percent for the Plan to 39 percent for Alternative 2) (Table 4.3-1). In addition, conversion of greenfield to development would be more dispersed under Alternative 2 as there would be 4 percent more standard residential and 8 percent less housing in HQTAs resulting in an additional 20 square miles of greenfield land to be converted.¹⁵ However, Alternative 2 would not include the land use strategies included in the SCS of the Plan, intended to focus more growth in walkable, mixed-use communities, and existing and planned HQTAs. Therefore, Alternative 2 would result in development patterns consuming a greater amount of land and associated impacts to hydrology and water quality.

Land Use and Planning

Alternative 2 would result in the construction of a similar number transportation projects as the Plan. New growth would occur consistent with local general plans as a result of the local input process. Alternative 2 encourages a land use pattern and housing mix that is slightly less compact (39 percent homes and 48 percent jobs in HTQAs) than the Plan (47 percent and 56 percent, respectively) and includes more construction of large lot single-family homes (36 percent or 4 percent more as opposed to 32 percent for the Plan), concurrently with less construction of multifamily homes (2 percent less from 41 percent for the Plan to 39 percent for Alternative 2) (Table 4.3-1). In addition, conversion of greenfield to development would be more dispersed under Alternative 2 as there would be 4 percent more standard residential and 8 percent less housing in HQTAs resulting in an additional 20 square miles of greenfield land to be converted.¹⁶ However, as a result of the similar scale and number of transportation projects being constructed for both the Plan and Alternative 2, it is likely that in some cases impacts would not be mitigated to a less than significant level.

Alternative 2 would result in less impacts with regard to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect due to the similar scale and number of transportation projects being constructed.

Alternative 2 would result in less impacts with regard to physically dividing an established community due to the similar scale and number of transportation projects being constructed.

Alternative 2 would result in greater impacts with regard to conflicting with an HCP or NCCP. Alternative 2 would not include transportation and land use strategies that focus growth along existing corridors and in urbanized areas; nor would it encourage additional greenways. As a result, development would be more scattered throughout the region when compared to the Plan, and native habitat conversion and fragmentation would increase. The Plan includes transportation and land use strategies that focus growth along existing corridors and in urbanized areas, rather than allowing development of vacant, open space/recreation, and agricultural lands. This compact development pattern included in the Plan would concentrate population in urban areas. Without the Plan development pattern, impacts to

¹⁵ SCAG modeling, 2015.

¹⁶ SCAG modeling, 2015.

biological resources would be more widespread throughout the region, and the likelihood of conflicts with an existing HCP or NCCP would be greater.

Mineral Resources

Alternative 2 would result in similar impacts to mineral resources as the Plan. Population growth and subsequent related development would still occur, requiring limited aggregate resources. Transportation network improvements would occur in a similar proportion as the Plan, requiring a comparable amount of aggregate resources to be used for the construction of the transportation network improvements.

Similar to the 2016 RTP/SCS, Alternative 2 would result in significant impacts from the loss of availability of a known mineral resource that would be of value to the region and the residents of the state due to significant impacts from transportation network improvements that would occur in a similar proportion as the Plan requiring a comparable amount of aggregate resources to be used for the construction of the transportation network improvements.

Similar to the 2016 RTP/SCS, Alternative 2 would result in significant impacts from the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan due to transportation network improvements that would occur in a similar proportion as the Plan with potential to remove an important mineral resource recovery site from production.

Noise

Alternative 2 would result in slightly reduced, but similar impacts from noise when compared with the 2016 RTP/SCS. Alternative 2 would have the same population, housing, and employment as the 2016 RTP/SCS, but in a less dense fashion. Alternative 2 encourages a land use pattern and housing mix that is slightly less compact and has a greater emphasis placed on the construction of single-family homes concurrently with a lower emphasis on multifamily home construction. Fewer transportation projects would be built than under the 2016 RTP/SCS, resulting in less construction noise. However, construction noise would still exceed the significance thresholds established in the CEQA Guidelines. Development would be more scattered throughout the region when compared to the 2016 RTP/SCS. Therefore, operational noise would likely be reduced when compared to the 2016 RTP/SCS since transportation-related activities would be more dispersed throughout the region. However, operational noise would still likely exceed the significance thresholds established in the CEQA Guidelines.

Alternative 2 would result in less impacts from the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies due to significant impacts from temporary construction noise and permanent operational noise.

Alternative 2 would result in less impacts from the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels due to significant impacts from temporary construction vibration and permanent operational vibration from heavy trucks and trains.

Alternative 2 would result in less impacts from the substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project due to the significant impacts from permanent operational noise.

Alternative 2 would result in less impacts from the substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project due to the significant impacts from permanent operational noise.

Alternative 2 would result in less impacts from the substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project due to significant impacts from temporary construction noise.

Alternative 2 would result in less than significant impacts for projects located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, that result in the exposure of people residing or working in the project area to excessive noise levels.

Alternative 2 would result in less than significant impacts for projects within the vicinity of a private airstrip that result in the exposure of people residing or working in the project area to excessive noise levels.

Population and Housing

Under Alternative 2, the same number of transportation investments would be made to the transportation network as in the Plan. As a result, impacts related to population growth, population displacement, and the need to construct replacement housing would be similar to the Plan. Population growth would still occur for the Plan, the No Project Alternative, and Alternatives 2 and 3. With regard to the displacement of people and the need to construct replacement housing, impacts would be similar to the Plan as the same number of transportation improvements would be made to the transportation network, resulting in a similar likelihood that transportation improvement projects will result in the displacement of people and the need to construct replacement housing.

Alternative 2 would result in similar impacts from the potential to induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure) due to the same number of transportation investments being made as the Plan and the same anticipated population growth over the Plan and all alternatives.

Alternative 2 would result in similar impacts from the potential to displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere due to the same number of transportation investments being made as the Plan and the same anticipated population growth over the Plan and all alternatives.

Alternative 2 would result in similar impacts from the potential to displace substantial numbers of people, necessitating the construction of replacement housing elsewhere due to the same number of transportation investments being made as the Plan and the same anticipated population growth over the Plan and all alternatives.

Public Services

Alternative 2 would result in similar impacts to the Plan with regard to requiring additional fire protection and emergency response service facilities, and additional public protective security service facilities. Although the number of transportation improvement projects would be less under this Alternative, there would still be a need for new public services as a result of population growth. Population growth would remain constant over all of the alternatives and the Project, which would result in a similar need for fire protection and emergency response service facilities, and additional public protective security service facilities, but the congestion that would result from a lack of additional transportation improvements and a more dispersed population distribution would result in delayed emergency vehicle response times that would require the provision of additional fire protection and emergency response facilities as well as public protective security service facilities to provide adequate service levels. In particular, additional fire protection facilities would be necessary than under the Plan in order to meet emergency response time standards, which range from 5 minutes in urban areas to 12 minutes in more rural areas. Police protection standards are based on sworn officers per 1,000 persons. As a result, the same population growth for the SCAG region over all alternatives would mean that same number of sworn officers would be required. The 2012 RTP/SCS Updated with Local Input Alternative 2 would result in similar impacts to the Plan with regard to requiring additional fire protection and emergency response service facilities, and additional public protective security service facilities. Similarly, with regard to the need for additional schools, impacts would be similar to the Plan.

Recreation

Alternative 2 would result in a somewhat less adverse, but still significant impact when compared to the Plan in regard to increasing use of existing recreational facilities and a similar impact in regard to expanding or constructing recreation facilities. With no concentration of growth, the park usage would be more disperse in urban and suburban areas leading to a reduced need for expansion or construction of recreation facilities, but the reduced need for parks would also be associated with construction of recreational facilities in less urban areas where there is a greater potential for adverse physical effects on the environment to occur.

Transportation, Traffic, and Safety

Alternative 2 would result in somewhat more adverse impact to transportation, traffic, and safety when compare to without implementation of the Plan. Alternative 2 would generally be expected to result in more miles traveled, more vehicle hours traveled, and more delay than the Plan. In 2040, Alternative 2 would result in 23.07 VMT per capita, 13,225 VHT, and 5.74 VHD per capita (Table 4.3-1). Implementation of the Plan would reduce vehicle miles traveled by approximately 1 percent to 22.78 VMT per capita, reduce VHT by 2 percent to 12,977 VHT, and reduce VHD by 5 percent to 5.48 VHD per capita.

The effects of growth and other external factors are included in the Regional Travel Demand Model that produces the results reported above. Because these external factors are modeled, the cumulative effects of regional growth are captured in the VMT, VHT, and VHD data for Alternative 2 (Table 4.3-1). Alternative 2 would have more cumulative impacts than the Plan.

The Plan includes transportation and land use strategies that focus growth along existing corridors and in urbanized areas, discouraging development of vacant, open space/recreation and agricultural lands. This compact pattern of development is complemented by Active Transportation Strategies that encourages development of walking and biking infrastructure, and supportive First mile/Last mile strategies. This compact development pattern included in the Plan would concentrate population in urban areas and encourage alternative modes of travel other than automobiles. While Alternative 2 captures the HQTAs-focus based on local plans, it encourages land use pattern and housing mix that is slightly less urban, less compact, and more standard suburban as compared to the Plan (Table 4.3-1). Also, this Alternative has a slightly weaker land use and transit coordination in HQTAs (39% homes and 48% jobs) than that for the Plan (47% homes and 56% jobs) (Table 4.3-1). Vehicles miles travels, vehicle hours of delay, worker commute trips, and accident rates would be higher than under the Plan.

Utilities and Service Systems

Alternative 2 would result in greater impacts to solid waste disposal and transfer facilities as the Plan. Contrary to the Plan, there would less compact development under Alternative 2. With a less compact development pattern, the need for solid waste disposal facilities for construction related material would be greater under Alternative 2 than under the Plan. The need for new or expanded I wastewater treatment facilities and stormwater drainage facilities to accommodate the less compact development patterns would be greater under Alternative 2 than under the Plan. The jurisdictional level local input-based growth forecast is the same under Alternative 2 as under the Plan, thereby resulting in similar need for solid waste disposal and transfer facilities to accommodate the population. At 133,468,304 acre-feet and \$185 billion, Alternative 2 would result in similar consumptive water use and estimated cost of water to the Plan.

Alternative 3: Intensified Land Use Alternative

Aesthetics

Alternative 3 would result in somewhat less impacts to scenic vistas, similar impacts to scenic highways, visual character, and light and glare, and greater impacts to shade and shadow than the Plan. Conversion of greenfields to development would be less dispersed as there would be less standard suburban residential and more compact walkable land use and homes in HQTAs, resulting in 28 fewer square miles of greenfield land being consumed (see Table 4.3-1 and Table 4.4-1). Alternative 3 would have a similar impact on the scenic highways because there are the same projects that are not located State-designated scenic highway corridors as the Plan. Because population growth would be more concentrated in HQTAs and TPAs than the 2016 RTP/SCS, there would be fewer overall impacts to scenic vistas and visual character and quality in more rural areas than the Plan; however, there would be greater impacts to visual character in existing communities due to impacts to historic buildings, which would ultimately result in similar impacts to visual character. Fewer nighttime lighting impacts would occur in undeveloped areas, yet increased daytime and nighttime glare as a result of taller building and increased shadow-sensitive uses, such as homes, near grade separation projects as the projects are more compact. Therefore, there would be similar light and glare impacts and greater shade and shadow impacts compared to the Plan.

Agriculture and Forestry Resources

Alternative 3 would result in somewhat less impacts related to agriculture and forestry resources when compared with the Plan. Impacts to agricultural resources are directly linked to the amount of agricultural land conversion in non-urban areas. **Table 4.3-1** indicates that there would be slightly more construction of multifamily homes (42 percent) than the Plan (41 percent) and that there would be slightly less construction of large lot single-family homes (31 percent) than the Plan (32 percent). However, Alternative 3 would lead to a much improved land use and transit coordination (50 percent homes and 60 percent jobs) in comparison to the Plan (47 percent and 56 percent, respectively). A further improved land use and transit coordination development pattern would likely require less acreage to accommodate future growth and a higher concentration of development in urban areas will reduce the conversion of agricultural uses. Neither the Plan nor this Alternative is expected to result in the loss of forest land or the conversion of forest land to no-forest use. Therefore, Alternative 3 would result in less conversion of agricultural land and somewhat less impacts to agriculture and forestry resources.

Air Quality

Alternative 3 would have the same population, housing and employment as the Plan, but in a more dense fashion. Similar to the Plan, construction emissions would likely exceed the significance thresholds established in the CEQA Guidelines and result in a significant short-term impact especially considering multiple projects occurring in a condensed area. In the long term, Alternative 3 would have a similar impact to the local AQMPs and a reduced cumulative impact since development projects would be more efficient by design. As with the Plan, Alternative 3 achieves order of magnitude reductions in cancer risk levels associated with diesel particulate matter. As with the Plan, Cancer Risk for Alternative 3 remain above the acceptable standard of 1, established by U.S. Environmental Protection Agency. The cancer risk and impact to public health for Alternative 3 would be similar when compared to the Plan since the transportation network is the same as the Plan with minor adjustments for land use and transit coordination strategies (**Table 4.4-5, *Plan Compared to Alternative 3: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk***). Five of the sixteen segments analyzed for Alternative 3 reduce Cancer Risk, beyond the reductions achieved by the Plan. However, for two of the segments analyzed, Segment 7 (Orange) and Segment 14 (San Bernardino) result in increased Cancer Risk. Segment 14 results in substantial increase in Cancer Risk when compared to the Plan; therefore, Segment 14 would be expected to result in greater health risk than the Plan .

**TABLE 4.4-5
PLAN COMPARED TO ALTERNATIVE 3: SUMMARY MAXIMUM EXPOSED INDIVIDUAL
RESIDENTIAL 30-YEAR EXPOSURE CANCER RISK**

Segment No.	Transportation Segment	County/Region	Alternative 3	2016 RTP/SCS
1	IMP I-8	Imperial / El Centro	18	19
2	IMP SR-78	Imperial / Westmoreland	9	9
3	LA I-110	Los Angeles / Carson	45	46
4	LA I-710	Los Angeles / Compton	54	55
5	LA SR-60 DB	Los Angeles / Diamond Bar	60	60
6	LA SR-60 SEM	Los Angeles / South El Monte	43	44
7	ORA I-5	Orange / Orange	33	33
8	ORA I-405	Orange / Seal Beach	78	78
9	RIV I-10	Riverside / Banning	14	15
10	RIV I-15	Riverside / Temecula	38	38
11	RIV SR-91	Riverside / Corona	56	55
12	SB I-15 ONT	San Bernardino / Ontario	25	25
13	SB I-15 VIC	San Bernardino / Victorville	63	64
14	SB SR-60	San Bernardino / Ontario	47	39
15	VEN US-101 SB	Ventura / San Buenaventura	11	11
16	VEN US-101 TO	Ventura / Thousand Oaks	45	48

SOURCE:

Health Risk Assessment (Appendix D).

NOTE:

Cancer Risk Threshold is 10 per 1 million.

Objectionable odors are expected to be similar as well since construction impacts will be similar to the Plan.

Biological Resources

Alternative 3 would result in somewhat less impacts related to biological resources when compared with the implementation of the Plan. Impacts to biological resources are directly linked to the amount of native habitat conversion in non-urban areas a potential project proposes. Table 4.3-1 indicates that there would be slightly more construction of multifamily homes (42 percent) than the Plan (41 percent) and that there would be slightly less construction of large lot single-family homes (31 percent) than the Plan (32 percent). However, Alternative 3 would lead to a much improved land use and transit coordination (50 percent homes and 60 percent jobs) than the Plan (47 percent and 56 percent, respectively). Increasing the density and intensity of development within existing communities may potentially increase impacts to urban area “pockets” of protected habitat areas for sensitive species and open space areas used as wildlife corridors within urbanized areas. While Alternative 3 would affect fewer acres of natural lands, impacts to biological resources in and near the urban areas would remain significant because impacts to sensitive species in areas that are currently protected may occur. Overall, a further improved land use and transit coordination development pattern associated with Alternative 3 would require less acreage to accommodate the influx of people into the SCAG region than single-family homes, and a higher concentration of development in urban areas will reduce the conversion of native

habitats. Therefore, Alternative 3 would result in somewhat less habitat conversion and fewer impacts to biological resources.

Cultural Resources

Alternative 3 would result in slightly less impacts in regards to cultural resources when compared with the implementation of the Plan, due to the fact that there would be a net reduction of 28 square miles of greenfield development (Table 4.3-1). Impacts to cultural resources are directly linked to the amount of ground disturbance a potential project proposes. Table 4.3-1 indicates that there would be slightly more construction of multifamily homes (42 percent) than the Plan (41 percent) and that there would be slightly few construction of large lot single-family homes (31 percent) than the Plan (32 percent). However, Alternative 3 would lead to a much improved land use and transit coordination (50 percent homes and 60 percent jobs) than the Plan (47 percent and 56 percent, respectively).

Further, increases in the density and intensity of development within existing communities could result in an increased likelihood of adverse direct and indirect impacts to cultural resources (including historic, archeological and paleontological resources) located within the existing urbanized areas, particularly within established communities in the region. Historic and archeological resources frequently occur within the region based on pre-historic and historic use patterns that concentrated development near the reliable water resources and trade routes that formed the framework for the existing regional development pattern. Archeological resources have been discovered (and often disturbed) in infill and urbanized areas (such as Playa Vista). A further improved land use and transit coordination development pattern would require less acreage to accommodate the influx of people into the SCAG region, and would therefore result in less ground disturbance and fewer impacts to cultural resources.

Energy

This Alternative contains more mixed-use, walkable, and urban infill development to accommodate a higher proportion of growth in more energy-efficient housing types like townhomes, apartments, and smaller single-family homes, as well as more compact commercial building types. As a result, residential energy consumption, building energy consumption, water consumption, and water-related energy consumption would decrease compared to the 2016 RTP/SCS because there will be a higher percentage of multi-family units and higher density in the land use. Non-renewable energy consumption would also have fewer impacts than the Plan because transportation fuel consumption decreases with the decreased VMT for Alternative 3.

At 19,983 trillion Btu and \$728 billion, Alternative 3 would result in similar but somewhat lower consumptive energy use and estimated cost of energy use than the Plan.

Geology and Soils

Alternative 3 would result in similar impacts as the Plan with regard to the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, and landslides due to anticipated population growth remaining constant over all of the alternatives and the

Project, and the entire region's seismic risk. This Alternative would result in more compact development and more development in HQTAs than the Plan. However, new development would still occur as a result of population growth placing people at risk from seismic activity.

Alternative 3 would result in similar impacts as the Plan with regard to substantial soil erosion or the loss of topsoil due to there being a similar amount of transportation projects as the Plan.

Alternative 3 would result in similar impacts as the Plan with regard to being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse due to there being a similar amount of transportation projects as the Plan.

Alternative 3 would result in similar impacts as the Plan with regard to being located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property due to there being a similar amount of transportation projects as the Plan.

Greenhouse Gas Emissions and Climate Change

The GHG emissions for building energy and water-related energy (53.9 MMTCO_{2e}) would be less with Alternative 3 compared to the Plan (54.8 MMTCO_{2e}). For transportation, the GHG emissions are projected to be less under Alternative 3 compared to the Plan because of decreased VMT. Alternative 3 would improve regional GHG emissions compared to the 2016 RTP/SCS.

As with the Plan, the GHG emissions achieved by Alternative 3 are in alignment with the AB 32 goals. As with the Plan, Alternative 3 would reduce per capita GHG emissions compared to the 2005 baseline so it would achieve both the 8 percent target set for 2020 and exceed the 13 percent set for 2035, set pursuant to SB 375.

Hazards and Hazardous Materials

Alternative 3 would result in greater impacts related to hazardous materials. Alternative 3 would not include the land use strategies included in the SCS of the Plan that are intended to focus new growth in existing urban and developed areas. Alternative 3 would not include as much redevelopment of urban infill properties or properties that would have already been developed in the past as the 2016 RTP/SCS and, therefore, may result in a greater chance related to disturbance of contaminated sites, and hazards and hazardous materials as compared to the Plan and greater potential impacts.

Hydrology and Water Quality

Under Alternative 3, fewer undeveloped areas would be impacted by excavation and construction activities related to transportation projects as compared to the Plan. Alternative 3 focuses on further aggressive and compact development in HQTAs, and further expansion of non-motorized transportation, thereby resulting a much better coordination between land use and transit (50 percent homes and 60 percent jobs as opposed to 47 percent homes and 56 percent jobs in Table 4.3-1). Additionally, Under Alternative 3, there would be slightly more multifamily homes and fewer large lot single-family homes. Hence, this Alternative would likely result in a somewhat more reduction in the amount of impervious surfaces and decreasing impacts to water resources as compared to the 2016 RTP/SCS.

Land Use and Planning

Alternative 3 would result in greater impacts to land use and planning as the Plan. Alternative 3 would result in a greater chance for there to be conflicts with an existing plans or regulations including local general plans as a result of the policies encouraging a much more compact land use development pattern in urbanized areas such as HQTAs. This Alternative would result in the construction of a substantively similar number and scale of transportation projects as the Plan, which would result in similar impacts related to the division of an established community or conflict with existing plans. Additionally, there would be a greater chance for there to be conflicts with an existing plan or regulation including local general plans because of the much more compact and aggressive land use development pattern in urbanize areas such as HQTAs.

Alternative 3 would result in greater impacts with regard to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect due to the similar scale and number of transportation projects being constructed.

Alternative 3 would result in similar impacts with regard to physically dividing an established community due to the similar scale and number of transportation projects being constructed.

Mineral Resources

Alternative 3 would result in similar impacts to mineral resources as the Plan. Population growth and subsequent related development would still occur, requiring limited aggregate resources. With this Alternative, more development would occur in a compact manner focused in and around HQTAs. However, transportation network improvements would occur in a similar proportion as the Plan requiring a comparable amount of aggregate resources to be used for the construction of the transportation network improvements.

Similar to the 2016 RTP/SCS, Alternative 3 would result in significant impacts from the loss of availability of a known mineral resource that would be of value to the region and the residents of the state due to significant impacts from transportation network improvements that would occur in a similar proportion as the Plan, requiring a comparable amount of aggregate resources to be used for the construction of the transportation network improvements.

Similar to the 2016 RTP/SCS, Alternative 3 would result in significant impacts from the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan due to transportation network improvements that would occur in a similar proportion as the Plan with potential to remove an important mineral resource recovery site from production.

Noise

Alternative 3 would result in greater impacts from noise when compared with the 2016 RTP/SCS. Alternative 3 would have the same jurisdictional level local input-based population, housing, and

employment as those in the 2016 RTP/SCS, but the difference is that this Alternative would cause land use development and distribution patterns to be in a more compact and dense. The projected housing mix and growth for Alternative 3 indicates there would be slightly more multifamily homes and a slightly fewer large lot single-family homes, along with a higher concentration of development in urban areas. When compared with the 2016 RTP/SCS, Alternative 3 would further intensify transportation and land use strategies that focus growth along existing corridors and in urbanized areas and further strengthen the land use and transit coordination; thereby having a potential resulting in somewhat greater noise impacts from the more intensified level of construction or operation of new transportation infrastructure and the development in HQTAs. A greater number of individual projects would be built within condensed areas when compared to the 2016 RTP/SCS, resulting in greater temporary construction noise, which would exceed the significance thresholds established in the CEQA Guidelines. Development would be more dense and clustered in HQTAs and opportunity areas when compared to the 2016 RTP/SCS. Since there would be more transit-related activities within HQTAs, operational noise would also likely be increased in these areas when compared to the 2016 RTP/SCS, which would exceed the significance thresholds established in the CEQA Guidelines.

Similar to the 2016 RTP/SCS, Alternative 3 would result in significant impacts from the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies due to significant impacts from temporary construction noise and permanent operational noise.

Alternative 3 would result in greater impacts from the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels due to significant impacts from temporary construction vibration and permanent operational vibration from heavy trucks and trains.

Alternative 3 would result in greater impacts from the substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project due to the significant impacts from permanent operational noise.

Alternative 3 would result in greater impacts from the substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project due to the significant impacts from permanent operational noise.

Alternative 3 would result in greater impacts from the substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project due to significant impacts from temporary construction noise.

Alternative 3 would result in less than greater impacts for projects located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, that result in the exposure of people residing or working in the project area to excessive noise levels.

Alternative 3 would result in less than greater impacts for projects within the vicinity of a private airstrip that result in the exposure of people residing or working in the project area to excessive noise levels.

Population and Housing

Under Alternative 3, the same number of transportation investments would be made to the transportation network as in the Plan but development would be even more concentrated and densified in HQTAs than the Plan. However, impacts related to population growth, population displacement, and the need to construct replacement housing would be similar to the Plan. The projected population growth discussed under the Plan would still occur under the Plan and all of the alternatives. With regard to the displacement of people and the need to construct replacement housing, impacts would be somewhat more adverse than the Plan as a result of higher population growth in designated communities within HQTAs and an increase in the number of residences or business that are displaced as a result of more compact, higher density redevelopment.

Alternative 3 would result in similar impacts as the Plan from the potential to Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure) due to the same number of transportation investments being made as the Plan and the same anticipated population growth over the Plan and all alternatives.

Alternative 3 would result in somewhat more adverse impacts as the Plan from the potential to displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere due to higher population growth in designated communities within HQTAs and an increase in the number of residences or business that are displaced as a result of more compact, higher-density redevelopment.

Alternative 3 would result in greater impacts as the Plan from the potential to displace substantial numbers of people, necessitating the construction of replacement housing elsewhere due to higher population growth in designated communities within HQTAs and an increase in the number of residences or business that are displaced as a result of more compact, higher-density redevelopment.

Public Services

Under the Intensified Land Use Alternative 3, the same number of transportation investments would be made to the transportation network as in the Plan, but development would be more concentrated in HQTAs than the Plan, but development would be more concentrated in HQTAs than the Plan and more people would live and work in high-density buildings. This Alternative would therefore result in somewhat more adverse impacts than the Plan with regards to requiring additional fire protection and emergency response service facilities, and additional public protective security service facilities and school facilities, due to the increase on population density. In general, urban areas are well served by police, fire and emergency services, although the recent economic recession and structural financing challenges for municipal services have resulted in some curtailments in services. Substantially increasing population densities and building intensities would place additional strain on existing facilities, service ratios and new challenges on existing fire, police protection and emergency services. For example, fire trucks and other response equipment that is designed to service traditional development patterns with wider streets (allowing larger trucks) in communities with few if any buildings higher than three to four stories would not be suitable for narrower, walkable street designs and mid- and high-rise construction. Firefighter training for different types of structural fires, and different fire pattern risks in high-density building areas, would also be required. Similarly, suburban policing models and facilities generally are

very automobile-dependent, with a central station and patrol car service as the backbone of suburban community policing. Police services in higher density, urbanized areas often require (or benefit from) different deployment models including more substations and more foot and bicycle patrols. Police protection standards are based on sworn officers per 1,000 persons. Due to population growth being concentrated in urbanized areas, new officers to patrol these areas would need to be hired and additional facilities to support police serves would need to constructed.

Recreation

Alternative 3 would have a greater impact in regard to increasing use of existing recreational facilities and a similar impact in regard to expanding or constructing recreation facilities. With the same population growth anticipated as the Plan, the need for the construction of parks would be similar. However, fewer communities with planned high-density growth would be able to meet Quimby Act targets for parks than under the Plan. With higher population density, there would more use of the same parks, leading to greater deterioration of existing recreational facilities in urban areas. As with the Plan, park development and expansion in urban areas is normally beneficial, although there may be limited instances where impacts will occur during construction or expansion of a park.

Transportation, Traffic, and Safety

Alternative 3 would result in somewhat more adverse transportation impacts than the Plan. Alternative 3 would result in 19,550 VMT per household annually, less than the Plan's 20,500 VMT per household annually and the VMT in the base year, and Alternative 3 would generally be expected to result in fewer miles traveled, fewer vehicle hours traveled, and less delay than the Plan. In 2040, Alternative 3 would result in 22.47 VMT per capita, 12,763 VHT and 5.30 VHD per capita (Table 4.3-1). Comparing these number to the Plan (22.78 VMT per capita, 12,977 VHT and 5.48 VHD per capita), Alternative 3 would reduce vehicle miles traveled by approximately 1 percent, reduce VHT by 2 percent, and reduce VHD by 3 percent. Despite the overall reduction in VMT and VHD as compared to the Plan, Alternative 3 does not maximize mobility and accessibility for all people and goods in the region to the extent of the 2016-2040 RTP/SCS because it results in more severe localized traffic congestion conditions with adverse mobility and reliability consequences for goods and people (increased vehicle and truck delay).

The effects of growth and other external factors are included in the RTDM that produces the results reported above. Because these external factors are modeled, the cumulative effects of regional growth are captured in the VMT, VHT and VHD data for Alternative 3. Alternative 3 increases localized congestion and compromises accessibility to destinations which would result in more adverse effects related to safety considerations for pedestrians, cyclists, and motorists.¹⁷ Hence, this Alternative would have somewhat more adverse impacts than the Plan.

Utilities and Service Systems

Alternative 3 would result in fewer impacts related to solid waste disposal and transfer facilities than the Plan. Alternative 3 includes the transportation network that is included in the Plan; therefore, construction and operation of transportation projects under this Alternative would require a similar

¹⁷ RAND. 2008. Research Brief. "Reducing Traffic Congestion in Los Angeles." 1776 Main Street, Santa Monica, CA 90407.

amount of solid waste disposal and transfer facilities during project construction. However, the growth scenario associated with Alternative 3 maximizes urban centers, TODs and HQTAs; and it also includes a more progressive jobs/housing distribution optimized for TOD and infill. . At 132,723,264 acre-feet acre-feet and \$184 billion , Alternative 3 would result in similar consumptive water use and estimated cost of water to the Plan.

4.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Section 15126.6 of the State CEQA Guidelines requires that an “environmentally superior” alternative be selected among the alternatives that are evaluated in the EIR. In general, the environmentally superior alternative is the alternative that would be expected to generate the fewest adverse impacts. If the No Project alternative is identified as environmentally superior, then another environmentally superior alternative shall be identified among the other alternatives.

For purposes of this PEIR, the impacts associated with reducing global GHG emissions and regional air pollutants must be examined alongside the other adverse impacts that are caused by increasing the density and intensity of the region’s development patterns and, for example, bringing people closer to higher sources of air pollutants such as transit corridors and freeways. The tension between CEQA’s mandate to reduce all types of impacts to the maximum extent feasible, and the statutory mandates of reducing GHG emissions under AB 32 and SB 375, is a well-recognized CEQA compliance challenge.¹⁸ CEQA does not provide any legal mechanism for “weighting” environmental impacts, and scoring some categories of impacts as “more important” and others as “less important.” Instead, CEQA is structured to require the disclosure of all impacts for each Alternative and the Plan, to foster informed decision making and to disclose the inherent trade-offs between different types and magnitudes of impacts associated with different Alternatives.

As indicated by the comparative analysis, the Plan and each Alternative result in many impacts that are “significant and unavoidable” under CEQA (Table 4.5-1, *Summary of Comparative Impacts between Alternatives and the Proposed Project*). Alternative 3, Intensified Land Use Alternative, would result in somewhat less adverse impacts for nine of the 18 environmental issues that were analyzed pursuant to Appendix G of the State CEQA Guidelines (agriculture and forestry resources; biological resources; cultural resources; energy, greenhouse gas emissions and climate change; hazards and hazardous materials; hydrology and water quality; transportation, traffic, and safety; and utilities and service systems). The anticipated increases in the density and intensity of development within the region’s established communities under Alternative 3 would result in more localized impacts that are greater than the Plan in four areas (land use; noise; public services and recreation).

Of the three alternatives, Alternative 3 would be considered the environmentally superior alternative from the perspective of fewer impacts to natural lands and reduced GHG emissions because it substantially restricts the use of land for single-family development, in a manner that differs from the adopted general plans of the six counties and 191 member cities in the SCAG region. Alternative 3 concentrates development in existing urban centers around transit stations and activity centers and, therefore, has less impact on rural and undeveloped areas. However, Alternative 3 would have much

¹⁸ Adams, Tom (California League of Conservation Voters), and Amanda Eaken and Anne Nothoff (Natural Resources Defense Council). 2010. *Tackling California’s Global Warming Challenge: A Guide to SB 375*, by Tom Adams (California League of Conservation Voters), p. 24.

more severe impacts on the built environment (i.e., seven CEQA impact categories: localized air quality, land use; noise and vibration, displacement, public services, traffic delay, and existing overtaxed recreation facilities in the vicinity of HQTAs).

Of the three alternatives, Alternative 3 would be considered the environmentally superior alternative because it uses a more compact land use pattern (Table 4.5-1). Alternative 3 requires implementation of the same mitigation measures required for the 2016 RTP/SCS and would not resolve any of the significant and unavoidable impacts of the Plan. However, the more intensified and compact land use development pattern would result in somewhat less adverse impacts to energy, land, and water resources due to the more densified pattern of development. Alternative 3 would also achieve greater overall reductions in criteria air pollutants and greenhouse gas emissions, as a result of the more compact pattern of land use development. The level of impact for Alternative 2 and Alternative 3 varies in relation to the land use development pattern, but neither is capable of avoiding any of the significant and unavoidable impacts of the Plan, because those impact are primarily associated with net increase in population that is anticipated for the SCAG region. Therefore, the comparative impacts between the alternatives and the Project are primarily related to the level of severity of the impacts.

Similarly, the No Project Alternative does not avoid the significant and unavoidable impacts of the 2016 RTP/SCS, and in several instances the impacts would be more adverse due to the failure to achieve reductions in the consumptive use of land, energy, and water resources achieved through the policies and program embedded in the 2016 RTP/SCS that facilitate a more efficient use of these resources. The proposed project, Alternative 2, and Alternative 3 would have less than significant impacts in relation to cumulatively considerable impacts for pollutants in non-attainment. However, the No Project Alternative would have significant and unavoidable impacts.

**TABLE 4.5-1
SUMMARY OF COMPARATIVE IMPACTS BETWEEN ALTERNATIVES AND THE PROPOSED PROJECT**

Alternative	More Adverse Impacts When Compared to the Proposed Project	Similar Impacts When Compared to the Proposed Project	Less Adverse Impacts When Compared to the Proposed Project
Alternative 1: No Project	<p>Agriculture and Forestry Resources</p> <p>Air Quality</p> <p>Biological Resources</p> <p>Cultural Resources</p> <p>Energy</p> <p>Geology and Soils</p> <p>Greenhouse Gas Emissions and Climate Change</p> <p>Hazards and Hazardous Materials</p> <p>Hydrology and Water Quality</p> <p>Transportation, Traffic, and Safety</p> <p>Utilities and Service Systems</p>	<p>Aesthetics</p> <p>Public Services</p> <p>Recreation</p>	<p>Land Use</p> <p>Mineral Resources</p> <p>Noise</p> <p>Population, Housing, and Employment</p>
Alternative 2: 2012 RTP/SCS Updated with Local Input Alternative	<p>Agriculture and Forestry Resources</p> <p>Biological Resources</p> <p>Energy</p> <p>Greenhouse Gas Emissions and Climate Change</p> <p>Hazards and Hazardous Materials</p> <p>Hydrology and Water Quality</p> <p>Transportation, Traffic, and Safety</p> <p>Utilities and Service Systems</p>	<p>Aesthetics</p> <p>Air Quality</p> <p>Cultural Resources</p> <p>Geology and Soils</p> <p>Mineral Resources</p> <p>Population, Housing, and Employment</p> <p>Public Services</p>	<p>Land Use</p> <p>Noise</p> <p>Recreation</p>
Alternative 3: Intensified Land Use Alternative	<p>Land Use</p> <p>Noise</p> <p>Recreation</p> <p>Transportation, Traffic, and Safety</p>	<p>Aesthetics</p> <p>Agriculture and Forestry Resources</p> <p>Air Quality</p> <p>Geology and Soils</p> <p>Mineral Resources</p> <p>Population, Housing, and Employment</p> <p>Public Services</p>	<p>Biological Resources</p> <p>Cultural Resources</p> <p>Energy</p> <p>Greenhouse Gas Emissions and Climate Change</p> <p>Hazards and Hazardous Materials</p> <p>Hydrology and Water Quality</p> <p>Utilities and Service Systems</p>

5.0

LONG-TERM CEQA CONSIDERATIONS

Section 15126 of the CEQA Guidelines requires that all phases of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development and operation. As part of this analysis, the EIR must also identify (1) significant environmental effects of the proposed project, (2) significant environmental effects that cannot be avoided if the proposed project is implemented, (3) significant irreversible environmental changes that would result from implementation of the proposed project, and (4) growth-inducing impacts of the proposed project. Additionally, this section addresses irreversible damage from environmental accidents.

5.1 SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

Table ES.4-1, *Summary of Environmental Consequences*, in the Executive Summary, and Sections 3.1 through 3.18 of this PEIR provide a comprehensive identification of the environmental effects of the 2016 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS, “Plan,” or “Project”), including the level of significance both before and after mitigation. Many of the impacts that are determined to be significant and unavoidable could be mitigated to less than significant at the project level. However, this PEIR is at the programmatic level project information, and detailed site plans and project descriptions are not available. Therefore, without the ability to evaluate each project that could occur as a result of the 2016 RTP/SCS, these impacts were determined to be significant and unavoidable.

Section 15126.2(b) of the CEQA Guidelines requires that an EIR (including a Program EIR or PEIR, describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. Implementation of the 2016 RTP/SCS would result in the following unavoidable significant and Project-related and/or cumulative impacts:

- **Aesthetics**—Implementation of the 2016 RTP/SCS would obstruct views of or alter the appearance of scenic resources or vistas along designated scenic highways and vista points. In addition, construction and implementation of the projects associated with the Plan would create significant contrasts with the overall visual character of the landscape, as well as light and glare and shade and shadow effects. The effects of each of these impacts would also result in cumulative impacts outside the region.
- **Agriculture and Forestry Resources**—Implementation of the 2016 RTP/SCS could result in the loss of prime farmland or grazing lands. The Plan would also contribute to a cumulatively impacts due to the considerable loss of agriculture and forestry resources.
- **Air Quality**—Construction emissions from implementation of the 2016 RTP/SCS would result in a significant impact on air quality. In the SCAG region, the three criteria pollutants designated nonattainment are PM_{2.5}, PM₁₀, and ozone (Table 3.3.2-3, *2015 Nonattainment Areas in the SCAG Region for All Criteria Pollutants by County by NAAQs*). Despite temporary significant construction emissions, long term criteria pollutant emissions by county is expected to decline with implementation of the Plan (Table 3.3.4-1, *Criteria Pollutant Emission by County – Existing Conditions [2015] vs. Plan [2040]*). Transportation

conformity with air quality management plans and state implementation plans are required under federal CAA Section 176(c) for federal funding and compliance with air quality goals. As the Plan only focuses on certain sectors, the Plan would also contribute to cumulative impacts with respect to air quality.

- **Biological Resources**—Implementation of the 2016 RTP/SCS would displace natural vegetation, some of which is used as habitat for sensitive species in the SCAG region. Projects included in the Plan would contribute to habitat fragmentation of existing habitat, while forming barriers to animal migration or foraging routes. Construction and operation of projects and development anticipated to occur under the Plan would increase near-road disturbances such as litter, trampling, light pollution, and road noise, and would result in damage to previously inaccessible and undisturbed natural areas, or direct fatalities to wildlife. The Plan could result in potentially displacing or disturbing riparian or wetland habitat, prime farmland or grazing lands, or existing open space and recreation lands. In addition, siltation of streams and other water resources may result from construction activities in proximity to erodible soils. The Plan would also contribute to cumulative impacts due to the considerable loss of biological resources.
- **Cultural Resources**—Implementation of the 2016 RTP/SCS could disturb or cause a substantial adverse change in the significance of a historical, archaeological, paleontological resource or human remains. The Plan would also contribute to a cumulative impacts due to the considerable loss of cultural resources.
- **Energy**—Transportation projects and land use strategies included in the 2016 RTP/SCS would result in the increased use of electricity and natural gas. The Plan would also contribute to a cumulatively considerable demand for energy within and outside of the region.
- **Geology and Soils**—Implementation of the 2016 RTP/SCS would expose people or structures to seismic hazards such as surface rupture, ground shaking, liquefaction, landslides, seismically induced ground-shaking, or seiches or tsunami waves. In addition, transportation projects and anticipated development associated with land use strategies included in the Plan could be located on expansive or unstable soils, resulting in potential on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Earthwork associated with construction of Plan's transportation projects and development associated with land use strategies could also result in substantial soil erosion and/or loss of topsoil. Potentially hazardous geological and seismic conditions are found throughout the SCAG region and Southern California in general, and are generally site specific. The 2016 RTP/SCS encompasses all development (both transportation and land use changes) that would occur in the region through 2040 and the impacts of that development are discussed fully above. As a result, the Project would be expected to contribute to a cumulatively considerable increase in risk associated with geologic hazards.
- **Greenhouse Gas Emissions and Climate Change**— Implementation of the 2016 RTP/SCS would decrease greenhouse gas (GHG) emissions by 27 million metric tons by 2040 as compared to existing conditions (Table 3.8.4.2, *Greenhouse Gas Emissions Summary for the SCAG Region*). The Plan would meet and exceed the per capita GHG emissions reduction targets set by CARB pursuant to SB 375. In fact, the Plan would achieve its per

capita GHG emissions reduction target for 2035 at an accelerated rate which sets the Plan on a trajectory of yielding greater progress post 2035, in 2040 and beyond, which is consistent with achieving State's long-term GHG emission goals. By meeting the SB 375 targets, the Plan has contributed its share, if not greater, to meeting the AB 32 targets. The Plan is also in alignment with county and/or city-climate related plans. The GHG reduction trajectory of the Plan is consistent, if not more aggressive, with the accelerated pace established in the recent Executive Order B-30-15 and the State long-term (2050) GHG emissions reduction goals. Cumulative impacts with respect to GHG emissions would occur in the event project level mitigation measures not capable to fully address cumulative impacts of GHG emissions to the appropriate level.

- Hazards and Hazardous Materials—Implementation of the 2016 RTP/SCS would increase the risk of significant hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials. Transportation projects and land use strategies included in the Plan may increase the risk of emitting hazardous materials within one-quarter mile of a school. In addition, the increased mobility associated with the Plan could cause cumulative significant impacts with respect to the risk associated with hazardous materials transport to areas outside of the SCAG region. While impact to hazards and hazardous materials can be minimized with proper storage and handling of materials as guided by the business plan, the impact from transport of hazardous materials from other regions would remain cumulatively significant.
- Hydrology and Water Quality—Implementation of the 2016 RTP/SCS would degrade local surface water quality due to increased roadway runoff due to construction of transportation projects and development encouraged by land use strategies. Increased impervious surfaces would reduce groundwater infiltration. The Plan would influence the pattern of urbanization in the SCAG region, and would contribute to the conversion of undeveloped land to urban areas. This would result in impacts to storm water infiltration and groundwater recharge. In addition, this increased urbanization would contribute to an increased demand for water supply and associated infrastructure, as well as an increased need for waste water treatment capacity. The Plan would contribute to a cumulatively considerable impact on water supply and water quality.
- Land Use and Planning—Implementation of the land use policies and strategies in the 2016 RTP/SCS would result in potential conflicts with existing local general plans, adopted local land use/specific plans and other goals and policies. Projects associated with the Plan have the potential to disrupt or divide established communities. Cumulative impacts within and outside the SCAG region could occur due to conflicting policies.
- Mineral Resources— Implementation of the Plan would also result in a significant loss of aggregate resources in the region and would also contribute to a cumulatively impacts due to the considerable loss of these resources.
- Noise—Transportation projects and development encouraged by land use strategies would expose noise- and vibration-sensitive land uses to noise and vibration in excess of normally acceptable levels and/or experience substantial increases in noise and vibration as a result of new or expanded transportation or other facilities. Such facilities may increase ambient

noise levels in urban areas of the region to exceed normally acceptable levels. Noise would result in cumulative impacts.

- Population, Housing, and Employment—Implementation of the 2016 RTP/SCS may influence substantial population growth to some areas of the region, and could require the acquisition of rights-of-way for transportation projects and development associated with land use strategies. These actions could displace existing homes and businesses. The Plan would contribute to cumulatively considerable impacts related to population and housing.
- Public Services—Implementation of the 2016 RTP/SCS would result in increased need for police, fire, and emergency personnel, and increase the demand for school facilities within the SCAG region and would contribute to cumulatively considerable impacts due to the need for additional public service facilities.
- Recreation—Implementation of the 2016 RTP/SCS would result in increased need for recreation facilities and would contribute to cumulatively considerable impacts due to the need for new recreation facilities.
- Transportation, Traffic, and Safety—Implementation of transportation projects and land use strategies included in the 2016 RTP/SCS would increase total daily vehicle miles of travel (VMT) in 2040 compared to current daily VMT and would create substantially greater average daily vehicle hours of delay (VHD) for heavy-duty truck trips in 2040 compared to the current condition. This increase would result in substantial cumulative impacts with respect to increased VMTs and VHDs.
- Utilities and Service Systems—The Plan would result in the expansion or construction of new wastewater treatment facilities, expansion or construction of new stormwater drainage facilities, increase use of limited water supplies, and increase use of limited landfill capacity. The Plan would contribute to cumulative impacts due to the considerable demand for utilities and service systems. Increased population in and surrounding SCAG region would result in increased need for water conveyance capacities, resulting in expansion or construction of new stormwater drainage facilities. This increase would result in substantial cumulative impacts with respect to increase use of water supplies.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by the proposed project (2016 RTP/SCS). Specifically, Section 15126.2(c) states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irreversible commitments of resources should be evaluated to assure that such current consumption is justified.

Generally, a project (2016 RTP/SCS) would result in significant irreversible environmental changes if any of the following would occur:

- The primary and secondary impacts would generally commit future generations to similar uses.
- The project would involve a large commitment of nonrenewable resources.
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project.
- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Implementation of the 2016 RTP/SCS would result in permanent changes to the existing conditions, which have been described throughout this PEIR. While the Plan focuses development into existing urban areas and along existing or future high-quality transit areas (HQTAs), there will still be some conversion of undeveloped land to urbanized uses. These conversions are considered a permanent irreversible change and would occur directly through construction of development on undeveloped land.

Land use changes and transportation projects would result in significant irreversible impacts to aesthetics and visual resources, including changes to existing community character and views. Future development projects associated with the Plan would result in a direct irreversible loss of sensitive vegetation communities that supports rare, threatened, or endangered species, and impacts to these resources would be significant and irreversible. Transportation projects and other land use changes would result in significant irreversible impacts to agricultural resources and forest lands, and the availability of known cultural and mineral resources. The Plan would substantially induce irreversible population growth and increased density, which would displace existing housing units, and result in additional people that would be susceptible to noise impacts. As development occurs at urban edges, additional people and structures would be at risk from landslides, seismic activities, wildland fires and other potential dangers.

The Plan's regional growth and land use changes would result in the irreversible consumption of nonrenewable resources. The irreversible commitment of limited resources is inherent in any development project or, in the case of the Plan, combined development projects. Resources anticipated to be irreversibly committed over the timespan of the construction activities related to the Plan include, but are not limited to, lumber and other related forest products; sand, gravel, and concrete; petrochemicals; construction materials; steel, copper, lead, and other metals; and water. However, the amount and rate of consumption of these resources would not result in significant environmental impacts related to the unnecessary, inefficient, or wasteful use of resources. Development associated with the Plan represents a long-term commitment to the consumption of fossil fuel oil and natural gas. These increased energy demands relate to construction, lighting, heating, and cooling of residences and buildings, and construction and operation of transit systems.

5.3 GROWTH INDUCING IMPACTS

Section 15125.2(d) of the CEQA Guidelines requires that growth inducing impacts of a proposed project be considered. Growth inducing impacts are characteristics of a project that could directly or indirectly create economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. According to the CEQA Guidelines, such projects include those that would remove obstacles to population growth (e.g., a major expansion of a wastewater treatment plant) and projects that encourage and facilitate other activities that are beyond those proposed as part of the project

and could affect the environment are growth inducing. In addition, as set forth in the CEQA Guidelines, increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. The CEQA Guidelines also state that it must not be assumed that growth in an area is necessarily beneficial, detrimental or of little significance to the environment. Induced growth is considered a significant impact only if it directly or indirectly affects the ability of agencies to provide needed public services or if it can be demonstrated that the potential growth, in some other way, significantly affects the environment, that is, that it would result in construction that would adversely affect the environment.

Factors that would potentially induce population growth include roads, highways, freeways, rail and other transportation improvements that provide access to previously undeveloped areas. The availability of adequate water supplies, the availability of sewage treatment facilities, the availabilities of developable land, the types and availability of employment opportunities, housing supply and costs, commuting distances, cultural and recreational amenities, climate, and local government growth policies contained in general plans and zoning ordinances would also induce population growth.

Because a number of variables influence growth, it is difficult to determine how Plan alone would affect growth. As described in Sections 3.1 through 3.18, the 2016 RTP/SCS would affect each of the categories described above directly through transportation projects and indirectly through land use strategies that would create a more compact development pattern than if no Plan were in place. The Plan would provide greater access to more of the region than the No Project Alternative due to transportation improvements; however targeting growth in the HQTAs would limit the geographic spread of growth. Nonetheless, the 2016 RTP/SCS could influence and possibly induce growth into specific areas of the region by providing new or expanded access. Overall, the 2016 RTP/SCS would accommodate and facilitate growth in the region.

5.4 IRREVERSIBLE DAMAGE FROM ENVIRONMENTAL ACCIDENTS

Implementation of projects included in the 2016 RTP/SCS would increase the potential for environmental impacts such as hazardous waste spills on freeways through the routine transport, use, or disposal of hazardous materials, and would increase the potential for other environmental accidents that have the potential to cause irreversible damage.

Another area of concern is the potential contamination of water quality throughout the region. During wet or rainy seasons, the precipitation runoff increases, which may lead to a greater decrease in water quality as a larger quantity of hazardous fluids can be transported to aquatic systems through sediments and/or plant materials. Development near known sources of moving water have a high potential from the direct release of oil, gasoline, or other hazardous mechanical fluids associated with general vehicles, large haul trucks or other public transit systems.

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SECTION 7.0 GLOSSARY

AB	Assembly Bill
ACE	After the Common Era
ACEP	Agricultural Conservation Easement Program
ACGIH	American Conference of Governmental Industrial Hygienists
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos-Containing Materials
ACWA	Association of California Water Agencies
af	Acre-Feet
AFP 42	United States Air Force Plant 42
AFV	Alternative Fuel Vehicle
afy	Acre-Feet per Year
AHPA	Archeological and Historic Preservation Act
AHSC	Affordable Housing & Sustainable Communities
AIRFA	American Indian Religious Freedom Act
AMR	Annual Monitoring Report
APG	Adaptation Planning Guide
AQMP	Air Quality Management Plan
APS	Alternative Planning Strategy
ATMP	Airborne Toxic Control Measures
ARFVTP	Alternative and Renewable Fuel and Vehicle Technology Program
ARPA	Archaeological Resources Protection Act
ARRA	American Recovery and Reinvestment Act of 2009
ASBS	Areas of Special Biological Significance
ATP	California Active Transportation Program
ATSA	Aviation and Transportation Security Act
AVEK	Antelope Valley East Kern Water Agency
BCE	Before the Common Era
BGEPA	Bald and Golden Eagle Protection Act
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practices
BNSF	Burlington Northern/Santa Fe Railway
BP	Before Present
BRT	Bus Rapid Transit
BSER	Best System Of Emission Reduction
BTSP	Bicycle Transportation Strategic Plan
Btu	British Thermal Units
BUR	Bob Hope Airport
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
CAFÉ	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection

Cal/EPA	California Environmental Protection Agency
CalARP	California Accidental Release Prevention
CalEMA	California Emergency Management Agency
CALGreen Code	California Green Building Standards Code Regulations
CalOES	Governor's Office of Emergency Services
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAT	Climate Action Team
CBSC	California Building Standards Code
CBSP	Commuter Bikeways Strategic Plan
CCA	California Coastal Act
CCAR	California Climate Action Registry
CCC	California Coastal Commission
CCR	California Code of Regulations
CDC	California Department of Conservation
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CE	Common Era
CEC	California Energy Commission
CELCP	Coastal and Estuarine Land Conservation Program
CEP	Community Engagement Panel
CEQA	California Environmental Quality Act
CERC	Clean Energy Research Center
CERCLA	Comprehensive Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFCP	California Farmland Conservancy Program
CFCs	Chlorofluorocarbons
CFS	Commodity Flow Survey
CGS	California Geological Survey
CH ₄	Methane
CHP	California Highway Patrol
CIP	Capital Improvement Program
CMA	Congestion Management Agency
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community noise equivalent level
CNG	Compressed Natural Gas
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO _{2e}	Carbon Dioxide-Equivalent
COG	Orange County Council of Governments
COG	Council of Governments
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources

CSE	Countywide Siting Element
CSI	California Solar Initiative
CSI	Container Security Initiative
CTIP	Cargo Theft Interdiction Program
CTP	California Transportation Plan
C-TPAT	Customs-Trade Partnership Against Terrorism
CUP	Conditional Use Permit
CVAG	Coachella Valley Association of Governments
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	Decibel
dba	A-Weighted Decibel
DBPs	Disinfection Byproducts
DDW	Division of Drinking Water
DFO	Disaster Field Office
DHS	United States Department of Homeland Security
DHS	Department of Homeland Security
DMA	Disaster Mitigation Act
DMA	Disaster Mitigation Act
DNL	Day-Night Average
DOD	United States Department of Defense
DOE	Department of Energy
DRECP	Desert Renewable Energy Conservation Plan
DSCA	Defense Support to Civilian Authorities
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
DWR	Department of Water Resources
EGU	Electric Generating Unit
EIA	U.S. Energy Information Administration
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act
EMA	California Emergency Management Agency
EMMA	Emergency Managers Mutual Aid
EPAct	Energy Policy Act
EPCA	Energy Policy and Conservation Act
EO	Executive Order
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EQIP	Environmental Quality Incentives Program
ESA	Endangered Species Acts
ESEA	Elementary and Secondary Education Act
EU-ETS	European Union Emission Trading Scheme
FAA	Federal Aviation Administration
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FFV	Flexible Fuel Vehicle
FHWA	Federal Highway Administration

FIR	Fiscal Impact Report
FLIGHT	Facility Level Information on Greenhouse gases Tool
FLPMA	Federal Land Policy and Management Act
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act of 1981
FRPP	Farm and Ranch Lands Protection Program
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
FUA	Fuel Use Act
FWCA	Fish and Wildlife Coordination Act
FY	Fiscal Year
GGRF	Greenhouse Gas Reduction Fund
GHG	Greenhouse gases
GHGRP	Greenhouse Gas Reporting Program
GIS	Geographic Information System
GRP	Gross Regional Product
GSA	General Services Agency
GVWR	Gross Vehicle Weight Rating
GWh	Gigawatt-Hour
GWP	Global Warming Potential
H ₂ SO ₄	Sulfuric Acid
HAPs	Hazardous Air Pollutants
HARP	Hot Spots Analysis and Reporting Program
HCD	Department of Housing and Community Development
HCFCs	Hydrochlorofluorocarbons
HCP	Habitat Conservation Plans
HFCs	Hydrofluorocarbons
HMTA	Hazardous Materials Transportation Act
HOT	High Occupancy Toll
HOV	High Occupancy Vehicle
HPD	California Division of Housing Policy Development
HQTA	High Quality Transit Areas
HRA	Health Risk Assessment
HSA	Historic Sites Act
HSL	High Speed Rail
HUC	Hydrologic Unit Code
HUD	Housing and Urban Development
Hz	Hertz
I-5	Interstate 5
IARC	International Agency for Research on Cancer
ICS	Incident Command System
ICTC	Imperial County Transportation Commission
In/sec	Inches per Second
IOUs	Investor-Owned Utilities
IPA	Imperial County Airport
IRWMP	Integrated Regional Water Management Plan
ISO	Independent System Operator
ISPS	International Ship and Port Facility Security Code

ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITS	Intelligent Transportation System
IWM	Integrated Water Management
kW	Kilowatts
kWh	Kilowatt-Hour
LACFD	Los Angeles County Fire Department
LADWP	Los Angeles Department of Water and Power
LAMP	Local Agency Management Program
LAX	Los Angeles International Airport
LCP	Local Coastal Programs
L _{dn}	Day-Night Equivalent Level
LED	Light Emitting Diode
L _{eq}	Equivalent sound level
LEV	Low Emission Vehicle
LGB	Long Beach Airport
L _{max}	Maximum Sound Levels
L _{min}	Minimum Sound Level
L _N	Noise Level
LOS	Level of Service
LOSSAN	Los Angeles–San Diego–San Luis Obispo
LRID	Little Rock Irrigation District
LRT	Light Rail Transit
LTRR	Long-Term Regional Recovery
LUST	Leaking Underground Storage Tank
MAA	Mutual Aid Agreements
MACT	Maximum Achievable Control Technology
MAP	Million Annual Passengers
MAP-21	Moving Ahead for Progress in the 21st Century
MBTA	Migratory Bird Treaty Act of 1918
MCL	Maximum Contaminant Level
MDAB	Mojave Desert Air Basin
Metro	Los Angeles County Metropolitan Transportation Authority
µg/m ³	Micrograms per Cubic Meter
MM	Mitigation Measure
MMPA	Marine Mammal Protection Act
MMRT	Million Metric Revenue Tons
MMT _{CO_{2e}}	Million Metric Tons of CO _{2e}
MOUs	Memoranda of Understanding
mpg	Miles per Gallon
MPOs	Metropolitan Planning Organizations
MPRSA	Marine Protection, Research, and Sanctuaries Act of 1972
MRZs	Mineral Resource Zones
MSAT	Mobile Source Air Toxics
MSDS	Material Safety Data Sheets
MTBE	Methyl Tertiary Butyl Ether and Tertiary Butanol
MT _{CO_{2e}}	Metric Ton of CO _{2e}
MWA	Mojave Water Agency
MWD	Metropolitan Water District

N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NATA	National Air Toxics Assessment
NCCP	Natural Community Conservation Plan
NCLB	No Child Left Behind
NEA	National Energy Act of 1978
NEPA	National Environmental Policy Act
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NGOs	Nongovernmental Organizations
NHL	National Historic Landmarks
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NIMS	National Incident Management System
NO ₂	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPDWR	National Primary Drinking Water Regulations
NPL	National Priorities List
NPS	National Preparedness System
NRCS	Natural Resources Conservation Service
NRF	National Response Framework
NRHP	National Register of Historic Places
NRPA	National Recreation and Parks Association
NSPS	New Source Performance Standards
NSR	New Source Review
O ₃	Ozone
OBD	Onboard Diagnostic System
OCTA	Orange County Transportation Authority
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OES	County Offices of Emergency Services
OHP	Office of Historic Preservation
ONT	Ontario International Airport
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
OSPR	Office of Oil Spill Prevention and Response
OWTS	Onsite Wastewater Treatment Systems
Pb	Lead
PCBs	Polychlorinated Biphenyls
PCH	Pacific Coast Highway
PEIR	Program Environmental Impact Report
PEV	Plug-In Electric Vehicle
PFC	Perfluorocarbon
PGF	Planning Growth Forecast

PHEV	Plug in Electric Hybrids
PLACE	Policies for Livable, Active Communities and Environments
PM	Particulate Matter
PM ₁₀	Particulate Matter 10 Microns or Less in Diameter
PM _{2.5}	Particulate Matter 2.5 Microns or Less in Diameter
PMD	Palmdale Regional Airport
POEs	Ports of Entry
POTWs	Publicly Owned Treatment Works
POUs	Publicly Owned Utilities
ppd	Pounds per Day
PPD-8	Presidential Policy Directive 8: National Preparedness
ppm	Parts per Million
PPV	Peak Particle Velocity
PRC	Public Resource Code
PRPs	Potentially Responsible Parties
PSD	Prevention of Significant Deterioration
psi	Pounds per Square Inch
PSP	Palm Springs International Airport
PURPA	Public Utility Regulatory Policies Act
PVC	Polymer Polyvinyl Chloride
PWD	Palmdale Water District
Qfs	Qualifying Facilities
RCIP	Riverside County Integrated Project
RCRA	Resource Conservation and Recovery Act
RCTC	Riverside County Transportation Commission
REOC	Regional Emergency Operations Center
RFC	Reference Concentration
RFS	Renewable Fuel Standard
RGGI	Regional Greenhouse Gas Initiative
RHNA	Regional Housing Needs Assessment
RNG	Renewable Natural Gas
ROGs	Reactive Organic Gases
ROW	Right-of-Way
RPS	Renewable Portfolio Standard
RRCC	Regional Response Coordination Center
RTDM	Regional Travel Demand Model
RTP	Regional Transportation Plan
RTR	Risk and Technology Review
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
SAFETEA-LU	Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users
SANBAG	San Bernardino Associated Governments
SARA	Superfund Amendment and Reauthorization Act
SB	Senate Bill
SBE	State Board of Education
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments

SCAQMD	South Coast Air Quality Management District
SCCAB	South Central Coast Air Basin
SCE	Southern California Edison
SCPPA	Southern California Public Power Authority
SCS	Sustainable Communities Strategy
SDC	Seismic Design Criteria
SDG&E	San Diego Gas & Electric Company
SDWA	Safe Drinking Water Act
SEAs	Significant Ecological Areas
SEATAC	Significant Ecological Areas Technical Advisory Committee
SEMS	Standard Emergency Management System
SF ₆	Sulfur Hexafluoride
SGC	Strategic Growth Council
SHMP	State Hazard Mitigation Plan
SHPO	State Historic Preservation Officer
SHRC	State Historical Resources Commission
SIO	Scenic Integrity Objective
SIPs	State Implementation Plans
SMARA	Surface Mining and Reclamation Act
SNA	John Wayne Airport
SO ₂	Sulfur Dioxide
SO ₂	Sulfur Dioxide
SoCalGas	Southern California Gas Company
SONGS	San Onofre Nuclear Generating Station
SO _x	Sulfates
SPCC	Spill Prevention Control and Countermeasure
SPM	Scenario Planning Model
SR-14	State Route 14
SSAB	Salton Sea Air Basin
SSC	Species of Special Concern
SSEMS	Statewide Standardized Emergency Management System
SSPP	System Safety Program Plan
SUSMP	Standard Urban Stormwater Management Plan
SWMP	Storm Water Management Plan
SWP	State Water Project
SWP	California State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
TAP	Transit Access Pass
TBACT	Toxics Best Available Control Technology
TCMs	Transportation Control Measures
TDM	Transportation Demand Management
TEA-21	Transportation Equity Act for the 21st Century
TEUs	Twenty-Foot Equivalent Units
TMCs	Transportation Management Centers
TMDL	Total Maximum Daily Loads
TOC	Total Organic Carbon

TPAs	Transit Priority Areas
tpd	Tons per Day
TSA	Transportation Security Administration
TSM	Transportation System Management
U.S. DOT	U.S. Department of Transportation
UBC	Uniform Building Code
UCG	Unified Coordination Group
UNFCCC	United Nations Framework Convention on Climate Change
UP	Union Pacific Railroad
URA	Federal Uniform Act
USACOE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	United States Department of Agriculture
USFS	U.S. Forest Service
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Services
USGS	U.S. Geological Survey
USGS	United States Geological Survey
USTs	Underground Storage Tanks
UWMPA	Urban Water Management Planning Act
UWMPs	Urban Water Management Plans
VCP	Voluntary Cleanup Program
VCTC	Ventura County Transportation Commission
VCV	Southern California Logistics Airport
VHD	Vehicle Hours of Delay
VHT	Vehicle Hours of Travel
VMT	Vehicle Miles Traveled
VOCs	Volatile Organic Compounds
WDRs	Waste Discharge Requirements
WRCOG	Western Riverside Council of Governments
WRE	Wetlands Reserve Easement
WSRA	Wild and Scenic Rivers Act of 1968
ZEV	Zero-Emission Vehicle

APPENDIX A

NOTICE OF PREPARATION AND COMMENTS ON NOTICE OF PREPARATION

PREPARED FOR:

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
818 WEST 7TH STREET, 12TH FLOOR
LOS ANGELES, CA 90017

PREPARED BY:

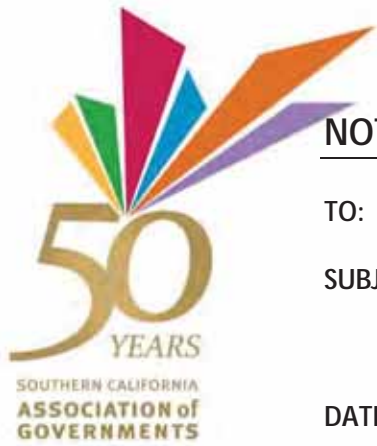
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NOVEMBER 24, 2015

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The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of SCAG or DOT. This report does not constitute a standard, specification or regulation.



NOTICE OF PREPARATION

TO: Interested Agencies, Organizations and Individuals

SUBJECT: Notice of Preparation of a Program Environmental Impact Report for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

DATE: March 9, 2015

LEAD AGENCY: Southern California Association of Governments
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The Southern California Association of Governments (SCAG), as Lead Agency, is publishing this Notice of Preparation (NOP) to prepare a Program Environmental Impact Report ("PEIR") in accordance with the California Environmental Quality Act (CEQA) for the 2016–2040 Regional Transportation Plan /Sustainable Communities Strategy ("2016 RTP/SCS" or the "Project").

This NOP has been prepared pursuant to Public Resources Code Section 21080.4 and CEQA Guidelines Sections 15082 and 15375. The purpose of this NOP is to notify local, state and federal agencies, and other interested agencies, organizations and individuals ("Interested Parties") that SCAG plans to prepare a PEIR for the 2016 RTP/SCS. For purposes of this NOP, Interested Parties include but are not limited to Responsible Agencies, Trustee Agencies, and the Governor's Office of Planning and Research as set forth under Section 15082 of the CEQA Guidelines.

SCAG is circulating this NOP to obtain input regarding the scope and content of the Draft PEIR for the 2016 RTP/SCS and on issues relevant to the 2016 RTP/SCS. The Project location, description, and the expected scope of environmental information and analysis are described on the following pages.

Two scoping meetings, each providing the same information, will be held at SCAG's Main Office (Los Angeles office, see above), Board Room, Tuesday, March 17, 2015, at 3 p.m. to 5 p.m.; and Wednesday, March 18, 2015, at 5 p.m. to 7 p.m. Videoconferencing will also be available from SCAG's regional offices (see last page for addresses).

To ensure full consideration of environmental issues with potential significant impacts in the Draft PEIR, **all comments must be received within thirty (30) days of the start of the 30-day public comment period, which begins March 9, 2015 and ends April 7, 2015.** If you wish to be placed on the mailing list to receive notices regarding the PEIR for the 2016 RTP/SCS, or have any questions or need additional information, please contact the person identified below. SCAG will accept **written comments** regarding this notice **through the close of business or no later than 5:00 p.m. on April 7, 2015.**

Please send written comments on this notice to **Ms. Lijin Sun, Senior Regional Planner**, to the address shown above or visit SCAG's website at <http://rtpscs.scag.ca.gov/2016PEIR>. For future coordination, please identify a point of contact of your agency and organization. Comments may also be submitted electronically to 2016PEIR@scag.ca.gov.

**NOTICE OF PREPARATION
DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT
2016–2040 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY**

INTRODUCTION

The California Environmental Quality Act (“CEQA”, Pub. Res. Code § 21000 *et seq.*) and its implementing regulations (“CEQA Guidelines”, codified at 14 C.C.R. § 15000 *et seq.*) require the Southern California Association of Governments (“SCAG”) as the Lead Agency to prepare an Environmental Impact Report (“EIR”) for any discretionary government action, including programs and plans that may cause significant environmental effects. Specifically, the 2016–2040 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (“SCS”) (“2016 RTP/SCS,” “Project,” or “Plan”) necessitates preparation of a Program EIR (“PEIR”), which is a “first-tier” CEQA document designed to consider “broad policy alternatives and program-wide mitigation measures” (*CEQA Guidelines* §15168). The PEIR for the 2016 RTP/SCS will provide an opportunity to inform decision-makers and the public about potential environmental effects associated with implementation of the 2016 RTP/SCS and Alternatives. The analysis provided in the PEIR will evaluate potential environmental effects, such as direct and indirect effects, growth-inducing impacts, and cumulative impacts of the 2016 RTP/SCS at a programmatic level; and will include program-level mitigation measures and performance standards to offset any identified potentially significant adverse programmatic level environmental effects. Potential or probable environmental effects of individual projects included in the 2016 RTP/SCS Project List would not be specifically analyzed in this PEIR. Project-level environmental analyses should appropriately be prepared by implementing agencies on a project-by-project or site-by-site basis as projects proceed through the design and decision-making process. The PEIR will provide a foundation for the subsequent, project- or site-specific environmental reviews that will be conducted by implementation agencies, as projects in the RTP/SCS are developed (*CEQA Guidelines* §15385).

This first-tier, programmatic environmental analysis for a long-range, regional-scale plan document will also help local agencies evaluate and reduce direct and indirect impacts, growth-inducing impacts, and cumulative environmental impacts with respect to local projects.

This Notice of Preparation (“NOP”) is prepared pursuant to Section 21080.4 and CEQA Guidelines Section 15082 and 15375. SCAG has determined that an Initial Study is not required to be prepared pursuant to CEQA Guidelines Section 15060(d). The NOP is intended to alert Interested Parties of the preparation of the 2016–2040 RTP/SCS PEIR. Comments regarding the PEIR received during the 30-day NOP review period will be used to refine the scope and content of the Draft PEIR, as appropriate.

PROJECT LOCATION AND BACKGROUND

Project Location

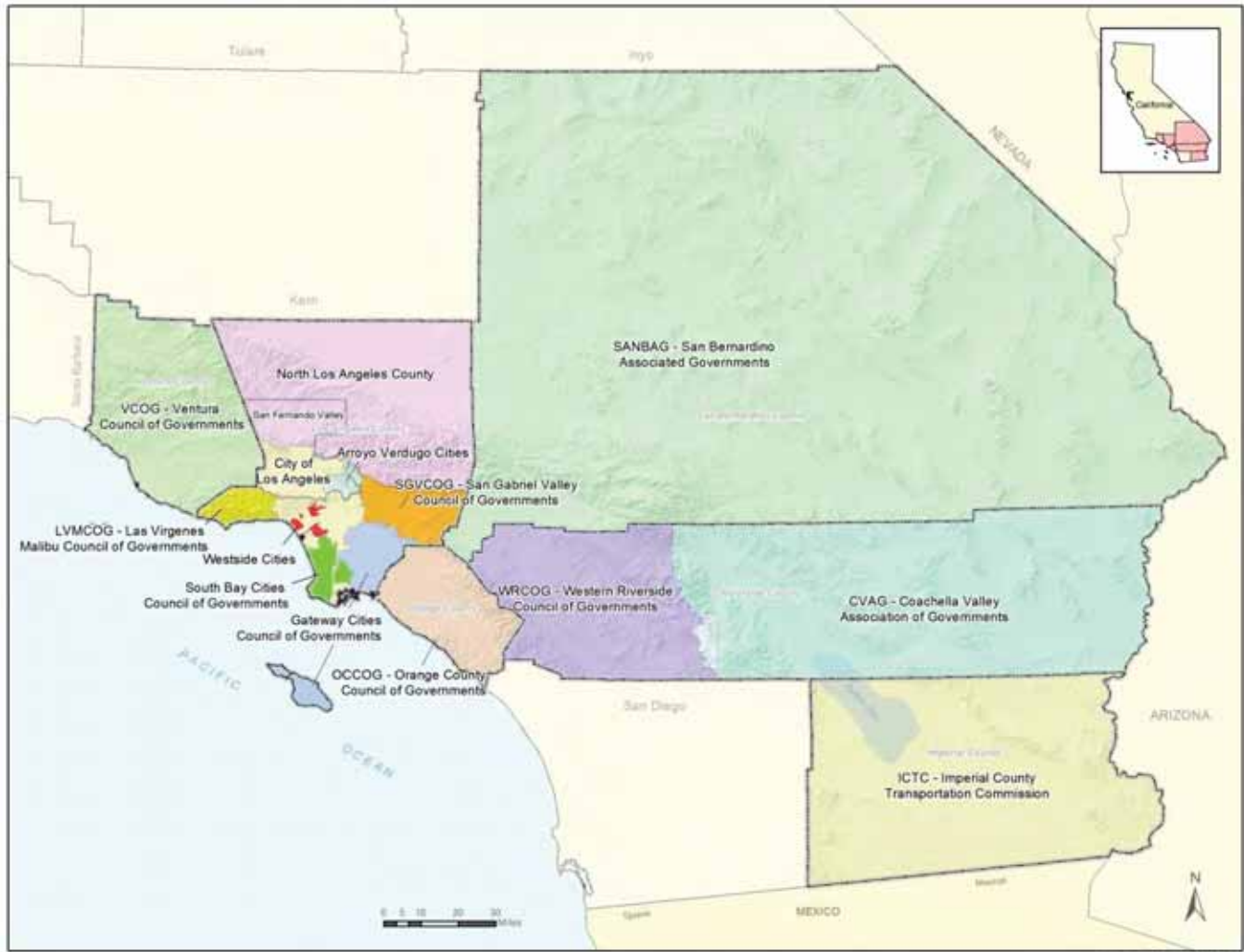
SCAG is the federally designated Metropolitan Planning Organization (“MPO”) under Title 23, United States Code (U.S.C.) 134(d)(1). SCAG is a six-county region that includes the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, and 191 cities (Figure 1, *SCAG Region*). To the north of the SCAG region are the counties of Kern and Inyo; to the east is State of Nevada and State of Arizona; to the south is the U.S.-Mexico border; to the west is the county of San Diego; and to the northwest is the Pacific Ocean. The SCAG region also consists of 15 subregional entities that have been recognized by the Regional Council, SCAG’s governing body, as partners in the regional policy planning process (Figure 2, *SCAG Subregions*).

SCAG is one of the 18 MPOs in the State of California. The total area of the SCAG region is approximately 38,000 square miles. The region includes the county with the largest land area in the nation, San Bernardino County, as well as the county with the highest population in the nation, Los Angeles County. The SCAG region is home to approximately 19 million people, or 49 percent of California's population, representing the largest and most diverse region in the country.

Figure 1: SCAG Region



Figure 2: SCAG Subregions



SCAG Roles and Responsibilities

In addition to the federal designation as a MPO, SCAG is designated under California state law as the Multicounty Designated Transportation Planning Agency and Council of Governments (COG) for the six-county region. Founded in 1965, SCAG is a Joint Powers Authority, established as a voluntary association of local governments and agencies.

SCAG serves as the regional forum for cooperative decision making by local government elected officials and its primary responsibilities in fulfillment of federal and state requirements include the development of the Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS); the Federal Transportation Improvement Program (FTIP); the annual Overall Work Program; and transportation-related portions of local air quality management plans. SCAG's other major functions include determining the regional transportation plans and programs are in conformity with state air quality plans; periodic preparation of a Regional Housing Needs Assessment (RHNA); and intergovernmental review of regionally significant projects.

Regional Cooperation and Subregions

SCAG places great importance on local input in the regional planning process. SCAG seeks feedback from local elected officials and their staff through 15 subregional organizations that have been recognized by the Regional Council as partners in the regional policy planning process (Figure 2). The subregional organizations represent various parts of the SCAG region that have identified themselves as having common interests and concerns. The subregions vary according to geographical size, number of local member jurisdictions, staffing, decision-making structure, and legal status.

SCAG provides opportunities to participate in regional planning through collaboration and participation in regional programs and dialogs. Responsible for regional policy direction and review, standing committees at SCAG include the Executive/Administration Committee, the Regional Council, the Transportation Committee, the Community, Economic & Human Development Committee, the Energy & Environmental Committee, and Legislative/Communication & Membership Committee. In addition to the standing committees, there are various subcommittees, technical advisory committees, working groups, and task forces that report to the standing committees, while other groups are established on an ad hoc basis to assist with specific projects or address specific regional policy. The Regional Council is SCAG's governing body. It consists of 86 elected officials, representing cities, counties, county transportation commissions, transportation corridor agencies, tribal governments, and air districts in the region. The Regional Council has general authority to conduct the affairs of SCAG and directs the actions of the agency throughout the year. Additionally, the Regional Council implements the policy direction provided at the annual General Assembly of the membership, acts upon policy recommendations from SCAG's standing policy committees and external agencies, and appoints standing or ad-hoc subcommittees to study specific programs or issues.

Regional Transportation Plan/Sustainable Communities Strategy

SCAG is required to adopt and update a long-range regional transportation plan every four (4) years, in accordance with federal and state transportation planning laws. The regional transportation plan (RTP) is used to guide the development of the Federal Transportation Improvement Program (FTIP) as well as other transportation programming documents and plans. The RTP outlines the region's goals and policies for meeting current and future mobility needs, providing a foundation for transportation decisions by local, regional and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. The RTP identifies the region's transportation needs and issues, sets forth actions, programs, and a plan of projects to address the needs consistent with adopted regional policies and goals, and documents the financial resources needed to implement the RTP.

Transportation investments in the SCAG region that receive state and federal funds or require federal approvals must be consistent with the RTP and must be included in SCAG's FTIP when funded. The FTIP covers six years and is updated biennially on an even-year cycle. It represents the immediate, near-term commitments of the RTP. SCAG does not implement individual projects in the RTP, as these projects will be implemented by local and state jurisdictions, and other agencies.

Moving Ahead for Progress in the 21st Century Act (MAP-21), enacted into law on July 6, 2012, sets forth a performance-based approach requiring the State and MPOs to set performance targets and track their progress in achieving those targets relative to past system performance. While the federal rules governing performance targets are not yet enacted, it is SCAG's intent to utilize a performance-based approach in preparing the 2016 RTP/SCS.

Further, MAP-21 continues to require, as under prior planning law, that "a long-range transportation plan shall include a discussion of the types of potential environmental mitigation activities and potential areas to carry out

these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan.” 23 U.S.C. § 134(i)(2)(B). Consultation and public outreach activities are a part of the 2016 RTP/SCS and PEIR development processes, and will be undertaken to the maximum extent practicable and feasible. SCAG is coordinating efforts to comply with MAP-21 planning requirements with efforts undertaken through the CEQA process. As such, particular emphasis in the RTP/SCS will be placed on these planning requirements, including those that prescribe coordinated planning and consideration of environmental resources. In addition, pursuant to Title VI of the Civil Rights Act of 1964 and Presidential Order 12898, the 2016 RTP/SCS includes an environmental justice analysis. The 2016 RTP/SCS will analyze how the benefits and burdens of transportation investments are distributed among minority and low-income populations in the SCAG region. Outreach efforts are underway to reach environmental justice communities during development of the 2016 RTP/SCS.

SCAG is also required to prepare a RTP pursuant to Section 65080 of the California Government Code. The State requirements largely mirror the federal requirements and require each transportation planning agency in urban areas to adopt and submit an updated RTP to the California Transportation Commission (CTC) and the California Department of Transportation (Caltrans) every four (4) years. To ensure a degree of statewide consistency in the development of RTPs, the CTC under Government Code Section 14522 prepared RTP Guidelines. The adopted guidelines include a requirement for program level performance measures, which include objective criteria that reflect the goals and objectives of the RTP. In addition, the initial years of the plan must be consistent with the FTIP.

State planning law further requires, pursuant to the Sustainable Communities and Climate Protection Act of 2008 (“SB 375”) that the RTP include a Sustainable Communities Strategy (SCS) component to reduce greenhouse gas (GHG) emissions from passenger vehicles (automobiles and light-duty trucks). SB 375 is part of California’s overall strategy to reach GHG emissions reduction goals required by Assembly Bill (AB) 32, by promoting integrated transportation planning with the goal of creating more sustainable communities.

Pursuant to SB 375, SCAG’s SCS is required to meet reduction targets for greenhouse gas (GHG) emissions by 8 percent per capita by 2020 and 13 percent per capita by 2035 compared to 2005, as set by the California Air Resources Board (ARB). According to Section 65080(b)(2)(B) of the California Government Code, the SCS must:

- Identify existing land use;
- Identify areas to accommodate long-term population growth;
- Identify areas to accommodate an eight-year projection of regional housing needs;
- Identify transportation needs and the planned transportation network,
- Consider resource areas and farmland;
- Consider state housing goals and objectives;
- Set forth a forecasted growth and development pattern; and
- Comply with federal law for developing an RTP.

The SCS outlines SCAG’s plan for attaining the GHG emissions reductions targets set forth by ARB, by integrating the transportation network and related strategies with a forecasted land use pattern that responds to projected growth, housing needs and changing demographics, and transportation demands.

In addition, SCAG is required to submit to ARB the SCS developed as part of the RTP for the purpose of determining whether the GHG emissions reduction targets have been met. Furthermore, SB 375 specifically states that the SCS developed as part of the RTP cannot dictate local General Plan policies. Rather, SB 375 is intended to provide a regional policy foundation that local government may build upon if they so choose and generally includes the quantitative growth projections from each city and county in the region going forward.

Qualifying projects that meet criteria established by SB 375, and are consistent with the SCS are eligible for streamlined environmental review under CEQA.¹

PROJECT DESCRIPTION

The RTP/SCS is a long-range transportation plan that provides a vision for regional transportation investments over a 20-year period. In accordance with applicable federal and state laws, SCAG updates the RTP/SCS every four (4) years to reflect changes to the transportation network, the most recent planning assumptions, economic trends, and population and jobs growth forecasts.²

The RTP/SCS is developed and implemented through a collaborative, continuous and coordinated process that involves key stakeholders such as the six County Transportation Commissions (CTCs), Caltrans, transit operators, airport and port authorities, air districts and other agencies including local jurisdictions in our region. The 2016 RTP/SCS will be the culmination of a multi-year effort, which was initiated since the adoption of the 2012 RTP/SCS. For more information on the 2012 RTP/SCS, please visit SCAG's website, at <http://rtpscsc.scag.ca.gov/2012RTPSCS>. The 2016 RTP/SCS will largely embody the goals, objectives, and transportation improvements that have been considered in the adopted 2012 RTP/SCS, last amended in September 2014 (Amendment No. 2 to the 2012 RTP/SCS). For more information on the Amendment No. 2 to the 2012 RTP/SCS and the projects that were documented in the Project List of the 2012 RTP/SCS Amendment No. 2, please visit SCAG's website, at <http://rtpscsc.scag.ca.gov/Pages/Amendment-2.aspx>.

As a blueprint for the region's growth through 2040, the 2016 RTP/SCS will outline the region's goals, policies, and strategies that improve the balance between land use and transportation systems, both current and future. It integrates the multi-modal transportation network and related strategies with an overall land use pattern that responds to projected population and employment growth, housing needs and changing demographics, and transportation demands, including transit and active transportation. It outlines improvements to the existing transportation system, as well as the strategic expansion of the transportation system. While SB 375 places a great deal of attention on meeting GHG emission reduction targets set forth by ARB, SCAG has also established other important goals that are aimed to improving the overall quality of life in the region. The 2016 RTP/SCS is currently anticipated to build from the foundation of the adopted 2012 RTP/SCS, as amended in September 2014, as the baseline scenario to be utilized to review the progress in implementing strategies identified in the 2012 RTP/SCS.

2016 RTP/SCS Vision

Based upon extensive local collaboration, the 2016 RTP/SCS will contain projects, policies and strategies with the intent of achieving a range of quality of life outcomes. The 2016 RTP/SCS is intended to identify reasonably available sources of funding over the plan period, and allocate these funds to transportation projects and programs that benefit the SCAG communities and residents. The 2016 RTP/SCS will be designed to assure that, to the greatest extent possible, the money invested would have the best chance of achieving the objectives communities and residents care about. As such, the 2016 RTP/SCS, as currently envisioned by SCAG, will

¹ CEQA streamlining provisions are also available for eligible projects meeting the criteria established by Senate Bill 226 (Simitian, 2011), CEQA Guidelines Section 15183.3 (Streamlining for Infill Projects) and for eligible projects meeting the criteria established by Senate Bill 743 (Steinberg, 2013), Public Resources Code Section 21155.4 (Exemptions).

² The SCAG region encompasses 17 federally designated non-attainment and maintenance areas for air quality standards, pursuant to the federal Clean Air Act. The U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) under Section 176(c) of the Federal Clean Air Act [42 U.S.C. 7506(c)] require that for a non-attainment area, air quality conformity determinations on updated transportation plans and programs must be made every four (4) years.

continue on a meaningful path towards advancing mobility, sustainability and economic growth as set forth in the 2012 RTP/SCS.³

Mobility

A successful transportation plan will allow the future residents of the region to access daily needs, including work, school, shopping, transit, and recreation without undue burdens of cost, time, or physical danger. This includes the pressing need to preserve and maintain infrastructure at adequate levels. Residents should be able to rely on their ability to get from one place in the region to another, timely and safely. They should be able to choose from a variety of transportation modes that suit their preferences and needs, including non-automobile modes, such as walking and biking that allow for physical activity.

As currently envisioned, the 2016 RTP/SCS will continue to promote active transportation options, improve accessibility and increase proximity to recreation, public services, community amenities, transit, and other transportation facilities, and ensure safety.

Sustainability

Building off the foundation of the 2012 RTP/SCS, the 2016 RTP/SCS is intended to include strategies linking future regional transportation and land use planning with the goal of promoting sustainability. This integrated development pattern forecasted for the 2016 RTP/SCS will be used to demonstrate that the SCAG region is expected to achieve the GHG emissions reduction targets required under SB 375.

The 2016 RTP/SCS will define sustainability in the broadest way possible. It will allow future residents to enjoy equal or better quality of life than today, including the ability to lead a healthy lifestyle, enjoy clean air and water, ample opportunities for active transportation, open space, recreation, public services, community amenities, physical activities, and housing choices for all income levels. In light of the recent economic downturn and recovery, the 2016 RTP/SCS will lay a path for the region's continued economic growth and sustainability by providing strategies that create jobs and attract additional businesses to Southern California communities. Moreover, policies and programs that will be included as part of the 2016 RTP/SCS are anticipated to create direct and substantial benefits to public health by reducing pollutant emissions and expanding the opportunities for active transportation.

Economy

A successful RTP/SCS creates opportunities for business, investment, and employment in Southern California. The 2012 RTP/SCS did so by identifying over \$524 billion of investment in a 25 year period. This includes the direct economic effect of designing, building, and maintaining projects, as well as the indirect and induced benefits of the investments. Moreover, the economic benefits of the RTP/SCS are likely far broader and greater. The investments and strategies in the draft RTP/SCS will set the conditions for economic activity in the region by improving mobility and reducing congestion and commute times, allowing businesses in the region to operate more efficiently and maintain their competitiveness. Also, by identifying areas to accommodate regional housing needs the RTP/SCS strives to provide residents with better access to affordable housing in all communities, and lower overall combined costs for housing and transportation. In more subtle ways, the RTP/SCS encourages continued investment and job creation by ensuring a more livable, efficient, desirable, and competitive region where employers want and are able to do business over the long term.

³ Southern California Association of Governments. April 2012. *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*. Page 11. Available at: <http://rtpscscag.ca.gov/Documents/2012/final/f2012RTPSCS.pdf>

2016 RTP/SCS Goals

The RTP/SCS goals demonstrate the need to balance many priorities in the most cost-effective manner. As currently being envisioned, the goals of the 2016 RTP/SCS are expected to remain substantively the same as the goals established in the 2012 RTP/SCS, adopted by SCAG's Regional Council in April 2012⁴:

- Maximize mobility and accessibility for all people and goods in the region
- Ensure travel safety and reliability for the people and goods in the region
- Preserve and ensure a sustainable regional transportation system
- Maximize the security of the regional transportation system through improved monitoring, recovery planning, and coordination with other security agencies
- Maximize the productivity of our transportation system
- Protect the environment, improve air quality and promote energy efficiency
- Encourage land use and growth patterns that complement our transportation investments

In addition to meeting the GHG emissions reduction targets that the ARB has set for the SCAG region pursuant to SB 375, SCAG intends to address the goals set forth in Executive Order S-3-05 (to reduce GHG emissions to 1990 levels by 2020, and to reduce GHG emissions to 80 percent below 1990 levels by 2050).

2016 RTP/SCS Policies and Performance Measures

The 2016 RTP/SCS is currently being envisioned to include a set of guiding policies that focus future investments on the best-performing projects and strategies that seek to preserve, maintain, and optimize the performance of the existing transportation system. As set forth in the 2012-2035 RTP/SCS⁵, these policies will include the following and are intended to help track how well the region is performing in relation to a broad range of goals and objectives.

- Transportation investments shall be based on SCAG's adopted Regional Performance Indicators.
- Ensuring safety, adequate maintenance, and efficiency of operations on the existing multi-modal transportation system should be the highest RTP priorities for any incremental funding in the region.
- RTP land-use and growth strategies in the RTP will respect local input and advance smart growth initiatives.
- Transportation Demand Management (TDM) and non-motorized transportation will be focus areas.
- High-Occupancy Vehicle (HOV) gap closures that significantly increase transit and rideshare usage will be supported and encouraged.
- Monitoring progress on all aspects of the Plan, including the timely implementation of projects, programs, and strategies, will be an important and integral component of the 2016 Plan.

Consistent with the goals and performance-based transportation planning approach set forth under MAP-21, performance measures will play a critical role in the development of the 2016 RTP/SCS. Performance measures are intended to help quantify regional goals, estimate the impacts of proposed investments, and evaluate progress over time. SCAG intends to build upon and update the performance measures developed for the 2012 Plan⁶ in the 2016 RTP/SCS. This way, there is consistency when tracking and assessing the region's performance and whether the region is progressing towards meeting and exceeding federal and state requirements.

⁴ Id. at page 13.

⁵ Id. at page 15.

⁶ Id. at page 15.

The 2016 RTP/SCS is currently being envisioned to include a set of key categories of performance measures as follows:

- Location efficiency
- Mobility and accessibility
- Safety and health
- Environmental quality
- Economic well-being
- Investment effectiveness
- System sustainability

Preliminary 2016 RTP/SCS Scenario Planning Matrix

As part of the 2016 RTP/SCS planning process, SCAG is developing a suite of transportation and land use scenarios for public consideration. These scenarios focus on transportation and land use related inputs that are modified to vary across four (4) scenarios. The purpose of developing scenarios is to provide an analytical technique to layout the policy choices to be considered as the 2016 RTP/SCS is developed. The Preliminary 2016 RTP/SCS Scenario Planning Matrix outlines a number of plan elements that together build a framework for comparing potential regional scale choices on issues such as land use development patterns, transportation investments, transportation demand management/transportation system management (TDM/TSM), and technological innovations. Policy considerations currently outlined in the Preliminary Scenario Planning Matrix include land use, housing, farm and natural lands, roadway and highway network, transit, active transportation, technology/innovation, and TDM/TSM. Scenarios will be analyzed and compared using outputs from SCAG regional transportation model, Scenario Planning Model, or off-model analysis. The outputs from these modeling analyses will help illustrate variations between scenarios and policy elements at the regional scale for metrics such as public health, mobility, accessibility, and sustainability.

For more information on the Preliminary 2016 RTP/SCS Scenario Planning Matrix, please visit SCAG's website, at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/oscwg021915draftscenario.pdf>.

Bottom-up Local Growth and Land Use Input Process

A critical component to developing a successful 2016 RTP/SCS is the participation and cooperation of all local government partners and stakeholders within the SCAG region. To this end, SCAG uses a bottom-up local input process by which all local governments are informed of the 2016 RTP/SCS planning process and have clear and adequate opportunities to provide input. Growth forecasts and land use updates for development of the 2016 Plan have been developed through this bottom-up local input process, including: 1) extensive, ongoing communication with SCAG partners and stakeholders on growth forecast and land use updates throughout the region; 2) implementation of a formal protocol to guide the communication between SCAG staff and local jurisdiction regarding the input and review process; 3) flexibilities in providing official input to SCAG through the use of a Data Verification and Approval Form; 4) adoption of a resolution designating a staff position at the local government level to add clarity and accountability to the process; and 5) development of an automated mapping workflow and a digitalized land use database in a geographic information system (GIS) format to facilitate the review and input process.

RTP/SCS Public Participation Plan and Process

Another key aspect of the 2016 RTP/SCS plan development is public participation. To provide early and meaningful public participation in the Plan's development and decision-making processes, SCAG has developed

and adopted a Public Participation Plan (“PPP”).⁷ The adoption of the PPP has demonstrated SCAG’s commitment in increasing awareness and involvement of interested persons in SCAG’s governmental processes and regional transportation and land use planning. SCAG is committed to providing information and timely public notice, ensuring full public access to key decisions, and supporting early and continuing public involvement in the development of the 2016 RTP/SCS. To this end, SCAG will continue to engage a wide range of stakeholder groups, elected officials, special interest groups, the general public, and other interested parties through a series of workshops and public meetings, as well as SCAG’s policy committees, task forces, and subcommittee structure during the development of the 2016 RTP/SCS and its associated CEQA review process.

SCOPE OF ENVIRONMENTAL ANALYSIS IN THE PEIR

The PEIR to be prepared for the 2016 RTP/SCS analyzes potential effects that the 2016 RTP/SCS may cause on the environment. Although the 2016 RTP/SCS includes individual transportation projects, the associated PEIR is programmatic in nature and does not specifically analyze potential environmental effects that any of the individual transportation projects may cause. Project-level environmental impact analyses will need to be prepared by implementing agencies on a project-by-project basis as projects proceed through the design and decision-making process. Project-specific planning and implementation undertaken by each project sponsor/implementing agency will depend on a number of issues, including: policies, programs and projects adopted at the local level; restrictions on federal, State and local transportation funds; the results of feasibility studies for particular corridors; and project-specific environmental review.

Potential scope of environmental effects that warrant analysis and consideration in the 2016 RTP/SCS Draft PEIR are as follows:

- Aesthetics and Views
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources and Open Space
- Cultural Resources
- Energy
- Geology, Soils and Mineral Resources
- Greenhouse Gas Emissions and Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Resources
- Land Use and Planning
- Noise
- Population, Employment, and Housing
- Recreation
- Transportation, Traffic, and Safety
- Public Services and Utilities

PRELIMINARY 2016 RTP/SCS ALTERNATIVES

It is anticipated that the PEIR will evaluate at least three potential alternatives to the 2016 RTP/SCS as follows: (1) No Project; (2) Refined 2012 RTP/SCS Alternative; and (3) Intensified Transportation and Land Use Integration Alternative. These alternatives will evaluate various planning scenarios capable of achieving most of the basic objectives of the 2016 RTP/SCS. More specifically, each Alternative, except the No Project Alternative, will include a range of policies and projects including, but not limited to, variations in land use density and intensity, transit and rail systems, active transportation, highway/roadway construction and widening and transportation demand/system management.

SCAG has the discretion to select one alternative in its entirety or to combine elements of various alternatives to complete the PEIR for the RTP/SCS. The development of alternatives in a PEIR is focused on avoiding or reducing potentially significant impacts of the 2016 RTP/SCS. Therefore, detailed alternative descriptions are normally

⁷ Southern California Association of Governments. Public Participation Plan. Adopted April 3, 2014. http://www.scag.ca.gov/Documents/PPP2014_Adopted-FINAL.pdf

developed as impacts of a project are identified through the PEIR process.

No Project Alternative

The No Project Alternative is required by Section 15126.6(e)(2) of the CEQA Guidelines and assumes that the proposed project would not be implemented. The No Project Alternative will consider continued implementation of the goals and policies of the adopted 2012 RTP/SCS, as amended in September 2014. The No Project Alternative includes those transportation projects that are included in the first year of the previously conforming RTP/SCS and/or FTIP, or those that have completed environmental review by December 2014. The growth scenario included in the No Project Alternative is based on the 2012 RTP/SCS regional population, housing and employment totals.

Refined 2012 RTP/SCS Alternative

A Refined 2012 RTP/SCS Alternative would include the most recent growth forecast data, including local input on land use, employment, population, and housing data, and new input on transportation projects from the County Transportation Commissions in the SCAG region. This Alternative will consider continued implementation of the policies, strategies and projects included in the 2012 RTP/SCS.

Intensified Transportation and Land Use Integration Alternative

An Intensified Transportation and Land Use Integration Alternative would focus on analyzing more intensified integration of transportation and land use projects and policies aimed at further reducing vehicle miles traveled and GHG and criteria pollutant emissions to improve mobility, accessibility, and sustainability. This Alternative could include more mixed-use, infill development, increased densities in urban cores, new technological innovations, and/or additional transit and active transportation strategies.

SCAG is seeking input on the alternatives through the scoping process which could result in modifications to the number, content and scope of alternatives analyzed in the PEIR. Furthermore, the PEIR will identify all alternatives that were initially considered, but rejected for reasons including infeasibility or inability for a particular alternative to meet the Project objectives or reduce environmental impacts beyond that of the Project.

SCOPING MEETINGS

SCAG will host two (2) scoping meetings during the 30-day public comment period that **begins March 9, 2015 and ends April 7, 2015** to review the various proposed Project elements and solicit information and comments in relation to this Notice and the CEQA analysis for the proposed Project. The two (2) scoping meetings, each providing the same information, will take place **on Tuesday, March 17, 2015, from 3 p.m. to 5 p.m., and on Wednesday, March 18, 2015, from 5 p.m. to 7 p.m., at SCAG Los Angeles (Main) office board room, located at 818 West 7th Street, 12th Floor, Los Angeles, California 90017.** For each of the two scoping meetings, videoconferencing is made available from the other sites, as listed below.

City of Palmdale
Planning Department
Development Services Conference Room
38250 Sierra Highway
Palmdale, CA 93550
(661) 267-5337

Coachella Valley Association of Governments (CVAG)
73-710 Fred Waring Drive
Palm Desert, CA 92260
(760) 346-1127
<http://www.cvag.org/>
This office is only available for the March 17, 3 p.m. meeting.

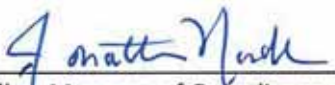
SCAG Imperial County Regional Office
1405 N. Imperial Avenue, Suite 1
Imperial, CA 92243
(760) 353-7800

SCAG Orange County Regional Office
OCTA Building
600 South Main Street, Suite 906
Orange, CA 92868
(714) 542-3687

SCAG Riverside County Regional Office
3403 10th Street, Suite 805
Riverside, CA 92501
(951) 784-1513

SCAG San Bernardino County Regional Office
1170 West 3rd Street, Suite 140
San Bernardino, CA 92410
(909) 806-3556

SCAG Ventura County Regional Office
950 County Square Drive, Suite 101
Ventura, CA 93003
(805) 642-2800

Signature: 
Jonathan Nadler, Manager of Compliance and Performance Assessment
Land Use & Environmental Planning Division
Southern California Association of Governments
Telephone: (213) 236-1884
E-mail: Nadler@scag.ca.gov; or 2016PEIR@scag.ca.gov

Date: 3/9/15

Antelope Valley Air Quality Management District
43301 Division St., Suite 206
Lancaster, CA 93535-4649

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Ms. Lijin Sun, Senior Regional Planner
Southern California Association of Governments
818 W. 7th St., 12th Floor
Los Angeles, CA 90017-3435

90017343512





Antelope Valley Air Quality Management District
43301 Division St., Suite 206
Lancaster, CA 93535-4649

661.723.8070
Fax 661.723.3450

Eldon Heaston, Executive Director
In reply, please refer to AV0315/020

March 24, 2015

Ms. Lijin Sun, Senior Regional Planner
Southern California Association of Governments
818 W. 7th St., 12th Floor
Los Angeles, CA 90017-3435

Subject: Program Environmental Impact Report for the 2016-2040 Regional Transportation/Sustainable Communities Strategy

Dear Ms. Sun:

The Antelope Valley Air Quality Management District (AVAQMD) has received the request for comments for the Program Environmental Impact Report for the 2016-2040 Regional Transportation / Sustainable Communities Strategy (RTP/SCS). The RTP/SCS is a long-range transportation plan that provides for a vision for regional transportation investments over a 20-year period. The RTP/SCS is updated every four years to reflect changes to the transportation network, the most recent planning assumptions, economic trends, and population and jobs growth forecasts.

The AVAQMD has reviewed the Notice of Preparation for the RTP/SCS and concurs with the proposed analysis of potential impacts in the Air Quality section. AVAQMD Designations and Classifications are available at <http://www.avaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=2908>.

If you have any questions regarding this letter, please contact me at (661) 723-8070 x2.

Sincerely,

A handwritten signature in black ink, appearing to read "Bret Banks", written over a white background.

Bret Banks
Deputy Director

BSB/bb

2016 PEIR

From: Duarte, Dolores@Wildlife <Dolores.Duarte@wildlife.ca.gov>
Sent: Monday, April 6, 2015 1:18 PM
To: 2016 PEIR
Cc: Harris, Scott P.@Wildlife; Wilson, Erinn@Wildlife; Found-Jackson, Christine@Wildlife; Courtney, Betty@Wildlife; state.clearinghouse@opr.ca.gov; Brandt, Jeff@Wildlife; Schmoker, Kelly@Wildlife; Chau, Victoria@Wildlife; Sevrens, Gail@Wildlife; Fluharty, Marilyn@Wildlife; Calvert, Heidi@Wildlife
Subject: Copy of comment letter Re:SCAG Project 2016-2040 Regional Transportation Plan/SCH 2015031035/
Attachments: pdf SCAG Project NOP.pdf

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Please see attached copy for your records. Original will follow.

If you have any questions, please contact Scott Harris at (626) 797-3170. Thank you!



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director



April 6, 2015

Ms. Lijin Sun, Senior Regional Planner
Southern California Association of Governments
818 Seventh West Street, 12th Floor
Los Angeles, CA 90017-3435
Email: 2016PEIR@scag.ca.gov

**Subject: Comments on the Notice of Preparation of a Program Level Draft
Environmental Impact Report for the 2016 – 2040 Regional Transportation
Plan/Sustainable Communities Strategy; Los Angeles, Orange, Riverside, San
Bernardino, and Ventura Counties; SCH# 2015031035**

Dear Ms. Sun:

The California Department of Fish and Wildlife (Department), South Coast Region 5, has reviewed the 2016 – 2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Notice of Preparation (NOP) for a Draft Program Environmental Impact Report (DPEIR). The 2016 RTP/SCS, if approved by the Southern California Association of Governments (SCAG), will implement a long-range transportation plan that provides a vision for regional transportation investments over a 20-year period. SCAG updates the RTP/SCS every four years to reflect changes to the transportation network, the most recent planning assumptions, economic trends, and population and jobs growth forecasts.

The 2016 RTP/SCS would occur primarily in a six -county region that includes the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, and in 191 cities and 15 subregional entities within these counties. Subsequent activities or projects conducted under the 2016 RTP/SCS will require further CEQA analysis and may be noticed under separate CEQA documents.

The following comments and recommendations have been prepared pursuant to the Department's authority as a Responsible Agency under CEQA Guidelines section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (Fish and Game Code § 2050 *et seq.*) and Fish and Game Code section 1600 *et seq.*, and pursuant to our authority as Trustee Agency with jurisdiction over natural resources affected by the project (California Environmental Quality Act, [CEQA] Guidelines § 15386) to assist the Lead Agency in avoiding or minimizing potential project impacts on biological resources.

Specific Comments

Program Level Review Considerations - Realizing that the project is a Program Level planning document, the Department recommends that the DPEIR include descriptions on how the project will address the below general comments at the Program level to maximize consideration for biological resources during subsequent project reviews and to ensure that these reviews are consistent with the project's planning intent.

General Comments

- 1) Project Description and Alternatives. To enable the Department to adequately review and comment on the proposed project from the standpoint of the protection of plants, fish, and wildlife, we recommend the following information be included in the DEIR:
 - a) A complete discussion of the purpose and need for, and description of, the proposed project, including all staging areas and access routes to the construction and staging areas; and,
 - b) A range of feasible alternatives to project component location and design features to ensure that alternatives to the proposed project are fully considered and evaluated. The alternatives should avoid or otherwise minimize direct and indirect impacts to sensitive biological resources and wildlife movement areas.

- 2) Lake and Streambed Alteration Agreements (LSA). As a Responsible Agency under CEQA Guidelines section 15381, the Department has authority over activities in streams and/or lakes that will divert or obstruct the natural flow, or change the bed, channel, or bank (including vegetation associated with the stream or lake) of a river or stream, or use material from a streambed. For any such activities, the project applicant (or "entity") must provide written notification to the Department pursuant to section 1600 et seq. of the Fish and Game Code. Based on this notification and other information, the Department determines whether a Lake and Streambed Alteration Agreement (LSA) with the applicant is required prior to conducting the proposed activities. The Department's issuance of a LSA for a project that is subject to CEQA will require CEQA compliance actions by the Department as a Responsible Agency. As a Responsible Agency, the Department may consider the Negative Declaration or Environmental Impact Report of the local jurisdiction (Lead Agency) for the project. To minimize additional requirements by the Department pursuant to section 1600 et seq. and/or under CEQA, the document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA.¹
 - a) The project area supports aquatic, riparian, and wetland habitats; therefore, a preliminary jurisdictional delineation of the streams and their associated riparian habitats should be included in the DEIR. The delineation should be conducted pursuant to the U. S. Fish and Wildlife Service wetland definition adopted by the Department.² Some wetland and riparian habitats subject to the Department's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers' Section 404 permit and Regional Water Quality Control Board Section 401 Certification.
 - b) In project areas which may support ephemeral streams, herbaceous vegetation, woody vegetation, and woodlands also serve to protect the integrity of ephemeral channels and

¹ A notification package for a LSA may be obtained by accessing the Department's web site at www.wildlife.ca.gov/habcon/1600.

² Cowardin, Lewis M., et al. 1970. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.

help maintain natural sedimentation processes; therefore, the Department recommends effective setbacks be established to maintain appropriately-sized vegetated buffer areas adjoining ephemeral drainages.

- c) Project-related changes in drainage patterns, runoff, and sedimentation should be included and evaluated in the environmental document.
- 3) Wetlands Resources. The Department, as described in Fish & Game Code § 703(a) is guided by the Fish and Game Commission's policies. The Wetlands Resources policy (<http://www.fgc.ca.gov/policy/>) of the Fish and Game Commission "...seek[s] to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California. Further, it is the policy of the Fish and Game Commission to strongly discourage development in or conversion of wetlands. It opposes, consistent with its legal authority, any development or conversion which would result in a reduction of wetland acreage or wetland habitat values. To that end, the Commission opposes wetland development proposals unless, at a minimum, project mitigation assures there will be "no net loss" of either wetland habitat values or acreage. The Commission strongly prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values".
- a) The Wetlands Resources policy provides a framework for maintaining wetland resources and establishes mitigation guidance. The Department encourages avoidance of wetland resources as a primary mitigation measure and discourages the development or type conversion of wetlands to uplands. The Department encourages activities that would avoid the reduction of wetland acreage, function, or habitat values. Once avoidance and minimization measures have been exhausted, the project must include mitigation measures to assure a "no net loss" of either wetland habitat values, or acreage, for unavoidable impacts to wetland resources. Conversions include, but are not limited to, conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks, which preserve the riparian and aquatic values and functions for the benefit to on-site and off-site wildlife populations. The Department recommends mitigation measures to compensate for unavoidable impacts be included in the DEIR and these measures should compensate for the loss of function and value.
- b) The Fish and Game Commission's Water policy guides the Department to [insure] the quantity and quality of the waters of this state should be apportioned and maintained respectively so as to produce and sustain maximum numbers of fish and wildlife; to provide maximum protection and enhancement of fish and wildlife and their habitat; encourage and support programs to maintain or restore a high quality of the waters of this state, and prevent the degradation thereof caused by pollution and contamination; and endeavor to keep as much water as possible open and accessible to the public for the use and enjoyment of fish and wildlife. The Department recommends avoidance of water practices and structures that use excessive amounts of water, and minimization of impacts that negatively affect water quality, to the extent feasible.
- 4) California Endangered Species Act (CESA). The Department considers adverse impacts to a species protected by CESA, for the purposes of CEQA, to be significant without mitigation. As to CESA, take of any endangered, threatened, candidate species, or state-listed rare

plant species that results from the Project is prohibited, except as authorized by state law (Fish and Game Code, §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Project, Project construction, or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, the Department recommends that the Project proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from the Department may include an Incidental Take Permit (ITP) or a consistency determination in certain circumstances, among other options (Fish and Game Code §§ 2080.1, 2081, subds. (b),(c)). Early consultation is encouraged, as significant modification to a Project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that the Department issue a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.

- 5) Biological Baseline Assessment. To provide a complete assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, fully protected, sensitive, regionally and locally unique species, and sensitive habitats, the DEIR should include the following information:
- a) Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region (CEQA Guidelines § 15125[c]);
 - b) a thorough, recent, floristic-based assessment of special status plants and natural communities, following the Department's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (see <http://www.dfg.ca.gov/habcon/plant/>);
 - c) floristic, alliance- and/or association-based mapping and vegetation impact assessments conducted at the project site and within the neighboring vicinity. *The Manual of California Vegetation*, second edition, should also be used to inform this mapping and assessment (Sawyer et al. 2008³). Adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions;
 - d) a complete, recent, assessment of the biological resources associated with each habitat type on site and within adjacent areas that could also be affected by the project. The

³Sawyer, J. O., Keeler-Wolf, T., and Evens J.M. 2008. A manual of California Vegetation, 2nd ed. ISBN 978-0-943460-49-9.

Department's California Natural Diversity Data Base (CNDDDB) in Sacramento should be contacted to obtain current information on any previously reported sensitive species and habitat. The Department recommends that CNDDDB Field Survey Forms be completed and submitted to CNDDDB to document survey results. Online forms can be obtained and submitted at http://www.dfg.ca.gov/biogeodata/cnddb/submitting_data_to_cnddb.asp;

- e) a complete, recent assessment of rare, threatened and endangered and other sensitive species on site and within the area of potential effect, including California Species of Special Concern (CSSC) and California Fully Protected Species. Species to be addressed should include all those which meet the CEQA definition (see CEQA Guidelines § 15380). Seasonal variations in use of the project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and the U.S. Fish and Wildlife Service; and,
 - f) a recent, wildlife and rare plant survey. The Department generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of the proposed project may warrant periodic updated surveys for certain sensitive taxa, particularly if build out could occur over a protracted time frame, or in phases.
5. Biological Direct, Indirect, and Cumulative Impacts. To provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, the following should be addressed in the DEIR:
- a) A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, and drainage. The latter subject should address project-related changes on drainage patterns and downstream of the project site; the volume, velocity, and frequency of existing and post-project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-project fate of runoff from the project site. The discussion should also address the proximity of the extraction activities to the water table, whether dewatering would be necessary and the potential resulting impacts on the habitat, if any, supported by the groundwater. Mitigation measures proposed to alleviate such impacts should be included;
 - b) a discussion regarding indirect project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with a NCCP). Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DEIR;
 - c) the impacts of zoning of areas for development projects or other uses nearby or adjacent to natural areas, which may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the environmental document; and,

- d) a cumulative effects analysis, as described under CEQA Guidelines section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.
6. Avoidance, Minimization, and Mitigation for Sensitive Plants. The DEIR should include measures to fully avoid and otherwise protect sensitive plant communities from project-related direct and indirect impacts. The Department considers these communities to be imperiled habitats having both local and regional significance. Plant communities, alliances, and associations with a statewide ranking of S-1, S-2, S-3 and S-4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by querying the CNDDDB and are included in *The Manual of California Vegetation* (Sawyer et al. 2008).
 7. Compensatory Mitigation. The DEIR should include mitigation measures for adverse project-related impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of project impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed.
 8. Long-Term Management of Mitigation Lands. For proposed preservation and/or restoration, the DEIR should include measures to protect the targeted habitat values from direct and indirect negative impacts in perpetuity. The objective should be to offset the project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include, but are not limited to, restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, and increased human intrusion. An appropriate non-wasting endowment should be set aside to provide for long-term management of mitigation lands.
 9. Nesting Birds. In order to avoid impacts to nesting birds, the DEIR should require that clearing of vegetation and construction occur outside of the peak avian breeding season, which generally runs from February 1st through September 1st (as early as January 1 for some raptors). If project construction is necessary during the bird breeding season, a qualified biologist with experience in conducting bird breeding surveys should conduct weekly bird surveys for nesting birds within three days prior to the work in the area, and ensure that no nesting birds in the project area would be impacted by the project. If an active nest is identified, a buffer shall be established between the construction activities and the nest so that nesting activities are not interrupted. The buffer should be a minimum width of 300 feet (500 feet for raptors), be delineated by temporary fencing, and remain in effect as long as construction is occurring or until the nest is no longer active. No project construction shall occur within the fenced nest zone until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the project. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

10. Translocation/Salvage of Plants and Animal Species. Translocation and transplantation is the process of moving an individual from the project site and permanently moving it to a new location. The Department generally does not support the use of, translocation or transplantation as the primary mitigation strategy for unavoidable impacts to rare, threatened, or endangered plant or animal species. Studies have shown that these efforts are experimental and the outcome unreliable. The Department has found that permanent preservation and management of habitat capable of supporting these species is often a more effective long-term strategy for conserving sensitive plants and animals, and their habitats.
11. Moving out of Harm's Way. The proposed project is anticipated to result in clearing of natural habitats that support many species of indigenous wildlife. To avoid direct mortality, the Department recommends a qualified biological monitor approved by the Department be on site prior to and during ground and habitat disturbing activities to move out of harm's way special status species or other wildlife of low mobility that would be injured or killed by grubbing or project-related construction activities. It should be noted that the temporary relocation of on-site wildlife does not constitute effective mitigation for the purposes of offsetting project impacts associated with habitat loss.
12. Wildlife Movement and Connectivity. The project area supports significant biological resources and is located adjacent to a regional wildlife movement corridor. The project area contains habitat connections and supports movement across the broader landscape, sustaining both transitory and permanent wildlife populations. Onsite features, which contribute to habitat connectivity, should be evaluated and maintained. Aspects of the project could create physical barriers to wildlife movement from direct or indirect project-related activities. Indirect impacts from lighting, noise, dust, and increased human activity may displace wildlife in the general area.
13. Revegetation/Restoration Plan. Plans for restoration and re-vegetation should be prepared by persons with expertise in southern California ecosystems and native plant restoration techniques. Plans should identify the assumptions used to develop the proposed restoration strategy. Each plan should include, at a minimum: (a) the location of restoration sites and assessment of appropriate reference sites; (b) the plant species to be used, sources of local propagules, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) a local seed and cuttings and planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. Monitoring of restoration areas should extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought.
 - a) The Department recommends that local onsite propagules from the project area and nearby vicinity be collected and used for restoration purposes. Onsite seed collection should be initiated in the near future in order to accumulate sufficient propagule material for subsequent use in future years. Onsite vegetation mapping at the alliance and/or association level should be used to develop appropriate restoration goals and local plant palettes. Reference areas should be identified to help guide restoration efforts. Specific restoration plans should be developed for various project components as appropriate.

- b) Restoration objectives should include providing special habitat elements where feasible to benefit key wildlife species. These physical and biological features can include, for example, retention of woody material, logs, snags, rocks and brush piles (see Mayer and Laudenslayer, 1988⁴, for a more detailed discussion of special habitat elements).

We appreciate the opportunity to comment on the referenced NOP. Questions regarding this letter and further coordination on these issues should be directed to Scott Harris, Environmental Scientist at (626) 797-3170 or scott.p.harris@wildlife.ca.gov.

Sincerely,



Betty J. Courtney
Environmental Program Manager I
South Coast Region

Ec: Erinn Wilson, CDFW, Los Alamitos
Jeff Brandt, CDFW, Ontario
Heidi Calvert, CDFW, Bishop
Kelly Schmoker, CDFW, Mission Viejo
Scott Harris, CDFW, Pasadena
Victoria Chau, CDFW, Los Alamitos
Gail Sevens, CDFW, San Diego
Marilyn Fluharty, CDFW, San Diego
Christine Found-Jackson, CDFW, Los Alamitos
State Clearing House, Sacramento

⁴Mayer, K. E. and W. F. Laudenslayer, Jr. 1988. Editors: A guide to wildlife habitats of California. State of California, The Resources Agency, Department of Forestry and Fire Protection, Sacramento, CA.

Lijin Sun

From: Kopulsky, Dan E@DOT <dan.kopulsky@dot.ca.gov>
Sent: Wednesday, April 08, 2015 9:49 AM
To: 2016 PEIR
Subject: RE: NOP Comment

Lijin,

Yes, they are formal comments.

The NOP refers to the Public Participation Plan which identifies the audience and methodology, but it wasn't clear to me, if the PEIR would strictly adhere to CEQA (Public Hearing, etc.), where the RTP would be following RTP guidelines and MAP-21.

Daniel Kopulsky

Chief, Regional Planning and Goods Movement
Caltrans, District 7
100 S. Main Street, MS-16
Los Angeles, CA 90012
(213) 897-0213

From: 2016 PEIR [<mailto:2016PEIR@scag.ca.gov>]
Sent: Wednesday, April 08, 2015 9:08 AM
To: Kopulsky, Dan E@DOT; 2016 PEIR
Subject: RE: NOP Comment

Hi Dan,

Is this clarification question a formal comment on the NOP of the Draft PEIR, since it was raised during the 30-day NOP scoping period? Thank you.

Sincerely,

Lijin Sun, J.D., Esq.

Senior Regional Planner
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017
T: (213) 236-1882 | F: (213) 236-1963
E: SunL@scag.ca.gov | W: www.scag.ca.gov

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From: Kopulsky, Dan E@DOT [<mailto:dan.kopulsky@dot.ca.gov>]
Sent: Tuesday, April 07, 2015 4:01 PM
To: 2016 PEIR
Subject: NOP Comment

Hi Lijin,

One clarifying question.

Will the public engagement for the Draft PEIR and Draft RTP/SCS occur together or separate/concurrently? Requirements slightly different for each one.

Daniel Kopulsky

Chief, Regional Planning and Goods Movement
Caltrans, District 7
100 S. Main Street, MS-16
Los Angeles, CA 90012
(213) 897-0213

2016 PEIR

From: Susan Kim <SKim@anaheim.net>
Sent: Monday, April 6, 2015 9:06 PM
To: 2016 PEIR
Cc: William Grigsby; David Kennedy
Subject: Notice of Preparation for the 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy Program Environmental Impact Report
Attachments: NOP Comment Letter.pdf

Dear Ms. Sun,

Attached are comments from the City of Anaheim for the Notice of Preparation for the 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy Program Environmental Impact Report. Please confirm receipt. Thank you for the opportunity to comment on this document, please contact me if you need any additional information.

Susan Kim, AICP, LEED AP ND

Acting Principal Planner

[Anaheim Planning Department](#) | [Planning Services](#)

200 South Anaheim Boulevard | Suite 162

Anaheim, CA 92805

Office+ (714) 765-4958

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E-mail+ skim@anaheim.net

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City of Anaheim
PLANNING DEPARTMENT

April 6, 2015

Ms. Lijin Sun
Senior Regional Planner
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Sent via e-mail to 2016PEIR@scag.ca.gov

Re: **Notice of Preparation for the 2016-2040 Regional Transportation Plan/
Sustainable Communities Strategy Program Environmental Impact Report**

Dear Ms. Sun:

The City of Anaheim appreciates the opportunity to review and comment on the Notice of Preparation of the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Program Environmental Impact Report (PEIR). The Notice of Preparation has been routed for review to our interdepartmental Environmental Review Committee for comment.

The following comments are from the Traffic Engineering Division of the Public Works Department. For further clarification, please contact David Kennedy at (714) 765-4920 or dkennedy@anaheim.net.

- RTP Land Use, both Existing and Future Year, should be coordinated with City of Anaheim Staff to ensure they are accurately represented. Developments such as ARTIC are now operational and should be included under the Existing Conditions.
- RTP Roadway and Highway network, both Existing and Future Year, should be coordinated with City of Anaheim Staff to ensure they are accurately represented.

The following comments are from the Advanced Planning Division of the Planning Department. For further clarification, please contact me at (714) 765-4958 or skim@anaheim.net.

- Mitigation measures included in the PEIR should be limited to issues that are within SCAG's purview.
- Mitigation measures should not be duplicative of existing regulations administered by or under the jurisdiction of other agencies. However, it is recommended that these regulations be referenced in the environmental analysis.
- Please provide documentation in the PEIR to demonstrate feasibility of all proposed mitigation measures.

Lijin Sun
April 6, 2015
Page 2 of 2

- SCAG may wish to consider providing a “tool box” of best practices for strategies that may reduce environmental impacts but are not within SCAG’s jurisdiction. However, these strategies should not be relied upon to mitigate project impacts.

Once again, thank you for the opportunity to provide comments on the Notice of Preparation for the 2016-2040 RTP/SCS PEIR. Please forward any subsequent public notices and/or environmental documents regarding this project to my attention at the address listed at the bottom of the first page of this letter. If you have any questions regarding this response, please do not hesitate to contact me at (714) 765-4958.

Sincerely,

A handwritten signature in blue ink that reads "Susan Kim". The signature is written in a cursive style with a light blue background behind the text.

Susan Kim, AICP, LEED AP ND
Senior Planner

2016 PEIR

From: Bill Jacobs <bjacobs@ci.irvine.ca.us>
Sent: Tuesday, April 7, 2015 3:57 PM
To: 2016 PEIR
Cc: Barry Curtis; Marika Poynter; Farideh Lyons; Kerwin Lau; Katie Berg-Curtis
Subject: City of Irvine Comments on Notice of Preparation for Program EIR for 2016-40 RTP/SCS
Attachments: Sun-SCAG Itr 4-7-15 FINAL.pdf

Dear Ms. Sun:

Attached is a letter from the City of Irvine commenting on the above-noted project.

Thank you for your consideration.

-Bill

BILL JACOBS, AICP CEP | PRINCIPAL PLANNER

City of Irvine | Community Development Department

bjacobs@ci.irvine.ca.us

P. 949.724.6521 | F. 949.724.6440

Mailing: P.O. Box 19575 | Irvine, CA 92623

[Planning & Development Services](#) | [General Plan](#) | [Zoning Code](#) | [Irvine Quick Records](#) | [Property Zoning Lookup](#) | [Irvine Business Complex](#)



April 7, 2015

Ms. Lijin Sun
Senior Regional Planner
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, California 90017-3435

RE: Comments on the Notice of Preparation of a Program Environmental Impact Report for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

Dear Ms. Sun:

The City of Irvine appreciates the opportunity to review and provide comments on the Notice of Preparation of a Program Environmental Impact Report (EIR) for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The City of Irvine is requesting that Southern California Association of Governments (SCAG) staff consider the following comments during the preparation of the Program EIR.

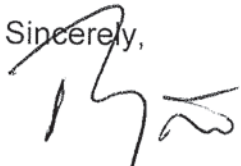
1. Limit mitigation measures included in the Program EIR for the 2016-2040 RTP/SCS to issues that are within SCAG's purview. All measures related to issues SCAG does not have the purview to implement should be included in an appendix of the RTP/SCS that can be used by local jurisdictions, local agencies and project sponsors as a menu of options or toolbox of strategies. This would be consistent with the Program EIR developed for the 2012-2035 RTP/SCS.
2. For the Program EIR for the 2016-2040 RTP/SCS, do not include any mitigation measures that are duplicative of existing regulations administered by or under the jurisdiction of other agencies. For each impact already administered by or under another agency, add language similar to "Local jurisdictions, agencies, and project sponsors should comply, as applicable with existing federal, state and local laws and regulations."
3. Provide documentation in the Program EIR for all mitigation measures deemed feasible.

Ms. Lijin Sun
April 7, 2015
Page 2

4. Provide clear language explaining that utilizing the Program EIR as a first-tier document in the preparation of any subsequent project-specific or site-specific environmental analyses is at the discretion of the implementing agencies.

The City of Irvine appreciates your consideration of the comments provided in this letter. It is a shared goal to develop and adopt an RTP/SCS that represents the best in regional planning developed collaboratively with local jurisdictions and stakeholders in a manner that is credible and defensible on all levels. The City of Irvine looks forward to working with SCAG to achieve this goal.

Sincerely,

 *Tim*

FOR:

Timothy N. Gehrich, AICP
Acting Director of Community Development

cc: Barry Curtis, Manager of Planning Services
Katie Berg-Curtis, Project Development Administrator
Kerwin Lau, Project Development Administrator
Bill Jacobs, Principal Planner
Farideh Lyons, Senior Transportation Analyst
Marika Poynter, Senior Planner

2016 PEIR

From: Nueno, Fern <fnueno@newportbeachca.gov>
Sent: Tuesday, April 7, 2015 4:17 PM
To: 2016 PEIR
Cc: Brandt, Kimberly; Wisneski, Brenda
Subject: NOP Comments
Attachments: City of Newport Beach NOP PEIR 2016 RTP SCS.pdf

Good afternoon. Please see the attached comment letter and let me know if you have any questions. Thank you.

Fern Nueno, AICP, LEED AP BD+C
Associate Planner
fnueno@newportbeachca.gov
(949) 644-3227

City of Newport Beach | Planning Division | 100 Civic Center Drive | Newport Beach, CA 92660
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CITY OF NEWPORT BEACH

100 Civic Center Drive
Newport Beach, California 92660

949 644-3200

newportbeachca.gov/communitydevelopment

VIA EMAIL

April 7, 2015

Ms. Lijin Sun
Senior Regional Planner
Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017
2016PEIR@scag.ca.gov

RE: Comments on the Notice of Preparation of a Program Environmental Impact Report for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

Dear Ms. Sun:

The City of Newport appreciates the opportunity to review and provide comments on the Notice of Preparation of a Program Environmental Impact Report ("PEIR") for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS). The City of Newport Beach agrees with the comments submitted by the Orange County Council of Governments ("OCCOG") on March 26th (attached) and requests that SCAG staff consider those comments during the preparation of the PEIR.

It is a shared goal to develop and adopt a Regional Transportation Plan and Sustainable Communities Strategy that represents the best in regional planning developed collaboratively with local jurisdictions and stakeholders in a manner that is credible and defensible on all levels. The City of Newport Beach looks forward to working with the Southern California Association of Governments to achieve this goal and appreciates the consideration of our comments.

Sincerely,


Kimberly Brandt, AICP
Director

Attachment: OCCOG Comment Letter dated March 26, 2015



Orange County
Council of Governments
Member Agencies

Aliso Viejo
Anaheim
Brea
Buena Park
Costa Mesa
Cypress
Dana Point
Fountain Valley
Fullerton
Garden Grove
Huntington Beach
Irvine
La Habra
La Palma
Laguna Beach
Laguna Hills
Laguna Niguel
Laguna Woods
Lake Forest
Los Alamitos
Mission Viejo
Newport Beach
Orange
Placentia
Rancho Santa Margarita
San Clemente
San Juan Capistrano
Santa Ana
Seal Beach
Stanton
Tustin
Villa Park
Westminster
Yorba Linda
County of Orange
OCTA
TCA
OC Sanitation District
ISDOC
South Coast AQMD

March 26, 2015

Ms. Lijin Sun
Senior Regional Planner
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, California 90017-3435

RE: Comments on the Notice of Preparation of a Program
Environmental Impact Report for the 2016-2040 Regional
Transportation Plan/Sustainable Communities Strategy

Dear Ms. Sun:

The Orange County Council of Governments (OCCOG) appreciates the opportunity to review and provide comments on the Notice of Preparation of a Program Environmental Impact Report (PEIR) for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS). OCCOG is requesting that SCAG staff consider the following comments during the preparation of the PEIR.

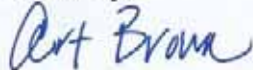
1. SCAG shall limit mitigation measures included in the PEIR for the 2016-2040 RTP/SCS to issues that are within SCAG's purview. All measures related to issues SCAG does not have the purview to implement shall be included in an appendix of the RTP/SCS that can be used by local jurisdictions, local agencies, and project sponsors as a menu of options or toolbox of strategies.
2. The PEIR for the 2016-2040 RTP/SCS shall not include any mitigation measures that are duplicative of existing regulations administered by or under the jurisdiction of other agencies. For each impact already administered by or under another agency, SCAG could add the language "Local jurisdictions, agencies, and project sponsors should comply, as applicable with existing federal, state, and local laws and regulations."
3. SCAG shall ensure that documentation is provided in the PEIR for all mitigation measures deemed feasible.

The OCCOG appreciates your consideration of the comments provided in this letter. It is a shared goal to develop and adopt a

OCCOG Comments
Page Two

Regional Transportation Plan and Sustainable Communities Strategy that represents the best in regional planning developed collaboratively with local jurisdictions and stakeholders in a manner that is credible and defensible on all levels. The OCCOG looks forward to working with the Southern California Association of Governments to achieve this goal.

Sincerely,

A handwritten signature in blue ink that reads "Art Brown". The signature is written in a cursive, flowing style.

Honorable Art Brown
Chair OCCOG Board of Directors

2016 PEIR

From: Margaret Lin <MLin@SouthPasadenaCA.gov>
Sent: Tuesday, April 7, 2015 3:46 PM
To: 2016 PEIR
Cc: City Council
Subject: SCAG 2016-2040 RTP/SCS PEIR Notice of Preparation
Attachments: SCAG NOP Comment Letter.pdf

Dear Ms. Sun,

Please find the attached comment letter submitted on behalf of the City of South Pasadena regarding the SCAG 2016-2040 Regional Transportation Plan and Sustainable Communities Strategy Program Environmental Impact Report Notice of Preparation. A hard copy of the letter has been mailed to you and should arrive shortly.

If you have any questions or comments please feel free to contact me.

Sincerely,

Margaret Lin

Principal Management Analyst
City of South Pasadena
1414 Mission Street
South Pasadena, CA 91030
(626) 403-7236
MLin@SouthPasadenaCA.gov



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CITY OF SOUTH PASADENA

OFFICE OF THE CITY MANAGER

1414 MISSION, SOUTH PASADENA, CA 91030

TEL: 626.403.7210 • FAX: 626.403.7211

WWW.SOUTHPASADENACA.GOV

April 7, 2015

Lijin Sun
Southern California Association of Governments
818 West 7th Street, 12th Floor
Los Angeles, CA 90017

RE: Notice of Preparation of a Program Environmental Impact Report for the 2016-2040
Regional Transportation Plan/Sustainable Communities Strategy

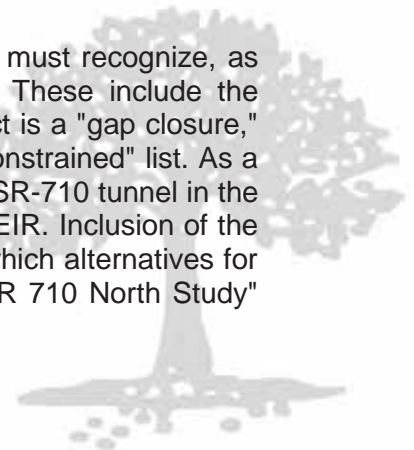
Dear Ms. Sun,

The City of South Pasadena (City) appreciates the opportunity to comment on the Southern California Association of Governments' (SCAG) Notice of Preparation (NOP) for the Program Environmental Impact Report (PEIR) of the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The City would like to raise the following issues of concern regarding the 2016-2040 RTP/SCS PEIR:

1. Faulty Assumption that "SR-710 North Extension (tunnel)" should be included in the 2016-2040 RTP/SCS.

The NOP asserts that the 2016-2040 RTP/SCS "will largely embody the goals, objectives, and transportation improvements that have been considered in the adopted 2012 RTP/SCS, last amended in September 2014 (Amendment No. 2 to the 2012 RTP/SCS)." This assertion pretends that the law, state policy, and activities in the SR-710 corridor have been unchanged in the past four years, and that whatever assumptions and premises governed in 2012 should be repeated now.

To prepare an adequate PEIR on the 2016-2040 RTP/SCS, SCAG must recognize, as detailed below, the flawed assumptions built into the 2012 RTP. These include the premises, questioned in greater detail below, that the SR-710 project is a "gap closure," and that the tunnel project qualifies for inclusion in the "financially constrained" list. As a preliminary matter, however, regardless of the error of including the SR-710 tunnel in the 2012 plan, that error should no longer be perpetuated in the 2016 PEIR. Inclusion of the SR-710 tunnel places a heavy and unlawful finger on the scale by which alternatives for the SR-710 corridor are to be evaluated in the just-commenced "SR 710 North Study" draft EIS/EIR.



The SR-710 North Study declares that "[t]he purpose of the proposed action is to effectively and efficiently accommodate regional and local north-south travel demands in the study area of the western San Gabriel Valley and east/northeast Los Angeles." Putting aside whether that North Study fulfills that purpose, its stated intent is to compare several alternatives on a neutral field of functional capability and environmental and economic impact. But that study's actual comparison of build alternatives relies on the 2012 RTP/SCS to create a "valid" inconsistency of all non-tunnel alternatives (and the single-bore tunnel variation-alternative) with SCAG policies and objectives (SR-710 North Study 29, 2-89.). The flawed 2012 RTP will thus be argued as justifying a decision to select the tunnel, not because it is the superior project, but because only that choice avoids a conflict with SCAG. Furthermore, the recently released SR-710 North Study Draft Environmental Impact Report has stated that no preferred alternative has been identified or selected.

While the City recognizes that the 2016-2040 RTP/SCS "does not specifically analyze potential environmental effects that any of the transportation projects may cause," it nonetheless "includes individual transportation projects." In order for the PEIR to become a valid program EIR its program must not include a SR-710 project or any project that pre-empts the selection process that is to occur through the SR-710 North Study.

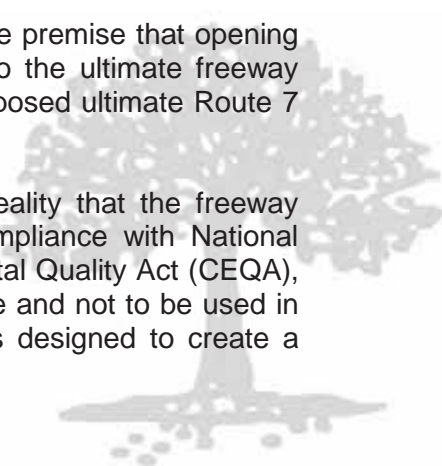
2. Faulty Assumption that a Corridor Project "Will Close [the] 710 Freeway Gap."

If the 2016 RTP/SCS DEIR includes projects as described in the 2012 RTP/SCS and amendments, it will perpetuate the error that the 710 Route Study and SR-710 North Extension serve to "close the freeway gap" (2012 RTP FTIP project list.28; 2012 Financially-Constrained RTP project list 164; Draft 2015 FTIP project list 11.). The SR-710 freeway ends at Valley Boulevard; the construction in Pasadena was allowed by judicial order that treats the construction as part of the I-210 interchange.

In the 1974-1998 EIS/EIR documents for the previously proposed surface route, the project was characterized as the extension of the existing I-710 north of Valley Boulevard. Los Angeles County Metropolitan Transportation Authority (LACMTA) adopted that terminology when the project changed from surface to tunnel, and was made a subject of Measure R. SCAG, however, continued in 2012, as it did in 2008, to refer to the project as a "gap closure", presumably on the premise that part of the I-710 freeway was completed south of the I-210 interchange. The 1976 judicial order that allowed the freeway component between I-210 and Del Mar Boulevard to be opened to traffic, however, treated this freeway component as part of the I-210 project, as its opening was funded by an I-210 contract. In the words of the court, "only the southern portion of the Long Beach Freeway has been completed and it now terminates at Valley Boulevard" (City of South Pasadena v. Volpe, 418 F. Supp. 854, 858 (C.D. Cal. 1976).

Moreover, opening of that freeway portion was conditioned on the premise that opening the freeway segment "will have no effect on the decision as to the ultimate freeway location and will not foreclose reasonable alternatives to the proposed ultimate Route 7 Freeway" (Id. at 864.).

To label the SR-710 project as a "gap closure" ignores the reality that the freeway construction north of Del Mar was never accomplished in compliance with National Environmental Protection Act (NEPA) and California Environmental Quality Act (CEQA), and was only allowed by the court as part of the 210 interchange and not to be used in favor of completing a I-710 freeway. The term "gap closure" is designed to create a



sense of inevitability or priority for this project over competing ones, will have effect on the ultimate decision in the SR-710 North Study and 2016 RTP/SCS PEIR, and should be removed in the environmental documentation.

3. Faulty Assumption that a SR-710 Tunnel Project Is "Financially-Constrained."

The 2012 RTP/SCS continued to represent the fiction that a tunnel project qualifies as a constrained project. While in 2012 some financing might have been deemed more "reasonably available" than previously because of the passage of Measure R and state legislation enabling a toll facility, Measure R accounts for no more than one-sixth of projected cost. SCAG failed in 2012 to provide evidence that private investors would consider entering into a Public Private Partnership for this project in light of competing projects of higher social and transportation value, and with greater promises of return. Moreover, the intervening years since 2012 have produced no further public financial commitments to the project, short of authorizing the SR-710 North Study, which is emphatically not funding any of the alternatives to be examined there.

The appropriate federal regulation, 23 C.F.R. § 450.104 offers the following definitions (emphasis added):

"Financially constrained" or "fiscal constraint" means that the metropolitan transportation plan, TIP, and STIP includes sufficient financial information for demonstrating that projects in the metropolitan transportation plan, TIP, and STIP can be implemented using committed, available, or reasonably available revenue sources, with reasonable assurance that the federally supported transportation system is being adequately operated and maintained. For the TIP and the STIP, financial constraint/fiscal constraint applies to each program year. Additionally, projects in air quality nonattainment and maintenance areas can be included in the first two years of the TIP and STIP only if funds are "available" or "committed."

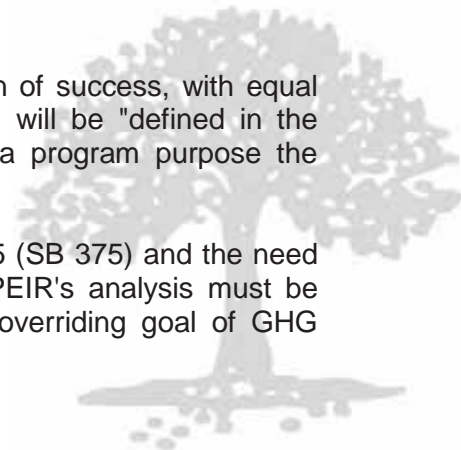
If anything, since 2012 the "reasonably available revenue sources" have become even more remote. Measure J failed at the ballot, and a second failure might be risked by including a tunnel in Measure R's successor. Moreover, the SR-710 North Study now introduces several previously-unstudied alternatives to a tunnel, and a more attractive alternative may emerge from the DEIR public circulation. LACMTA has represented that the Measure R funds are not required to be devoted to a tunnel. The increasing competition for these funds in the SR-710 corridor make any 2012 assumptions of "reasonably available," faulty as they were then, even less rational today.

The 2016 RTP/SRS EIR must not treat an SR-710 tunnel alternative as a "financially constrained" project.

4. Need to Emphasize Greenhouse Gas (GHG) Reduction and Vehicle Miles Traveled (VMT) Reduction as Paramount Program Purposes.

The NOP seems to focus on "mobility" as the primary criterion of success, with equal billing given to "sustainability" and "economy." "Sustainability" will be "defined in the broadest way possible," and "economy" seems to make as a program purpose the construction of projects per se.

The City recognizes that the NOP also refers to Senate Bill 375 (SB 375) and the need to meet GHG reduction targets. To ensure that result, the PEIR's analysis must be driven by developing the 2016-2040 RTP/SCS to attain the overriding goal of GHG



reductions. Given developing land use and technological methodologies, the SB 375 targets should be treated as floors, not ceilings. Consistently with Senate Bill 743 (ch. 386, 2013 Cal. Stats.), program elements must be measured not just by their ability to improve Level of Service (LOS), but primarily by their ability to minimize VMT and trip generation. While by its terms SB 743's mandates apply in transit priority areas (Pub. Res. Code, § 21099(b)), enough of those areas are embraced within SCAG's area of responsibility to render SB 743's specifications applicable to the 2016-2040 RTP/SCS PEIR. Moreover, even beyond the letter of section 21099, general principles of CEQA assessment require that this contemporary methodology, designed to address the compelling contemporary environmental challenge, be applied in the new PEIR.

These observations do not preclude the inclusion of LOS and congestion analyses, provided that they take appropriate account of induced demand over time. Indeed, the proposed Office of Planning and Research (OPR) Guidelines for Implementing SB 743 expressly call out, as have the consensus of academic literature and several judicial decisions, the need to account for induced demand in transportation analysis. (See OPR Proposed CEQA Guideline 15064.3.) Both sound policy and legal compliance call for adherence to that requirement, since induced demand will be a required factor in the CEQA Guidelines before SCAG adopts its 2016 RTP/SCS, and independently judicially enforceable.

Thank you for your consideration of these comments. If you have any questions or comments please feel free to contact Margaret Lin, Principal Management Analyst, at MLin@SouthPasadenaCA.gov or (626)403-7236.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Sergio Gonzalez', with a stylized flourish at the end.

Sergio Gonzalez
City Manager

cc: South Pasadena City Council



2016 PEIR

From: Juachon, Luz <ljuachon@ci.ventura.ca.us>
Sent: Tuesday, April 7, 2015 5:23 PM
To: 2016 PEIR
Cc: Maggie Ide
Subject: Response to SCAG NOP of Program PEIR for the 2016-2040
Attachments: DOC040715.pdf

Dear Ms. Sun,

Attached is the City of Ventura's response on the Notice of Preparation (NOP) of a Program Environmental Impact Report (PEIR) for the 2016-2040.

The original copy of the attached document was sent to you via US Postal service today.

You may contact Dave Ward, Planning Manager at (805) 677-3964 or via email at dward@cityofventura.net if you have any questions or concerns regarding this matter.

Best regards,

Luz E. Juachon
Planning Division
City of Ventura
(T) 805/658-4725 | (F) 654-7560

Please consider the environment before printing this email

April 7, 2015

Southern California Association of Governments
Attn. Ms. Lijin Sun
Senior Regional Planner
818 West 7th Street, 12th Floor
Los Angeles, CA 90017

Dear Ms. Sun:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) of a Program Environmental Impact Report (PEIR) for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS). As was noted recently regarding the 2014 base year data development for the 2016-2040 RTP/SCS, SCAG assumes a higher rate of growth for the City of Ventura than has been in evidence in the City's history or will be possible under constraints to natural resources such as water. Furthermore, the City is currently undertaking development of a residential allocation/growth management policy which may further restrict what development may be allowed under current levels of public services provided by the City and other service providers. As such, the PEIR for the 2016 RTP/SCS should contain a thorough analysis of the 2016 RTP/SCS land use scenario as it relates to impacts to land use policy; constrained public resources; and public services levels, all at the local jurisdiction and local service agency level.

We look forward to review of the pending EIR and request retention on circulation lists for future documents and CEQA circulation pertaining to this project and ask that correspondence be sent to me at:

City of Ventura Planning Division
Attn: Dave Ward, AICP, Planning Manager
501 Poli Street
P.O. Box 99
Ventura, CA 93002

Should you have further questions I can also be contacted at (805) 677-3964 or dward@cityofventura.net.

Sincerely,

A handwritten signature in blue ink that reads "Dave Ward".

Dave Ward, AICP
Planning Manager

2016 PEIR

From: Jesse Marquez <jnm4ej@yahoo.com>
Sent: Tuesday, April 7, 2015 5:05 PM
To: 2016 PEIR; Jonathan Nadler
Cc: Drew Wood; Ricardo Pulido; Tom Williams - Sierra Club; Pastor Carrillo; Robina Suwol; Luis Olmedo; Shabaka Heru; Jesse Marquez
Subject: Submission of Public Comments on the PEIR for the 2016-2014 RTP/SCS
Attachments: SCAG RTP-SCS 2016-2040 PEIR Joint EJ Organization Public Comments 4-7-2015.docx

We respectfully submit the following joint public comments on behalf of our organizations, members and community.

Jesse N. Marquez
Executive Director
Coalition For A Safe Environment
310-704-1265

Jesse N. Marquez - Executive Director
Coalition For A Safe Environment
1601 N. Wilmington Blvd., Ste. B, Wilmington, CA 90744
jnm4ej@yahoo.com 310-704-1265

Drew Wood - Executive Director
California Kids IAQ
1601 N. Wilmington Blvd., Ste. B4, Wilmington, CA 90744
californiakidsiaq@gmail.com 916-616-5913

Ricardo Pulido - Executive Director
Community Dreams
1601 N. Wilmington Blvd., Ste. B2, Wilmington, CA 90744
mr.rpulido@aol.com 310-567-0748

Pastor Alfred Carrillo
Apostolic Faith Center
1508 E. Robidoux Street, Wilmington, CA 90744
alfredcarrillo@msn.com 310-940-6281

Robina Suwol - Executive Director
California Safe Schools
P.O. Box 2756, Toluca Lake, CA 91610
robinasuwol@earthlink.com 818-261-7965

Tom Williams - Senior Technical Advisor
Citizens Coalition For A Safe Community
4209 Jackson Avenue, Culver City, CA 90232
ctwilliams2012@yahoo.com 323-528-9682

Luis Olmedo - Executive Director
Comite Civico del Valle, Inc.
699 E Street, Brawley, CA 92227
comitecivico@sbcglobal.net 760-587-9952

Shabaka Heru - Executive Director
Society For Society Action
P.O. Box 59541, Los Angeles, CA 90059
shabaka4ej@yahoo.com 310-462-6732

Southern California Association of Governments
818 West Seventh Street, 12th floor
Los Angeles, CA 90017-3435
Attn: Ms. Lijin Sun
Senior Regional Planner
Jonathan Nadler
Manager of Compliance & Performance Assessment
213-236-1884
2016PEIR@scag.ca.gov
nadler@scag.ca.gov

April 7, 2015

Re: NOP of a PEIR for 2016-2040 RTP/SCS
Su: Submission of Public Comments

We the above organizations wish to jointly submit the following public comments on the SCAG proposed Program Environmental Impact Report for the 2016-20140 Regional Transportation Plan/Sustainable Communities Strategy.

We have attached a red-lined SCAG published document to reflect our requested additions and changes in the various sections.

The primary contact for correspondence and information is Jesse N. Marquez, Executive Director for the Coalition For A Safe Environment.

2016 RTP/SCS Goals

The RTP/SCS goals demonstrate the need to balance many priorities in the most cost-effective manner. As currently being envisioned, the goals of the 2016 RTP/SCS are expected to remain substantively the same as the goals established in the 2012 RTP/SCS, adopted by SCAG's Regional Council in April 2012⁴:

- Maximize mobility and accessibility for all people and goods in the region
- Ensure travel safety and reliability for the people and goods in the region
- Preserve and ensure a sustainable regional transportation system
- Maximize the security of the regional transportation system through improved monitoring, recovery planning, and coordination with other security agencies
- Maximize the productivity of our transportation system
- Protect the environment, improve air quality and promote energy efficiency
- Encourage land use and growth patterns that complement our transportation investments
- Maximize the incorporation of green sustainable construction materials
- Protect and improve public health along transportation corridors
- Include 21st century zero emissions public & freight transportation technologies
- SCASG shall mitigate all negative direct, indirect, cumulative & growth inducing impacts

In addition to meeting the GHG emissions reduction targets that the ARB has set for the SCAG region pursuant to SB 375, SCAG intends to address the goals set forth in Executive Order S-3-05 (to reduce GHG emissions to 1990 levels by 2020, and to reduce GHG emissions to 80 percent below 1990 levels by 2050).

2016 RTP/SCS Policies and Performance

The 2016 RTP/SCS is currently being envisioned to include a set of guiding policies that focus future investments on the best-performing projects and strategies that seek to preserve, maintain, and optimize the performance of the existing transportation system. As set forth in the 2012-2035 RTP/SCS⁵, these policies will include the following and are intended to help track how well the region is performing in relation to a broad range of goals and objectives.

- Transportation investments shall be based on SCAG's adopted Regional Performance Indicators.
- Ensuring safety, adequate maintenance, and efficiency of operations on the existing multi-modal transportation system should be the highest RTP priorities for any incremental funding in the region.
- RTP land-use and growth strategies in the RTP will respect local input and advance smart growth initiatives.
- Transportation Demand Management (TDM) and non-motorized transportation will be focus areas.
- High-Occupancy Vehicle (HOV) gap closures that significantly increase transit and rideshare usage will be supported and encouraged.
- Monitoring progress on all aspects of the Plan, including the timely implementation of projects, programs, and strategies, will be an important and integral component of the 2016 Plan.
- Maximum achievable reduction of pollution emissions and greenhouse gases.
- Fastest and safest achievable logistical transportation movement.

- Lowest life time maintenance cost and waste disposal.
- SCAG shall prioritize zero emissions public and freight transportation investments.
- SCAG shall include mitigation for indirect, cumulative and growth inducing negative public impacts.
- Transportation investments shall comply with the CARB and SCAQMD Land Use Planning Guidelines.
- Transportation investments shall include an assessment of community land loss for private industry freight transportation.
- Compliance to California Health & Safety Codes.
- Compliance to Title VI of the Civil Rights Act of 1974 and Presidential Order 12898.
- Compliance to AB 32 and SB 375.
- Adopted Green Sustainable Construction Policy, Plan & Requirements for the maximum incorporation of green sustainable construction materials.

Consistent with the goals and performance-based transportation planning approach set forth under MAP-21, performance measures will play a critical role in the development of the 2016 RTP/SCS. Performance measures are intended to help quantify regional goals, estimate the impacts of proposed investments, and evaluate progress over time. SCAG intends to build upon and update the performance measures developed for the 2012

Plan⁶ in the 2016 RTP/SCS. This way, there is consistency when tracking and assessing the region's performance and whether the region is progressing towards meeting and exceeding federal and state requirements.

The 2016 RTP/SCS is currently being envisioned to include a set of key categories of performance measures as follows:

- Location efficiency
- Mobility and accessibility
- Safety and health
- Environmental quality
- Economic well-being
- Investment effectiveness
- System sustainability
- Negative Environmental Justice Community Impacts vs Non-Environmental Justice Community
- CARB and SCAQMD Land Use Guidelines compliance
- Public externalized costs vs private industry contribution costs
- Public/Non-Profit Organization submitted projects/scenarios vs governmental agency projects/scenarios
- Identification and mitigation of negative indirect and cumulative impacts i.e. transportation investments cause a growth induced increase in number of ships and emissions
- An assessment of adopted and included public recommendations

Preliminary 2016 RTP/SCS Scenario Planning Matrix

As part of the 2016 RTP/SCS planning process, SCAG is developing a suite of transportation and land use scenarios for public consideration. These scenarios focus on transportation and land use related inputs that are modified to vary across four (4) scenarios. The purpose of developing scenarios is to provide an analytical technique to layout the policy choices to be considered as the 2016 RTP/SCS is developed. The Preliminary 2016 RTP/SCS Scenario Planning Matrix outlines a number of plan elements that together build a framework for comparing potential regional scale choices on issues such as land use development patterns, transportation investments, transportation demand management/transportation system

management (TDM/TSM), and technological innovations. Policy considerations currently outlined in the Preliminary Scenario Planning Matrix include land use, housing, farm and natural lands, roadway and highway network, transit, active transportation, technology/innovation, and TDM/TSM. Scenarios will be analyzed and compared using outputs from SCAG regional transportation model, Scenario Planning Model, or off-model analysis. The outputs from these modeling analyses will help illustrate variations between scenarios and policy elements at the regional scale for metrics such as public health, mobility, accessibility, and sustainability.

- SCAG shall solicit and include Public/Non-Profit Organization submitted projects/scenarios

Bottom-up Local Growth and Land Use Input Process

A critical component to developing a successful 2016 RTP/SCS is the participation and cooperation of all local government partners and stakeholders within the SCAG region. To this end, SCAG uses a bottom-up local input process by which all local governments are informed of the 2016 RTP/SCS planning process and have clear and adequate opportunities to provide input. Growth forecasts and land use updates for development of the 2016 Plan have been developed through this bottom-up local input process, including: 1) extensive, ongoing communication with SCAG partners and stakeholders on growth forecast and land use updates throughout the region; 2) implementation of a formal protocol to guide the communication between SCAG staff and local jurisdiction regarding the input and review process; 3) flexibilities in providing official input to SCAG through the use of a Data Verification and Approval Form; 4) adoption of a resolution designating a staff position at the local government level to add clarity and accountability to the process; and 5) development of an automated mapping workflow and a digitalized land use database in a geographic information system (GIS) format to facilitate the review and input process.

- SCAG shall assure that transportation investments shall comply with the CARB and SCAQMD Land Use Planning Guidelines.

RTP/SCS Public Participation Plan and Process

Another key aspect of the 2016 RTP/SCS plan development is public participation. To provide early and meaningful public participation in the Plan's development and decision-making processes, SCAG has developed and adopted a Public Participation Plan ("PPP").⁷ The adoption of the PPP has demonstrated SCAG's commitment in increasing awareness and involvement of interested persons in SCAG's governmental processes and regional transportation and land use planning. SCAG is committed to providing information and timely public notice, ensuring full public access to key decisions, and supporting early and continuing public involvement in the development of the 2016 RTP/SCS. To this end, SCAG will continue to engage a wide range of stakeholder groups, elected officials, special interest groups, the general public, and other interested parties through a series of workshops and public meetings, as well as SCAG's policy committees, task forces, and subcommittee structure during the development of the 2016 RTP/SCS and its associated CEQA review process.

- SCAG shall include sponsoring public hearings and workshops in all major transportation corridor communities/cities.

SCOPE OF ENVIRONMENTAL ANALYSIS IN THE PEIR

The PEIR to be prepared for the 2016 RTP/SCS analyzes potential effects that the 2016 RTP/SCS may cause on the environment. Although the 2016 RTP/SCS includes individual transportation projects, the associated PEIR is programmatic in nature and does not specifically analyze potential environmental effects that any of the individual transportation projects may cause. Project-level environmental impact analyses will need to

be prepared by implementing agencies on a project-by-project basis as projects proceed through the design and decision-making process. Project-specific planning and implementation undertaken by each project sponsor/implementing agency will depend on a number of issues, including: policies, programs and projects adopted at the local level; restrictions on federal, State and local transportation funds; the results of feasibility studies for particular corridors; and project-specific environmental review.

Potential scope of environmental effects that warrant analysis and consideration in the 2016 RTP/SCS Draft PEIR are as follows:

- Aesthetics and Views
 - Agriculture and Forestry Resources
 - Air Quality
 - Biological Resources and Open Space
 - Cultural Resources
 - Energy
 - Geology, Soils and Mineral Resources
 - Greenhouse Gas Emissions and Climate Change
 - Hazards and Hazardous Materials
 - Hydrology and Water Resources
 - Land Use and Planning
 - Noise
 - Population, Employment, and Housing
 - Recreation
 - Transportation, Traffic, and Safety
 - Public Services and Utilities
- Public Health (Program/Project Health Impact Assessment)
 - Zero Emissions Transportation (Technology Assessment)
 - Identification of Indirect/Cumulative/Growth Inducing Projects (Negative Impact Assessment)

PRELIMINARY 2016 RTP/SCS ALTERNATIVES

It is anticipated that the PEIR will evaluate at least three potential alternatives to the 2016 RTP/SCS as follows: (1) No Project; (2) Refined 2012 RTP/SCS Alternative; and (3) Intensified Transportation and Land Use Integration Alternative. These alternatives will evaluate various planning scenarios capable of achieving most of the basic objectives of the 2016 RTP/SCS. More specifically, each Alternative, except the No Project Alternative, will include a range of policies and projects including, but not limited to, variations in land use density and intensity, transit and rail systems, active transportation, highway/roadway construction and widening and transportation demand/system management.

SCAG has the discretion to select one alternative in its entirety or to combine elements of various alternatives to complete the PEIR for the RTP/SCS. The development of alternatives in a PEIR is focused on avoiding or reducing potentially significant impacts of the 2016 RTP/SCS. Therefore, detailed alternative descriptions are normally developed as impacts of a project are identified through the PEIR process.

- SCAG shall solicit and include Public/Non-Profit Organization submitted projects/scenarios

No Project Alternative

The No Project Alternative is required by Section 15126.6(e)(2) of the CEQA Guidelines and assumes that the proposed project would not be implemented. The No Project Alternative will consider continued implementation of the goals and policies of the adopted 2012 RTP/SCS, as amended in September 2014. The No Project Alternative includes those transportation projects that are included in the first year of the previously conforming RTP/SCS and/or FTIP, or those that have completed environmental review by December 2014. The growth scenario included in the No Project Alternative is based on the 2012 RTP/SCS regional population, housing and employment totals.

Refined 2012 RTP/SCS Alternative

A Refined 2012 RTP/SCS Alternative would include the most recent growth forecast data, including local input on land use, employment, population, and housing data, and new input on transportation projects from the

County Transportation Commissions in the SCAG region. This Alternative will consider continued implementation of the policies, strategies and projects included in the 2012 RTP/SCS.

Intensified Transportation and Land Use Integration Alternative

An Intensified Transportation and Land Use Integration Alternative would focus on analyzing more intensified integration of transportation and land use projects and policies aimed at further reducing vehicle miles traveled and GHG and criteria pollutant emissions to improve mobility, accessibility, and sustainability. This Alternative could include more mixed-use, infill development, increased densities in urban cores, new technological innovations, and/or additional transit and active transportation strategies.

- Identification of special event day choke points on freeways & major public transit corridors

SCAG is seeking input on the alternatives through the scoping process which could result in modifications to the number, content and scope of alternatives analyzed in the PEIR. Furthermore, the PEIR will identify all alternatives that were initially considered, but rejected for reasons including infeasibility or inability for a particular alternative to meet the Project objectives or reduce environmental impacts beyond that of the Project.

- Zero Emission Dedicated Freight Truck Routes/Lanes
i.e. Terminal Island 104 Freeway, Long Beach 110 Freeway
(Electric Battery, Fuel Cell, Hydrogen Fuel Cell)
- Zero Emission Electric Train Routes
i.e. Alameda Corridor, Terminal Island 104 Freeway, LA Harbor 110 Freeway, San Diego 405 Freeway, Riverside 91 Freeway, Pomona 60 Freeway, San Bernardino 10 Freeway, Foothill 210 Freeway
(MagLev Train Passenger & Freight Trains)

2016 PEIR

From: Jui Ing Chien <jchien@parks.lacounty.gov>
Sent: Tuesday, April 7, 2015 9:55 AM
To: 2016 PEIR
Cc: Norma E. Garcia; Kathline J. King; Clement Lau
Subject: Response - SCAG 2016 PEIR-NOP
Attachments: Response to SCAG 2016PEIR-NOP.pdf

Ms. Sun,

Attached please find the response letter for the NOP of the SCAG PEIR.
Thank you.

Jui Ing Chien - County of Los Angeles Department of Parks and Recreation - Planning and Development Agency | 510 South Vermont Avenue, Los Angeles, CA 90020 | ph# 213.351.5129 fax# 213.639.3959 | Business Hours 7:00 A.M. to 5:30 P.M. Monday through Thursday



COUNTY OF LOS ANGELES
DEPARTMENT OF PARKS AND RECREATION

"Parks Make Life Better!"

Russ Guiney, Director

John Wicker, Chief Deputy Director

April 7, 2015

2016PEIR@scag.ca.gov

Ms. Lijin Sun
Senior Regional Planner
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Dear Ms. Sun:

**NOTICE OF PREPARATION OF A PROGRAM
ENVIRONMENTAL IMPACT REPORT (PEIR) FOR
THE 2016-2040 REGIONAL TRANSPORTATION PLAN (RTP)/
SUSTAINABLE COMMUNITIES STRATEGY (SCS)**

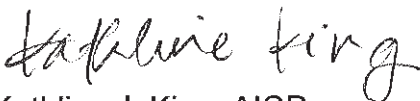
The Notice of Preparation for the above PEIR has been reviewed for potential impacts on the facilities under the jurisdiction of this Department. Please find below our comments on the PEIR:

1. The PEIR should include a map identifying the locations of all existing open space and recreation lands in the SCAG region, including public parks, recreational facilities, and other open space and recreational areas owned/maintained by local, state, federal, and non-profit, agencies.
2. The analysis in the PEIR for recreational resources should evaluate the proposed project's impacts on existing open space and recreation lands including public parks and recreational facilities/areas. Specifically, the following impacts should be examined:
 - Potential loss or disturbance of open space, recreation lands, and trails;
 - Accessibility and proximity to parks and recreation facilities as a result of the RTP projects;
 - Potential noise impacts to park patrons;
 - Potential increase in air pollutant emissions near a park or recreation area.
3. To address potential impacts on recreational resources, the PEIR should at a minimum include mitigation measures that would:

- Minimize the loss or displacement of existing parkland and open space through the acquisition of replacement land, dedication of park land, or payment of in-lieu fees;
- Require project implementing agencies to conduct the appropriate project specific environmental review, including consideration of loss of open space and recreation lands and consideration of disturbance of existing and proposed trail systems prior to final approval of each project;
- Require project implementing agencies to ensure that projects are consistent with local, regional, state, and federal plans to preserve parks and open space;
- Require the use of corridor realignment, buffer zones, setbacks, berms, and fencing to avoid open space and recreation land;
- Reduce conflicts between transportation uses and open space and recreation lands;
- Ensure the access to parks and public space is provided along with future housing development through dedication of parkland or payment of in lieu fees; and
- Ensure that future impacts to open space and recreation lands would be minimized through cooperation, information exchange, and program development.

We were pleased to see that the 2016 RTP/SCS will continue to improve accessibility and increase proximity to open space and recreation lands in the SCAG region, which is consistent with our recent effort to provide alternative/non-auto directions for certain County regional parks on our website. Thank you for including this Department in the review of this environmental document. If you have any questions, please contact Ms. Jui Ing Chien at (213) 351-5129 or jchien@parks.lacounty.gov.

Sincerely,



Kathline J. King, AICP
Chief of Planning

KK:CL:JC/ Response to SCAG 2016PEIR-NOP

c: Parks and Recreation (N. E. Garcia, C. Lau, J. Chien)



COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

April 21, 2015

Lijin Sun, Senior Regional Planner
LA County Department of Regional Planning
Southern California Association
818 West Seventh Street
Los Angeles, CA 90017

Dear Ms. Sun:

NOTICE OF PREPARATION, "2016-2040 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY", THE 2016 RTP/SCS UPDATES THE LAST ADOPTED 2012 RTP/SCS, LAST AMENDED IN SEPTEMBER 2014, BY REFINING GOALS, OBJECTIVES, AND POLICIES, AND THE LIST OF PROJECTS, EXTENDING THE PLANNING HORIZON TO 2040, LOS ANGELES COUNTY (FFER 201500056)

The Notice of Preparation has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department. The following are their comments:

PLANNING DIVISION:

1. We will reserve our comments for the draft EIR.

LAND DEVELOPMENT UNIT:

1. The Land Development Unit appreciates the opportunity to comment on this project.

SERVING THE UNINCORPORATED AREAS OF LOS ANGELES COUNTY AND THE CITIES OF:

AGOURA HILLS
ARTESIA
AZUSA
BALDWIN PARK
BELL
BELL GARDENS
BELLFLOWER
BRADBURY

CALABASAS
CARSON
CERRITOS
CLAREMONT
COMMERCE
COVINA
CUDAHY

DIAMOND BAR
DUARTE
EL MONTE
GARDENA
GLENDDORA
HAWAIIAN GARDENS
HAWTHORNE

HIDDEN HILLS
HUNTINGTON PARK
INDUSTRY
INGLEWOOD
IRWINDALE
LA CANADA FLINTRIDGE
LA HABRA

LA MIRADA
LA PUENTE
LAKEWOOD
LANCASTER
LAWNDALE
LOMITA
LYNWOOD

MALIBU
MAYWOOD
NORWALK
PALMDALE
PALOS VERDES ESTATES
PARAMOUNT
PICO RIVERA

POMONA
RANCHO PALOS VERDES
ROLLING HILLS
ROLLING HILLS ESTATES
ROSEMEAD
SAN DIMAS
SANTA CLARITA

SIGNAL HILL
SOUTH EL MONTE
SOUTH GATE
TEMPLE CITY
WALNUT
WEST HOLLYWOOD
WESTLAKE VILLAGE
WHITTIER

Lijin Sun, Senior Regional Planner
April 21, 2015
Page 2

2. This project does not propose construction of structures or any other improvements at this time. The Land Development Unit has no requirements at this time.
3. Should any questions arise regarding the Land Development Unit's comments, please contact FPEA Wally Collins at (323) 890-4243.

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

1. The statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones, archeological and cultural resources, and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed in the Program Environmental Impact Report.

HEALTH HAZARDOUS MATERIALS DIVISION:

1. The Health Hazardous Materials Division (HHMD) of the Los Angeles County Fire Department has no comment or objection to the proposed plan/strategy.

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,



KEVIN T. JOHNSON, ACTING CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

KTJ:ad

County of Los Angeles
Fire Department
Forestry Division
5823 Rickenbacker Road, Room 123
Commerce, CA 90040-4335

SCAG

MAY 01 2015

NOT CT CORPORATION

PLEASE MAIL RECEIVED



Lijin Sun, Senior Regional Planner
LA County Department of Regional Planning
Southern California Association
818 West Seventh Street
Los Angeles, CA 90017

90017340799



PUBLIC COMMENT CARD

2016
2010 RTPSCS

To make a public statement, please complete this card and submit it to a SCAG staff member prior to the public comment period. SCAG reserves the right to place reasonable time restrictions for public comments.

Si desea hacer un comentario en un idioma distinto del inglés, por favor póngase en contacto con un empleado de SCAG para solicitar ayuda.

如果你想用除英文以外的另一種語言發表評論，請聯繫南加州政府協會工作人員尋求幫助。

영어 외의 다른 언어로 의견을 제출하길 원하시는 분은 SCAG staff에게 도움을 요청하시기 바랍니다.

Nếu quý vị muốn bình luận bằng một ngôn ngữ khác hơn tiếng Anh, xin vui lòng liên lạc với nhân viên của SCAG.

Meeting Location: Los Angeles

Date: 3/18/2015

Name: EBONY DUBOIS

Phone: 323 360 7532

Agency or Affiliation:

Address: 17050 Passage Ave. Apt 37 Bellflower Zip: 90706

Email: EBONYDUBOIS@gmail.com Position or Title: Sign Language Interpreter

COMMENTS:

I know the requirement is to post the notice in the paper however I would love to see the community that language is provided advised more directly. GLAD, Greater Los Angeles Agency Deafness

G. L. A. D.

(323) 478-8000

2222 Laverna Ave

Los Angeles CA 90041

2016 PEIR

From: calwatch <calwatch@gmail.com>
Sent: Thursday, March 12, 2015 5:41 PM
To: 2016 PEIR
Subject: NOP Comments

Some comments on the Notice of Preparation for the 2016 SCAG PEIR:

- Due to current uncertainty of the SR-710 project and lack of a locally preferred alternative for this corridor, modeling of the PEIR should exclude any project in the SR-710 corridor (i.e. freeway tunnel, light rail, bus rapid transit, TSM/TDM), with a future amendment to the PEIR made to add the project which is selected as the preferred alternative. This is to not bias the final EIR for the SR-710 project which is scheduled for completion in 2016.
- In addition to modeling the "Intensified Transportation and Land Use Integration Alternative" this alternative should include full implementation of all active transportation plans currently approved by local jurisdictions (both funded, strategic, and unconstrained projects), including modeling changes in environment due to road diets/additional bikeways at a programmatic level, so that the public can understand global impacts of implementing an unconstrained active transportation network. Projects currently under development by COGs such as the Coachella Valley Link and South Bay COG Neighborhood Electric Vehicles should also be included, as well as evaluating impacts of trip sharing technology and ride hailing services.

Sincerely,
Hank Fung, P.E.

2016 PEIR

From: Vivian Perez <VivianPerez@co.imperial.ca.us>
Sent: Wednesday, April 1, 2015 2:03 PM
To: 2016 PEIR
Cc: Monica Soucier
Subject: Notice of Preparation of a Program Environmental Impact Report for the 2016-2035 RTP/SCS
Attachments: Comment Ltr NOP PROGRAM EIR REGIONAL TRANSP PLAN.pdf

Good afternoon Ms. Lijin Sun;

Attach you will find the Air District's comment letter on the Notice of Preparation of a Program Environmental Impact Report for the 2016-2035 Regional Transportation Plan –Sustainable Communities Strategy. A hard copy will be mailed the Southern California Association of Governments.

Should you have any questions, please feel free to call our office.

Thank you

*****PLEASE NOTE NEW OFFICE AND FAX NUMBER BELOW*****

Vivian Perez, MPA
APC Environmental Coordinator
Imperial County APCD
150 S. 9th St.,
El Centro, CA 92243
Telephone: (442) 265-1790
FAX: (442) 265-1799



AIR POLLUTION CONTROL DISTRICT

April 01, 2015

Ms. Lijin Sun, Senior Regional Planner
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

RE: Comments on Notice of Preparation of a Program Environmental Impact Report
for the 2016-2035 Regional Transportation Plan – Sustainable Communities Strategy

Dear Ms.. Lijin Sun:

The Imperial County Air Pollution Control District has finalized the review of the Notice of Preparation of a Program Environmental Impact Report for the 2016-2040 Regional Transportation Plan - Sustainable Communities Strategy and is hereby providing its comments.

- (2) Refined 2012 RTP/SCS Alternative
A refined 2012 RTP/SCS Alternative would include the most recent growth forecast data, including local input on land use, employment, population, and housing data, and new input on transportation projects from the County Transportation Commissions in the SCAG region. This Alternative will consider continued implementation of the policies, strategies and projects included in the 2012 RTP/SCS.
- (3) Intensified Transportation and Land Use Integration Alternative
An intensified Transportation and Land Use Integration Alternative would focus on analyzing more intensified integration of transportation and land use projects and policies aimed at further reducing vehicle miles traveled and GHG and criteria pollutant emissions to improve mobility, accessibility, and sustainability. This Alternative could include more mixed-use, infill development, increased densities in urban cores, new technological innovations, and/or additional transit and active transportation strategies.

Imperial County Air Pollution Control District determines that the Alternatives as proposed aims to avoid or reduce potentially significant impacts of the 2016 RTP/SCS may cause on the environment. Both Alternatives implement ways to avoid, reduce, or otherwise mitigate the impacts of emissions, include a range of policies and projects. Alternative (2) is more basic and proposes a refined RTP/SCS and to incorporate recent growth forecast data and local input on various pertinent from the County Transportation Commissions in the SCAG region. Alternative (3) is a more aggressive approach proposes further analyzing various methods to reduce GHG and criteria pollutant emissions and ultimately improving mobility, accessibility, and sustainability. A combination of elements within the Alternatives may be the best approach to complete the Program Environmental Impact Report for the RTP/SCS, so long as there is an adherence to regulations, meet the objectives, feasibility, and most importantly that the ultimate goal is to improve the quality of life outcomes.

Sincerely,

Vivian Perez, MPA
APC Environmental Coordinator

PUBLIC COMMENT CARD



To make a public statement, please complete this card and submit it to a SCAG staff member prior to the public comment period. SCAG reserves the right to place reasonable time restrictions for public comments.

Si desea hacer un comentario en un idioma distinto del inglés, por favor póngase en contacto con un empleado de SCAG para solicitar ayuda.

如果你想用除英文以外的另一種語言發表評論，請聯繫南加州政府協會工作人員尋求幫助。

영어 외의 다른 언어로 의견을 제출하길 원하시는 분은 SCAG staff에게 도움을 요청하시기 바랍니다.

Nếu quý vị muốn bình luận bằng một ngôn ngữ khác hơn tiếng Anh, xin vui lòng liên lạc với nhân viên của SCAG.

Meeting Location:

Date: 3-17-15

Name: JESSE N. MARQUEZ

Phone: 310-704-1265

Agency or Affiliation: COALITION FOR A SAFE ENVIRONMENT

Address: 1601 N. WILMINGTON BLVD STE B

City: WILMINGTON, CA Zip: 90744

Email: JNMARQUEZ@YAHOO.COM

Position or Title: EXECUTIVE DIRECTOR

COMMENTS:

1. ADD TO 2016 RTP/YES GOALS - PROTECT PUBLIC HEALTH

2. ADD TO " " " POLICIES & PERFORMANCE MEASURES -

TABLE COMPLY WITH SCAG AND CARB LAND USE GUIDELINES

50

3. ADD TO POLICIES & MEASURES - LAND USE GUIDELINES COMPLIANCE
4. ADD TO PRAIRIE 2016/SCENARIOS AND PLANNING METRICS - INCLUDE PUBLIC PROPOSED SCENARIOS

5. ADD TO SCOPE OF ENVIRONMENTAL ANALYSIS IN PEIR - PUBLIC HEALTH IMPACT ASSESSMENT.

6. ADD TO INTENSIVE TRANSPORTATION & LAND USE TUG OF WAR -
• ZERO EMISSION TRANSPORTATION TECHNOLOGY IS THE #1 PRIORITY
• IDENTIFY NOW & FUTURE CRASH TRANSPORTATION

POLICIES THAT ARE CAUSED BY SPECIAL EVENTS IE FOOTBALL
7. ADD TO POLICIES & PERFORMANCE METRICS - SMALL BUSSES PUBLIC
COMMUNITY LAND USE LOSS FOR PRIVATE COMPANY ECONOMIC DEVELOPMENT

2016 PEIR

From: Joyce Dillard <dillardjoyce@yahoo.com>
Sent: Tuesday, April 7, 2015 4:27 PM
To: 2016 PEIR
Subject: Comments SCAG PEIR 2016-2040 RTPSCS due 4.7.2015

YOU STATE:

2016 RTP/SCS Policies and Performance Measures

- *Transportation investments shall be based on SCAG's adopted Regional Performance Indicators.*
- *Ensuring safety, adequate maintenance, and efficiency of operations on the existing multi-modal transportation system should be the highest RTP priorities for any incremental funding in the region.*
- *RTP land-use and growth strategies in the RTP will respect local input and advance smart growth initiatives.*
- *Transportation Demand Management (TDM) and non-motorized transportation will be focus areas.*
- *High-Occupancy Vehicle (HOV) gap closures that significantly increase transit and rideshare usage will be supported and encouraged.*
- *Monitoring progress on all aspects of the Plan, including the timely implementation of projects, programs, and strategies, will be an important and integral component of the 2016 Plan.*

and

The adopted guidelines include a requirement for program level performance measures, which include objective criteria that reflect the goals and objectives of the RTP. In addition, the initial years of the plan must be consistent with the FTIP.

COMMENTS:

According to our notes for the 2015 FTIP:

FTIP expenditures are categorized by function into three broad industries:

- construction,
- transit operations, and
- architectural and engineering services

Highway operations and maintenance expenditures are included with construction given their similarity.

We are not clear how program level performance measures will be chosen and executed considering the overlap of agencies involved. Since you are LEAD AGENCY for this PEIR, and other agencies are LEAD AGENCIES for the individual projects in the FTIP

across the many county jurisdictions, who is ultimately responsible. FTIP covers COUNTY TRANSIT COMMISSIONS that are responsible for:

- Highway
- Local arterial
- Bridge
- Public transit
- Rail
- Bicycle
- Pedestrian
- Safety
- Maintenance
- Operational
- Planning projects

We find that some of the responsibilities will be covered by CALTRANS, or CITY or COUNTY GOVERNMENTS. How as you, the LEAD AGENCY, plan to substantiate program performance measures.

YOU STATE:

2016 RTP/SCS Goals

- *Maximize mobility and accessibility for all people and goods in the region*
- *Ensure travel safety and reliability for the people and goods in the region*
- *Preserve and ensure a sustainable regional transportation system*
- *Maximize the security of the regional transportation system through improved monitoring, recovery planning, and coordination with other security agencies*
- *Maximize the productivity of our transportation system*
- *Protect the environment, improve air quality and promote energy efficiency*
- *Encourage land use and growth patterns that complement our transportation investments*

And

Pursuant to SB 375, SCAG's SCS is required to meet reduction targets for greenhouse gas (GHG) emissions by 8 percent per capita by 2020 and 13 percent per capita by 2035 compared to 2005, as set by the California Air Resources Board (ARB). According to Section 65080(b)(2)(B) of the California Government Code, the SCS must:

- *Identify existing land use;*
- *Identify areas to accommodate long-term population growth;*
- *Identify areas to accommodate an **eight-year projection of regional housing needs**;*
- *Identify transportation needs and the planned transportation network,*
- *Consider resource areas and farmland;*
- *Consider state housing goals and objectives;*
- *Set forth a forecasted growth and development pattern; and*

- *Comply with federal law for developing an RTP.*

COMMENTS:

Land use is not a function of this body, but a function of the GENERAL PLANS in form of the COMMUNITY PLANS for the urban areas. HOUSING ELEMENTS are also under the purview of the local governments.

You estimation for the RHNA has no assignment to the LAND USE ELEMENT in the GENERAL PLANS. Your results are divided by cities, not PLANNING AREAS.

We are missing the nexus between LAND USE and GREENHOUSE GAS EMISSIONS REDUCTIONS. The infrastructure may be deteriorated and cannot sustain increased populations in TOD Transit Oriented Districts, yet there is an assumption that building such projects produce the desired result. Missing is the analysis showing increased congestion in traffic due to density, increased vehicle idling and possible increase in GREENHOUSE GASES.

YOU STATE:

*In addition, SCAG is required to submit to ARB the SCS developed as part of the RTP for the purpose of determining whether the GHG emissions reduction targets have been met. Furthermore, SB 375 specifically states that the **SCS developed as part of the RTP cannot dictate local General Plan policies.***

And

*Rather, **SB 375 is intended to provide a regional policy foundation that local government may build upon if they so choose** and generally includes the quantitative growth projections from each city and county in the region going forward.*

And

The 2016 RTP/SCS is currently being envisioned to include a set of key categories of performance measures as follows:

- *Location efficiency*
- *Mobility and accessibility*
- *Safety and health*
- *Environmental quality*
- *Economic well-being*
- *Investment effectiveness*
- *System sustainability*

COMMENTS:

These performance measures cannot encompass any sense of reality of functional government when the governments who have the legal authority under the State yet

have an option to ignore these plans and, ultimately, the responsibility to State compliance.

YOU STATE:

As part of the 2016 RTP/SCS planning process, SCAG is developing a suite of transportation and land use scenarios for public consideration. These scenarios focus on transportation and land use related inputs that are modified to vary across four (4) scenarios.

And

The Preliminary 2016 RTP/SCS Scenario Planning Matrix outlines a number of plan elements that together build a framework for comparing potential regional scale choices on issues such as land use development patterns, transportation investments, transportation demand management/transportation system management (TDM/TSM), and technological innovations.

COMMENTS:

Models only work with data both factual and applicable under any scenario. Please set up the parameters for the Scenario Planning Matrix. Four models may not be sufficient to cover the vast area under your jurisdiction.

Bottom-up Local Growth and Land Use Input Process seems to be about communication not data.

YOU STATE:

Scope of Environmental Effects

- *Aesthetics and Views*
- *Agriculture and Forestry Resources*
- *Air Quality*
- *Biological Resources and Open Space*
- *Cultural Resources*
- *Energy*
- *Geology, Soils and Mineral Resources*
- *Greenhouse Gas Emissions and Climate Change*
- *Hazards and Hazardous Materials*
- *Hydrology and Water Resources*
- *Land Use and Planning*
- *Noise*
- *Population, Employment, and Housing*
- *Recreation*
- *Transportation, Traffic, and Safety*
- *Public Services and Utilities*

COMMENTS:

Please include Watershed Health and permit compliance in these reviews. Though each region is governed by a local State Regional Water Quality Control Board, the compliance issues can be costly when a region has more TMDLs Total Daily Maximum Load compliance issues as well as Wastewater issues.

Groundwater is important during this Declared Drought. Those aspects of decreased water should be considered in land and transportation issues.

CIRCULATION ELEMENT requirements in **Government Code Section 65302 (b)** are:

*(b) (1) A circulation element consisting of the general location and **extent of existing and proposed major thoroughfares, transportation routes, terminals, any military airports and ports, and other local public utilities and facilities, all correlated with the land use element of the plan.***

*(2) (A) Commencing January 1, 2011, upon any substantive revision of the circulation element, the legislative body shall modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for **safe and convenient travel** in a manner that is suitable to the rural, suburban, or urban context of the general plan.*

(B) For purposes of this paragraph, "users of streets, roads, and highways" mean bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors.

YOU STATE:

PRELIMINARY 2016 RTP/SCS ALTERNATIVES

(1) No Project

(2) Refined 2012 RTP/SCS Alternative

(3) Intensified Transportation and Land Use Integration Alternative.

COMMENTS:

Any Alternative presented **MUST** have the condition of the infrastructure, capital needs assessment (outside of those stated in the FTIP) and economic analysis.

Joyce Dillard
P.O. Box 31377
Los Angeles, CA 90031

2016 PEIR

From: Michele Hasson <mhasson@leadershipcounsel.org>
Sent: Tuesday, April 7, 2015 4:31 PM
To: 2016 PEIR
Cc: Phoebe Seaton; Veronica Garibay
Subject: Comments to Notice of Preparation of a Program Environmental Impact Report for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy
Attachments: Leadership Counsel comments to SCAG SCS RTP 2016 NOP.pdf

Dear Ms. Lijin;

Please accept the attached Comments to Notice of Preparation of a Program Environmental Impact Report for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy.

We look forward to seeing our comments addressed in the PEIR.

Thank you for your consideration,

Michele Hasson

--

Michele Knab Hasson-- Regional Director, Coachella Valley
Leadership Counsel for Justice and Accountability
<http://www.leadershipcounsel.org>
mhasson@leadershipcounsel.org
cell: 347-578-0220



April 7, 2015

Delivered via electronic mail

VIA ELECTRONIC MAIL (2016PEIR@scag.ca.gov)

Ms. Lijin Sun, Senior Regional Planner
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, California 90017-3435

**RE: Comments to Notice of Preparation of a Program Environmental Impact Report
for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy**

Dear Ms. Lijin:

As a complement to observations we provided in the recent Southern California of Governments Environmental Justice Workshop for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) held on November 20, 2014, we would like to submit these comments on the Notice of Preparation (NOP) of a Program Environmental Impact Report (PEIR) for the 2016 RTP/SCS. We welcome the opportunity to discuss the following recommendations in person.

Analyze and address the impacts of scenarios on low income communities and communities of color to ensure that the benefits and burdens of the RTP/SCS are fairly distributed.

According to state law, “environmental justice” means the equitable treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. (Gov. Code, § 65040.12, subd. (e).)

Fairness, in the context of the 2016 RTP/SCS, means the *benefits* of a healthy environment should be available to all residents of the SCAG region, and the *burdens* of inequitable investments should not be focused on sensitive populations or on communities that already are experiencing its adverse effects.¹ “Environmental justice cannot be achieved . . . simply by adopting generalized policies and goals. Instead, environmental justice requires an ongoing commitment to identifying existing and potential problems, and to finding and applying solutions, both in approving specific projects and planning for future development.”²

The NOP of the PEIR should, for each scenario, including the “no build baseline” scenario, explicitly and robustly identify, analyze, and address the impacts of the scenario on low income communities

¹ Kamala D. Harris, Attorney General, *Environmental Justice at the Local and Regional Level*, available at: http://oag.ca.gov/sites/all/files/pdfs/environment/ej_fact_sheet.pdf.

² *Id.*

and communities of color, specifically disaggregating analysis per SCAG sub-regions with particular focus on small urban and rural communities within SCAG boundaries.

Such an analysis should include the impacts and benefits of each scenario, disaggregated by race, income and geography related to: access to transit, high transportation and housing cost burdens, lack of affordable housing (or poor jobs-housing fit), risk of direct and indirect displacement, and other public health factors (including those related to air quality, access to active transportation, and related chronic diseases).

Ensure that the tools and models used to analyze the PEIR alternatives are sensitive to differences among the behaviors of and the scenario/policy impacts on low-income people and people of color, and adopt appropriate mitigation measures to address these differences.

The PEIR must account in its analysis for the differences in behaviors, housing opportunities and transportation needs (including transportation to work) among different economic and racial segments of the population and between and among different geographical areas within SCAG boundaries.

If the modeling tools used to analyze the 2016 RTP/SCS scenarios do not account for the differences in vehicle miles traveled (VMT) among different economic and racial segments of the population, the environmental impacts of the scenarios, such as affordable housing distribution, anti-displacement policies, and inadequate transit, could not be accurately measured or considered in the PEIR. This may not only lead to inaccuracies in determining the significance of impacts, it would overlook several of the policy priorities that should be adopted in the SCAG 2016 RTP/SCS update and limit performance targets and equity analysis measures.

The PEIR and its tools should take into account such issues and the following factors, among others:

- The impact of the reliability, accessibility and affordability of transit for disadvantaged communities disaggregated by sub-region.
- The sprawl-inducing impacts of the suite of transportation and land use scenarios for the 2016 RTP/SCS, with specific focus on the environmental impacts resulting from leap-frogging of low-income residents to the outer suburbs, particularly from coastal sub-regions to the Inland Empire.
- The VMT of lower-income residents in affordable housing, which tends to be lower than the VMT of more affluent auto-owning residents, disaggregated per sub-region as well as between small and rural communities.
- Jobs-housing fit of each scenario by income level and geographic location to determine whether the plan indeed encourages development of workforce housing that would reduce VMT and GHG emissions.

Such an analysis will ensure the environmental impacts of 2016 RTP/SCS attributes will be accurately measured and considered in the PEIR.

Conduct as part of the EIR a Health Impact Assessment to study the health impacts of the proposed scenarios specifically on disadvantaged communities.

SCAG should conduct a Health Impact Assessment (HIA) as a component of the PEIR.³ We recommend that the assessment focus specifically on the differential impacts on and potential benefits for more affluent, urban communities in SCAG's region as compared to low income communities and communities of color, specifically per sub region as well as small urban and rural communities.

Such an HIA would help SCAG identify appropriate actions to understand and address differential impacts and benefits of the 2016 RTP/SCS. SCAG should also consider and identify mitigations for the public health effects and disparities related to transit connectivity (reliability, accessibility, and affordability), availability of affordable housing (including the amount of affordable housing in healthy and high-opportunity areas), and displacement risk.

Ensure that the PEIR analyses the regional differences in the SCAG region.

The SCAG region is a diverse region that includes both rural and urban communities, and areas with well-developed transit and active transportation networks and those without. Accordingly the PEIR should:

- Regional Performance Indicators should be dis-aggregated by sub region and small urban and rural geographies.
- Regional performance indicators should be assessed for sub-region and both rural and urban regions and communities.
- The impacts of proposed large scale growth on existing lower income communities with respect to infrastructure, housing, access to water.

Include Environmental Justice Performance Measures to the core performance measures for the 2016-2040 RTP/SCS and include them in the PEIR.

The Environmental Justice Performance Measures are important to other RTP goals; specifically to improving prosperity and health outcomes for all residents. The inclusion of the EJ performance measures as a core RTP measure reflects their importance to advancing greater equity in the region. Furthermore, SCAG should identify disadvantaged communities' burdened by environmental justice issues and develop a project list that would mitigate such impacts.

Given the specific environmental justice challenges facing the region's rural communities, the performance measures should be stratified by and separately address rural areas, and provide separate analysis of each measure in these areas.

The Environmental Justice Performance Measures should include, but not limited to, the following:

- Analyze specific geographic areas and provide analysis over time. Use San Francisco Bay Area's "Communities of Concern" as a model. (<http://onebayarea.org/plan-bay-area/plan-elements/equity-analysis.html> , <http://geocommons.com/maps/118675>)

³ An HIA is a "combination of procedures, methods and tools that systematically judges the potential, and sometimes unintended, effects of a policy, plan, program or project on the health of a population and the distribution of those effects within the population." See Gothenburg consensus statement. See U.S. Centers for Disease Control and Prevention, *Health Impact Assessment*, available at: <http://www.cdc.gov/healthyplaces/hia.htm>.

- Supplement regional maps with local scale maps (at least on-line). Only using data at the county scale obscures the disparate impacts that happen within counties, when the EJ Analysis is aimed at identifying disparate impacts.
- Provide analysis. Maps and charts are no substitute for calling out trends, to identify both success and areas of concern.

Study the Jobs, Health and Quality of Life Scenario as one of the 2016 RTP/SCS PEIR scenarios.

We will continue to work with SCAG staff to develop this alternative. In order to ensure that this alternative is given adequate consideration, we request that we have equal opportunity to use the modeling tools to iteratively develop the Jobs, Health and Quality of Life Scenario that the other alternatives will be given.

* * * * *

We welcome sustained collaboration with SCAG and will continue to engage in all stakeholder processes about the 2016 RTP/SCS and we look forward to seeing our comments addressed in the PEIR.

Thank you for your consideration,

Michele Hasson
Regional Director of the Coachella Valley, Leadership Counsel for Justice and Accountability

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of quality management deficit
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Mojave Desert Air Quality Management District

14306 Park Avenue, Victorville, CA 92392-2310

760.245.1661 • fax 760.245.2699

Visit our web site: <http://www.mdaqmd.ca.gov>

Eldon Heaston, Executive Director

March 19, 2015

Ms. Lijin Sun, Senior Regional Planner
Southern California Association of Governments
818 W. 7th St., 12th Floor
Los Angeles, CA 90017-3435

**Subject: Program Environmental Impact Report for the 2016-2040 Regional
Transportation/Sustainable Communities Strategy**

Dear Ms. Sun:

The Mojave Desert Air Quality Management District (MDAQMD) has received the request for comments for the Program Environmental Impact Report for the 2016-2040 Regional Transportation/Sustainable Communities Strategy (RTP/SCS). The RTP/SCS is a long-range transportation plan that provides for a vision for regional transportation investments over a 20-year period. The RTP/SCS is updated every four years to reflect changes to the transportation network, the most recent planning assumptions, economic trends, and population and jobs growth forecasts.

The MDAQMD has reviewed the Notice of Preparation for the RTP/SCS and concurs with the proposed analysis of potential impacts in the Air Quality section. MDAQMD Designations and Classifications are available at http://www.mdaqmd.ca.gov/rules_plans/documents/CEQAGuidelines.pdf.

If you have any questions regarding this letter, please contact me at (760) 245-1661, extension 6726, or Tracy Walters at extension 6122.

Sincerely,

A handwritten signature in black ink, appearing to read "Alan J. De Salvio".

Alan J. De Salvio
Deputy Director – Mojave Desert Operations

AJD/tw

SCAG 2016 RTP SCS

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SOUTHERN CALIFORNIA ASSOCIATION
OF GOVERNMENTS
MS. LIJIN SUN, SR. REGIONAL PLANNER
818 WEST SEVENTH ST. 12TH FLOOR
LOS ANGELES, CA 90017-3435

SCAG

MAR 30 2015

MAIL RECEIVED



March 26, 2015

Ms. Lijin Sun
Senior Regional Planner
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, California 90017-3435

RE: Comments on the Notice of Preparation of a Program Environmental Impact Report for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

Dear Ms. Sun:

The Orange County Council of Governments (OCCOG) appreciates the opportunity to review and provide comments on the Notice of Preparation of a Program Environmental Impact Report (PEIR) for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS). OCCOG is requesting that SCAG staff consider the following comments during the preparation of the PEIR.

1. SCAG shall limit mitigation measures included in the PEIR for the 2016-2040 RTP/SCS to issues that are within SCAG's purview. All measures related to issues SCAG does not have the purview to implement shall be included in an appendix of the RTP/SCS that can be used by local jurisdictions, local agencies, and project sponsors as a menu of options or toolbox of strategies.
2. The PEIR for the 2016-2040 RTP/SCS shall not include any mitigation measures that are duplicative of existing regulations administered by or under the jurisdiction of other agencies. For each impact already administered by or under another agency, SCAG could add the language "Local jurisdictions, agencies, and project sponsors should comply, as applicable with existing federal, state, and local laws and regulations."
3. SCAG shall ensure that documentation is provided in the PEIR for all mitigation measures deemed feasible.

The OCCOG appreciates your consideration of the comments provided in this letter. It is a shared goal to develop and adopt a Regional Transportation Plan and Sustainable Communities Strategy that represents the best in regional planning developed collaboratively with local jurisdictions and stakeholders in a manner that is credible and defensible on all levels. The OCCOG looks forward to working with the Southern California Association of Governments to achieve this goal.

Sincerely,

A handwritten signature in blue ink that reads "Art Brown". The signature is fluid and cursive, with the first name "Art" being more prominent.

Honorable Art Brown
Chair OCCOG Board of Directors

2016 PEIR

From: Gregory Nord <gnord@octa.net>
Sent: Tuesday, April 7, 2015 2:22 PM
To: 2016 PEIR
Cc: Kia Mortazavi; kbrotcke@octa.net; clarwood@octa.net; Joseph Alcock
Subject: SCAG 2016-2040 RTP/SCS PEIR NOP comments
Attachments: 4.7.15 - Lijin Sun - RTP PEIR NOP comments.pdf

Attached are comments from the Orange County Transportation Authority for consideration in the development of the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy and associated Program Environmental Impact Report. A hard copy of the letter is also being mailed. If you have any questions, please contact me, Greg Nord, at 714-560-5885 or gnord@octa.net.

Thank you,

Greg Nord
Senior Transportation Analyst
Strategic Planning, OCTA

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April 7, 2015

Ms. Lijin Sun
Senior Regional Planner
Southern California Association of Governments
818 West Seventh Street
12th Floor
Los Angeles, CA 90017-3435

Re: **Notice of Preparation for the 2016-2040 Regional Transportation Plan/
Sustainable Communities Strategy Program Environmental Impact
Report**

Dear Ms. Sun:

The Orange County Transportation Authority (OCTA) appreciates the opportunity to review and comment on the Notice of Preparation of the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Program Environmental Impact Report (PEIR). OCTA thanks you in advance for taking full consideration of the comments provided below.

OCTA understands the purpose of the PEIR as a broad-level analysis of the entirety of the program of projects, policies, and strategies that are being considered as part of the financially constrained plan, and viable alternatives. Regarding the selection of the alternatives to be analyzed as part of the PEIR, the 2012-2035 RTP/SCS PEIR states, "Alternatives that are considered remote or speculative, or whose effects cannot be reasonably predicted do not require consideration". Based on our understanding of the purpose of the PEIR, and to be consistent with past PEIR practice, OCTA makes the following request:

The 2016-2040 RTP/SCS financially constrained alternatives should accurately reflect the projects submitted by the county transportation commissions (commissions). Furthermore, as discussed between the commissions and the Southern California Association of Governments (SCAG) staff, projects from the financially unconstrained (Strategic Plan) project submittals should not be modeled, or otherwise analyzed for performance or impacts, as part of this RTP/SCS or PEIR because they are conceptual and require further study prior to modeling.

As for the process to develop the alternatives, Scenario 2 is described as a technical update to the 2012 RTP/SCS, which includes the strategies that allowed the 2012 RTP/SCS to demonstrate conformity with air quality emission budgets, financial constraint, greenhouse gas emission reduction targets, and system preservation goals. OCTA understands that SCAG must perform scenario planning and consider stakeholder input in the development of the 2016-2040 RTP/SCS and PEIR,

Ms. Lijin Sun
April 7, 2015
Page 2

but the strategies and efforts that went into the 2012-2035 RTP/SCS should also be recognized as effective yet challenging at the same time. Therefore, we encourage SCAG to take advantage of performance gains provided by Scenario 2 as Scenarios 3 and 4 are developed. For this reason OCTA requests that:

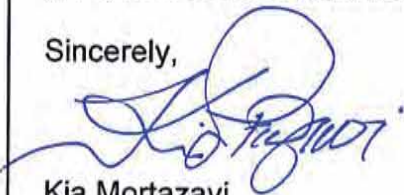
The model results from the currently proposed Scenario 2 should be shared with the commissions and the members of the SCAG Technical Working Group at the earliest opportunity, and goals or strategies that go beyond Scenario 2 should only be discussed in general terms as potential opportunities or enhancements until after these results have been discussed with the noted parties.

Finally, OCTA agrees that the PEIR should not analyze performance and/or environmental impacts at the project-level. As the Notice for Preparation states, "Project-level environmental analysis should appropriately be prepared by implementing agencies on a project-by-project or site-by-site basis as projects proceed through the design and decision-making process". However, OCTA recommends emphasizing the following:

Provide clear language explaining that utilizing the PEIR as a first-tier document in the preparation of any subsequent project-specific or site-specific environmental analyses is at the discretion of the implementing agencies.

Once again, thank you for the opportunity to provide comments on the Notice of Preparation for the 2016-2040 RTP/SCS PEIR. In addition, OCTA appreciates SCAG's willingness to discuss and consider suggestions from partner agencies in the RTP/SCS development process. If you have any questions regarding the comments above, please contact Greg Nord, Senior Transportation Analyst, at (714) 560-5885 or gnord@octa.net.

Sincerely,



Kia Mortazavi
Executive Director, Planning

KM:gn



EDMUND G. BROWN JR.
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE of PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



KEN ALEX
DIRECTOR

Notice of Preparation

March 9, 2015

To: Reviewing Agencies

Re: 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy
SCH# 2015031035

Attached for your review and comment is the Notice of Preparation (NOP) for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Ms. Lijin Sun
Southern California Association of Governments
818 W. 7th Street; 12th Floor
Los Angeles, CA 90017-3435

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

**Document Details Report
State Clearinghouse Data Base**

SCH# 2015031035
Project Title 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy
Lead Agency Southern California Association of Governments

Type NOP Notice of Preparation
Description The 2016 RTP/SCS updates the last adopted 2012 RTP/SCS, last amended in Sept. 2014, by refining goals, objectives, and policies and list of projects, and extending the planning horizon to 2040. As with the 2012 RTP/SCS, the 2016 RTP/SCS is intended to continue the region's various strategies that improve the balance between land use and transportation and transit systems, both current and future.

Lead Agency Contact

Name Ms. Lijin Sun
Agency Southern California Association of Governments
Phone 213-236-1882 **Fax**
email
Address 818 W. 7th Street; 12th Floor
City Los Angeles **State** CA **Zip** 90017-3435

Project Location

County Los Angeles
City Los Angeles, City of
Region
Cross Streets
Lat / Long
Parcel No.

Township	Range	Section	Base
-----------------	--------------	----------------	-------------

Proximity to:

- Highways
- Airports
- Railways
- Waterways
- Schools
- Land Use

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Coastal Zone; Drainage/Absorption; Economics/Jobs; Fiscal Impacts; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Wetland/Riparian; Water Supply; Growth Inducing; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; California Coastal Commission; Cal Fire; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife, Region 5; Department of Fish and Wildlife, Region 6; Department of Housing and Community Development; Office of Emergency Services, California; Native American Heritage Commission; Caltrans, Division of Transportation Planning; California Highway Patrol; Air Resources Board; State Water Resources Control Board, Division of Water Quality

Date Received 03/09/2015 **Start of Review** 03/09/2015 **End of Review** 04/07/2015

Notice of Completion & Environmental Document Transmittal

2015031035

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

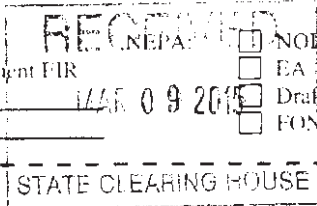
Project Title: 2016-2040 Regional Transportation Plan-Sustainable Communities Strategy

Lead Agency: Southern California Association of Governments Contact Person: Ms. Lijin Sun, Senior Regional Pl
Mailing Address: 818 West Seventh Street, 12th Floor Phone: 213-236-1882
City: Los Angeles, California Zip: 90017-3435 County: Los Angeles

Project Location: County: 6 County Area (see NOP) City/Nearest Community: N/A Zip Code: N/A
Cross Streets: N/A
Longitude/Latitude (degrees, minutes and seconds): N/A N/A N/A N/A N/A N/A N/A W Total Acres: N/A
Assessor's Parcel No.: N/A Section: N/A Twp: N/A Range: N/A Base: N/A
Within 2 Miles: State Hwy #: N/A Waterways: N/A
Airports: N/A Railways: N/A Schools: N/A

Document Type:

CEQA: [X] NOP [] Draft EIR [] NOI Other: [] Joint Document
[] Early Cons [] Supplement/Subsequent FIR [] EA [] Final Document
[] Neg Dec (Prior SCH No.) [] Draft EIS [] Other:
[] Mit Neg Dec Other:



Local Action Type:

[] General Plan Update [] Specific Plan [] Rezone [] Annexation
[] General Plan Amendment [] Master Plan [] Prezone [] Redevelopment
[] General Plan Element [] Planned Unit Development [] Use Permit [] Coastal Permit
[] Community Plan [] Site Plan [] Land Division (Subdivision, etc.) [] Other: N/A

Development Type:

[] Residential: Units _____ Acres _____ [] Transportation: Type _____
[] Office: Sq.ft. _____ Acres _____ Employees _____ [] Mining: Mineral _____
[] Commercial: Sq.ft. _____ Acres _____ Employees _____ [] Power: Type _____ MW _____
[] Industrial: Sq.ft. _____ Acres _____ Employees _____ [] Waste Treatment: Type _____ MGD _____
[] Educational: _____ [] Hazardous Waste: Type _____
[] Recreational: _____ [] Other: Regional Transportation Plan/Sustainable Communities
[] Water Facilities: Type _____ MGD _____

Project Issues Discussed in Document:

[X] Aesthetic/Visual [X] Fiscal [X] Recreation/Parks [X] Vegetation
[X] Agricultural Land [X] Flood Plain/Flooding [X] Schools/Universities [X] Water Quality
[X] Air Quality [X] Forest Land/Fire Hazard [X] Septic Systems [X] Water Supply/Groundwater
[X] Archeological/Historical [X] Geologic/Seismic [X] Sewer Capacity [X] Wetland/Riparian
[X] Biological Resources [X] Minerals [X] Soil Erosion/Compaction/Grading [X] Growth Inducement
[X] Coastal Zone [X] Noise [X] Solid Waste [X] Land Use
[X] Drainage/Absorption [X] Population/Housing Balance [X] Toxic/Hazardous [X] Cumulative Effects
[X] Economic/Jobs [X] Public Services/Facilities [X] Traffic/Circulation [] Other:

Present Land Use/Zoning/General Plan Designation:

N/A

Project Description: (please use a separate page if necessary)

The 2016 RTP/SCS updates the last adopted 2012 RTP/SCS, last amended in September 2014, by refining goals, objectives, and policies and the list of projects, and extending the planning horizon to 2040. As with the 2012 RTP/SCS, the 2016 RTP/SCS is intended to continue the region's various strategies that improve the balance between land use and transportation and transit systems, both current and future.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document), please fill in

Resources Agency

- Resources Agency
Nadell Gayou
- Dept. of Boating & Waterways
Nicole Wong
- California Coastal Commission
Elizabeth A. Fuchs
- Colorado River Board
Lisa Johansen
- Dept. of Conservation
Elizabeth Carpenter
- California Energy Commission
Eric Knight
- Cal Fire
Dan Foster
- Central Valley Flood Protection Board
James Herola
- Office of Historic Preservation
Ron Parsons
- Dept of Parks & Recreation
Environmental Stewardship Section
- California Department of Resources, Recycling & Recovery
Sue O'Leary
- S.F. Bay Conservation & Dev't. Comm.
Steve McAdam
- Dept. of Water Resources Agency
Nadell Gayou
- Fish and Game
Scott Flint
- Dept. of Fish & Wildlife
Environmental Services Division
- Fish & Wildlife Region 1
Donald Koch

- Fish & Wildlife Region 1E
Laurie Hamsberger
- Fish & Wildlife Region 2
Jeff Drongesen
- Fish & Wildlife Region 3
Charles Armor
- Fish & Wildlife Region 4
Julie Vance
- Fish & Wildlife Region 5
Leslie Newton-Reed
Habitat Conservation Program
- Fish & Wildlife Region 6
Tiffany Ellis
Habitat Conservation Program
- Fish & Wildlife Region 6 I/M
Heidi Sickler
Inyo/Mono, Habitat Conservation Program
- Dept. of Fish & Wildlife M
George Isaac
Marine Region
- Food & Agriculture
Sandra Schubert
Dept. of Food and Agriculture
- Dept. of General Services
Public School Construction
- Dept. of General Services
Anra Garbeff
Environmental Services Section
- Delta Stewardship Council
Kevan Samsam
- Housing & Comm. Dev.
CEQA Coordinator
Housing Policy Division
- Independent Commissions/Boards
Delta Protection Commission
Michael Machado

- OES (Office of Emergency Services)
Dennis Castrillo
- Native American Heritage Comm.
Debbie Treadway
- Public Utilities Commission
Leo Wong
- Santa Monica Bay Restoration
Guangyu Wang
- State Lands Commission
Jennifer Deleong
- Tahoe Regional Planning Agency (TRPA)
Cherry Jacques
- Cal State Transportation Agency CalSTA
Philip Cirmmins
- Caltrans - Division of Aeronautics
Philip Cirmmins
- Caltrans - Planning HQ LD-IGR
Terri Pencovic
- California Highway Patrol
Suzann Ikeuchi
Office of Special Projects
- Dept. of Transportation
Caltrans, District 1
Rex Jackman
- Caltrans, District 2
Marcelino Gonzalez
- Caltrans, District 3
Eric Federicks - South
Susan Zanchi - North
- Caltrans, District 4
Erik Alm
- Caltrans, District 5
Larry Newland
- Caltrans, District 6
Michael Navarro
- Caltrans, District 7
Dianna Watson

- Caltrans, District 8
Mark Roberts
- Caltrans, District 9
Gayle Rosander
- Caltrans, District 10
Tom Dumas
- Caltrans, District 11
Jacob Armstrong
- Caltrans, District 12
Maureen El Hairake
- Air Resources Board
All Other Projects
Cathi Slaminski
- Transportation Projects
Nesamani Kalandiyur
- Industrial/Energy Projects
Mike Tolstrup
- State Water Resources Control Board
Regional Programs Unit
Division of Financial Assistance
- State Water Resources Control Board
Jeffery Werth
Division of Drinking Water
- State Water Resources Control Board
Student Intern, 401 Water Quality Certification Unit
Division of Water Quality
- State Water Resources Control Board
Phil Crader
Division of Water Rights
- Dept. of Toxic Substances Control
CEQA Tracking Center
- Department of Pesticide Regulation
CEQA Coordinator

- Regional Water Quality Control Board (RWQCB)
RWQCB 1
Cathleen Hudson
North Coast Region (1)
- RWQCB 2
Environmental Document Coordinator
San Francisco Bay Region (2)
- RWQCB 3
Central Coast Region (3)
- RWQCB 4
Teresa Rodgers
Los Angeles Region (4)
- RWQCB 5S
Central Valley Region (5)
- RWQCB 5F
Central Valley Region (5)
Fresno Branch Office
- RWQCB 5R
Central Valley Region (5)
Redding Branch Office
- RWQCB 6
Lahontan Region (6)
- RWQCB 6V
Lahontan Region (6)
Victorville Branch Office
- RWQCB 7
Colorado River Basin Region (7)
- RWQCB 8
Santa Ana Region (8)
- RWQCB 9
San Diego Region (9)
- Other
Conservancy

State of California
Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
1400 Tenth Street
Sacramento, California 95812-3044



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South Coast Air Quality Management District

Headquarters
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South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

April 2, 2015

Jonathan Nadler, Manager of Compliance and Performance Assessment
Land Use & Environmental Planning Division
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

**Notice of Preparation of a CEQA Document for the
2016-2014 Regional Transportation Plan/ Sustainability Communities Strategy Project**

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The SCAQMD staff's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft CEQA document. Please send the SCAQMD a copy of the CEQA document upon its completion. Note that copies of the Draft EIR that are submitted to the State Clearinghouse are not forwarded to the SCAQMD. Please forward a copy of the Draft EIR directly to SCAQMD at the address in our letterhead. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files. These include original emission calculation spreadsheets and modeling files (not Adobe PDF files). Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. More recent guidance developed since this Handbook was published is also available on SCAQMD's website here: [http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-\(1993\)](http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993)). SCAQMD staff also recommends that the lead agency use the CalEEMod land use emissions software. This software has recently been updated to incorporate up-to-date state and locally approved emission factors and methodologies for estimating pollutant emissions from typical land use development. CalEEMod is the only software model maintained by the California Air Pollution Control Officers Association (CAPCOA) and replaces the now outdated URBEMIS. This model is available free of charge at: www.caleemod.com.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD staff requests that the lead agency quantify criteria pollutant emissions and compare the results to the recommended regional significance thresholds found here: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>. In addition to analyzing regional air quality impacts, the SCAQMD staff recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts

when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the lead agency perform a localized analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds>.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("*Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*") can be found at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis>. An analysis of all toxic air contaminant impacts due to the use of equipment potentially generating such air pollutants should also be included.

In addition, guidance on siting incompatible land uses (such as placing homes near freeways) can be found in the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Perspective*, which can be found at the following internet address: <http://www.arb.ca.gov/ch/handbook.pdf>. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate these impacts. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed. Several resources are available to assist the Lead Agency with identifying possible mitigation measures for the project, including:

- Chapter 11 of the SCAQMD *CEQA Air Quality Handbook*
- SCAQMD's CEQA web pages at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies>.
- CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* available here: <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>.
- SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook for controlling construction-related emissions
- Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf?sfvrsn=4>.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's webpage (<http://www.aqmd.gov>).

The SCAQMD staff is available to work with the Lead Agency to ensure that project emissions are accurately evaluated and mitigated where feasible. If you have any questions regarding this letter, please contact me at Jwong1@aqmd.gov or call me at (909) 396-3176.

Sincerely,

Jillian Wong

Jillian Wong, Ph.D.

Program Supervisor

Planning, Rule Development & Area Sources

April 6, 2015

Ms. Lijin Sun
Senior Regional Planner
Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

Subject: Request for Review of Notice of Preparation of a Program Environmental
Impact Report for the 2016-2040 Regional Transportation
Plan/Sustainable Communities Strategy

Dear. Ms. Sun,

Air Pollution Control District staff has reviewed the subject notice of preparation for a program environmental impact report for a long-range transportation plan that provides a vision for regional transportation investments over a 20-year period. The Regional Transportation Plan/Sustainable Communities Strategy will be a blueprint for the region's growth through 2040 and will outline the region's goals, policies and strategies that improve the balance between land use and transportation systems, both current and future. We concur with the inclusion of air quality, greenhouse gas emissions and climate change as potential environmental effects that warrant analysis in the program environmental impact report. We look forward to reviewing the air quality, greenhouse gases and climate change chapters of the draft program environmental impact report.

Thank you for the opportunity to review this project. If you have any questions, please call me at (805) 645-1426.

Sincerely,

Alicia Stratton
Air Quality Specialist
Planning, Rules and Incentives Division

APPENDIX B

2016 RTP/SCS PROJECT LIST

PREPARED FOR:

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
818 WEST 7TH STREET, 12TH FLOOR
LOS ANGELES, CA 90017

PREPARED BY:

SAPPHOS ENVIRONMENTAL, INC.
430 NORTH HALSTEAD STREET
PASADENA, CALIFORNIA 91107

ATTORNEY-CLIENT PRIVILEGED WORK PRODUCT

NOVEMBER 24, 2015

Funding: The preparation of this report was financed in part through grants from the United States Department of Transportation (DOT).

The preparation of this report has been financed in part through grant[s] from the Federal Highway Administration and Federal Transit Administration, U. S. Department of Transportation. The contents of this report do not necessarily reflect the official views or policy of the U. S. Department of Transportation.

The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of SCAG or DOT. This report does not constitute a standard, specification or regulation.

TRANSPORTATION SYSTEMS PROJECT LIST

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS



APPENDIX
DRAFT DECEMBER 2015

FRAMEWORK	1
FTIP PROJECTS	2
FINANCIALLY-CONSTRAINED RTP PROJECTS	100
ADDITIONAL TRANSPORTATION SYSTEMS MANAGEMENT (TSM) PROJECTS (INCLUDED IN RTP ID 7120005)	327
STRATEGIC PROJECTS	331

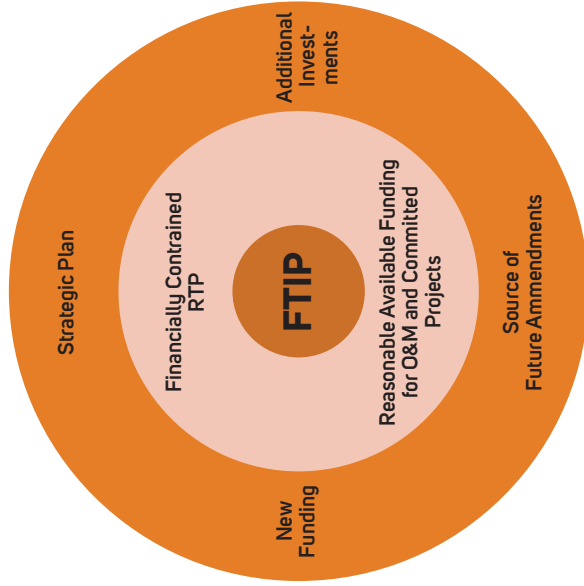


PROJECT LIST

FRAMEWORK

The project list is divided into three sections, consistent with the framework in FIGURE 1. At the center is the Federal Transportation Improvement Program (FTIP), which forms the foundation of the RTP project investment strategy and represents the first six years of already-committed funding. This RTP incorporates the adopted 2015 FTIP. The RTP contains an additional financially constrained set of transportation projects above and beyond the FTIP. Finally, the Strategic Plan represents an unconstrained list of potential projects that the region would pursue given additional funding and commitment.

FIGURE 1 RTP Framework



Source:
line 2

FTIP PROJECTS

TABLE 1 FTIP Projects

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
IMPERIAL	LOCAL HIGHWAY	IMP120601	0	S. PALM AVE. REHABILITATION PROJECT- ASPHALT REHAB/OVERLAY AND BICYCLE LANE STRIPING.	\$734
IMPERIAL	LOCAL HIGHWAY	IMP120602	0	W. A STREET REHABILITATION PROJECT- ASPHALT REHAB/OVERLAY AND BICYCLE LANE STRIPING.	\$489
IMPERIAL	LOCAL HIGHWAY	IMP120615	0	NEW CNG STREET SWEEPER	\$330
IMPERIAL	LOCAL HIGHWAY	IMP141202	0	CONSTRUCTION OF PEDESTRIAN IMPROVEMENTS ALONG 1ST STREET FROM MAIN STREET TO A STREET.	\$300
IMPERIAL	LOCAL HIGHWAY	IMP141203	0	BIKE LANE STRIPING AND SIGNAGE THROUGHOUT THE CITY	\$153
IMPERIAL	LOCAL HIGHWAY	IMP080904	0	SEISMIC BRIDGE EVALUATION STUDY	\$226
IMPERIAL	LOCAL HIGHWAY	IMP090701	0	DEVELOP BICYCLE PATHS AND PUBLIC PARK SPACE ADJACENT TO THE NEW RIVER, CALEXICO (HPP TEA-LU PROJECT #3092)	\$4,000
IMPERIAL	LOCAL HIGHWAY	IMP091001	0	WIDEN AND IMPROVE CESAR CHAVEZ BLVD. TO 5 LANES (3+2) FROM 2ND STREET TO SR 98. OTHER IMPROVEMENTS INCLUDE: SURFACE REHAB, TURN LANES, TRAFFIC SIGNAL, LIGHTING, AND SIDEWALKS	\$8,930
IMPERIAL	LOCAL HIGHWAY	IMP120603	0	COLE ROAD REHABILITATION PROJECT BETWEEN STATE HIGHWAY 111 AND M.L. KING AVENUE	\$838
IMPERIAL	LOCAL HIGHWAY	IMP120604	0	SECOND STREET REHABILITATION PROJECT "EAST CITY ENTRANCE" FROM ANDRADE AVENUE TO E. RIVERA AVENUE	\$320
IMPERIAL	LOCAL HIGHWAY	IMP120617	0	NEW CNG STREET SWEEPER	\$295
IMPERIAL	LOCAL HIGHWAY	IMP1301002	0	CNG FUELING STATION	\$101
IMPERIAL	LOCAL HIGHWAY	IMP1301001	0	NORTH INTERNATIONAL AVENUE FROM DELTA STREET TO MAIN STREET STREET IMPROVEMENT OF REHABILITATION AND RECONSTRUCTION OF ERODED ROADWAY, INCLUDING INSTALLATION OF BASE MATERIAL, NEW ASPHALT PAVEMENT SIDEWALKS, ADA CURB RETURNS, AND CULVERT BOXES.	\$712
IMPERIAL	LOCAL HIGHWAY	IMP120611	0	UPGRADE EXISTING 4-WAY STOP CONTROL WITH TRAFFIC SIGNAL AT S.R. 86 AND SOUTH CENTER STREET	\$870
IMPERIAL	LOCAL HIGHWAY	IMP080905	0	IMPERIAL AVENUE OVERLAY WITH CURB/GUTTER/SIDEWALK.	\$761
IMPERIAL	LOCAL HIGHWAY	IMP120605	0	ADAMS AVENUE STREET IMPROVEMENTS PROJECT FROM LA BRUCHERIE AVENUE TO LOTUS DRAIN - GENERAL RECONDITIONING OF PAVEMENT, CURB, GUTTER, AND SIDEWALK.	\$644
IMPERIAL	LOCAL HIGHWAY	IMP120606	0	ROSS AVENUE REHABILITATION PROJECT FROM 3RD STREET TO DOGWOOD AVENUE PHASE 1 (3RD AVE. TO FAIRFIELD AVE.) GENERAL RECONDITIONING OF STREET PAVEMENT, CURB, GUTTER AND SIDEWALKS	\$571
IMPERIAL	LOCAL HIGHWAY	IMP120619	0	BUENA VISTA AVE. PEDESTRIAN IMPROVEMENTS (NEW SIDEWALK, CURB/GUTTER, DRIVEWAYS AND ROADWAY SHOULDER PAVING) FROM 6TH TO 8TH STREET	\$658
IMPERIAL	LOCAL HIGHWAY	IMP120627	0	EUCLID AVE. PEDESTRIAN IMPROVEMENTS (NEW SIDEWALK, CURB/GUTTER, DRIVEWAYS AND ROADWAY SHOULDER PAVING) FROM IMPERIAL AVE. TO LA BRUCHERIE	\$548
IMPERIAL	LOCAL HIGHWAY	IMP140802	0	PEDESTRIAN AND BICYCLIST IMPROVEMENT PROJECT (ATP ID 0643)	\$797
IMPERIAL	LOCAL HIGHWAY	IMP100901	0	ALAMO RIVER RECREATIONAL TRAIL, PHASE I	\$489
IMPERIAL	LOCAL HIGHWAY	IMP120607	0	NINTH STREET REHABILITATION PROJECT BETWEEN CEDAR AVENUE AND PALM AVENUE - ROAD OVERLAY, CURB, GUTTER, AND SIDEWALKS	\$512
IMPERIAL	LOCAL HIGHWAY	IMP120608	0	WALNUT AVENUE IMPROVEMENTS FROM FOURTH STREET TO FIRST STREET - OVERLAY PROJECT	\$662
IMPERIAL	LOCAL HIGHWAY	IMP120622	0	FOURTH STREET PEDESTRIAN IMPROVEMENTS (NEW SIDEWALK, CURB, AND GUTTER) BETWEEN CEDAR AND WALNUT AVENUE	\$794
IMPERIAL	LOCAL HIGHWAY	IMP120609	0	ATEN BLVD. PHASE III - REHABILITATION AND RECONSTRUCTION FROM CROSS AVENUE TO DOGWOOD ROAD; ROADWAY REHAB, RECONSTRUCTION OF INTERSECTION, AND STRIPING AND SIGNING.	\$827
IMPERIAL	LOCAL HIGHWAY	IMP120621	0	CONSTRUCTION OF SLOW FILL CNG STATION	\$68

Source:

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
IMPERIAL	LOCAL HIGHWAY	IMP20628	0	ATEN BLVD. & DOGWOOD RD. INTERSECTION TRAFFIC FLOW IMPROVEMENTS (SIGNALIZATION)	\$501
IMPERIAL	LOCAL HIGHWAY	IMP20610	0	ATEN ROAD IMPROVEMENTS FROM DOGWOOD ROAD TO HIGHWAY 111 - ROAD REHABILITATION/OVERLAY	\$2,309
IMPERIAL	LOCAL HIGHWAY	IMP20623	0	PURCHASE AND CONSTRUCTION OF 2 SLOW FILL CNG FUELING STATIONS	\$141
IMPERIAL	LOCAL HIGHWAY	IMP41201	0	VARIOUS UNPAVED ROADS OVERLAY PROJECT	\$1,204
IMPERIAL	LOCAL HIGHWAY	IMPL507	0	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES)) - 6 BRIDGES; ARAZ, GENTRY, FORRESTER RD., WINTERHAVEN DRIVE, ANZA RD., VERDE SCHOOL ROAD, AND BRIDGE NO. PM00066.	\$23,943
IMPERIAL	LOCAL HIGHWAY	IMP305001	0	ELIMINATE HAZARDS AT RAILROAD GRADE CROSSING AT INTERSECTION OF MAIN STREET AND UPRR IN THE CITY OF EL CENTRO	\$895
IMPERIAL	LOCAL HIGHWAY	IMP080907	0	NORTH CENTER STREET PAVEMENT REHABILITATION	\$339
IMPERIAL	LOCAL HIGHWAY	IMP20612	0	NORTH CENTER STREET PAVEMENT REHABILITATION FROM 7TH STREET TO N. CITY LIMITS - 8TH STREET	\$372
IMPERIAL	LOCAL HIGHWAY	IMP20626	0	NEW CNG STREET SWEEPER	\$303
IMPERIAL	LOCAL HIGHWAY	IMP40801	0	IMPROVE CENTER STREET PEDESTRIAN FACILITY (ATP ID 0703)	\$1,113
IMPERIAL	STATE HIGHWAY	0515	8	RECONSTRUCT I-8 INTERCHANGE AT IMPERIAL AVE.; FROM A TWO-LANE TO A FOUR-LANE DIAMOND TYPE OVERCROSSING, REALIGN AND RECONSTRUCT ON AND OFF-RAMPS, AND PROVIDE ACCESS TO IMPERIAL AVE. SOUTH OF I-8 (DEMO ID 621 - HPP 2861). PROJECT USING TOLL CREDITS TO MATCH DEMO FUNDS.	\$39,158
IMPERIAL	STATE HIGHWAY	IMP1307001	78	BRAWLEY BYPASS LANDSCAPE MITIGATION (IN AND NEAR BRAWLEY-ON RT 78 FROM RT 86 TO EAST OF BEST RD AND ON OLD RT 111 AT RT 78/111 SEPARATION. REQUIRED LANDSCAPE MITIGATION).	\$1,741
IMPERIAL	STATE HIGHWAY	8020B	98	IN CALEXICO FROM V. V. WILLIAMS AVE TO OLLIE AVE, WIDEN SR 98 FROM 2 TO 4 LANES, DEMO ID 416. PROJECT USING TOLL CREDITS TO MATCH DEMO FUNDS AND CBIP FUNDS.	\$12,366
IMPERIAL	STATE HIGHWAY	0505	186	ANDRADE INTERNATIONAL BORDER CROSSING IN ANDRADE, AT THE ANDRADE INTERNATIONAL PORT OF ENTRY. CONSTRUCT BICYCLE AND PEDESTRIAN FACILITIES	\$3,170
IMPERIAL	STATE HIGHWAY	IMP0523a	999	IN EL CENTRO ON DOGWOOD RD. RECONSTRUCT AND WIDEN BRIDGE FROM 2 TO 4 LANES; WITH 2 TURN LANES (DEMO ID 409 - HPP 950)	\$27,499
IMPERIAL	STATE HIGHWAY	IMP40804	999	I-8/DOGWOOD INTERCHANGE LANDSCAPE MITIGATION. IN EL CENTRO EAST OF DOGWOOD ROAD OVERCROSSING REVISED INTERCHANGE.	\$3,694
IMPERIAL	STATE HIGHWAY	IMPL512	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS, SHOULDER IMPROVEMENTS, PAVEMENT RESURFACING AND/OR REHABILITATION - MINOR PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND 3 CATEGORIES.	\$1,300
IMPERIAL	STATE HIGHWAY	IMP100101	999	PLANNING, PROGRAMMING, AND MONITORING (PPM) FUNDS TO PAY FOR ELIGIBLE STAFF AND PROGRAM EXPENSES FOR ICTC	\$2,419
IMPERIAL	STATE HIGHWAY	IMP40805	999	IMPERIAL DUNES TRAIL MAP	\$29
IMPERIAL	STATE HIGHWAY	IMPL508	999	GROUPED PROJECTS FOR PLANTINGS, LANDSCAPING, ETC. (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PLANTINGS, LANDSCAPING, ETC.)	\$985
IMPERIAL	TRANSIT	IMP440204	0	ADA ACCESS AND BUS STOP IMPROVEMENT CAPITAL IMPROVEMENT PLAN FOR STOPS ON THE IMPERIAL VALLEY	\$1,153
IMPERIAL	TRANSIT	IMP33004	0	BRAWLEY DIAL-A-RIDE - OPERATING ASSISTANCE	\$3,439
IMPERIAL	TRANSIT	IMP33021	0	CALEXICO DIAL-A-RIDE - OPERATING ASSISTANCE	\$5,530
IMPERIAL	TRANSIT	IMP40803	0	HEBER BUS STOP AND PEDESTRIAN ACCESS IMPROVEMENT PROJECT AT SR-86	\$800
IMPERIAL	TRANSIT	IMP990401	0	EL CENTRO DIAL-A-RIDE OPERATING ASSISTANCE	\$4,380
IMPERIAL	TRANSIT	IMP11101	0	TRANSIT TRANSFER TERMINAL IN THE CITY OF IMPERIAL (CARRYOVER FROM PRIOR, F.Y11/12, \$974, 5309C)	\$1,217
IMPERIAL	TRANSIT	IMP33006	0	CITY OF IMPERIAL DIAL-A-RIDE - OPERATING ASSISTANCE	\$2,045
IMPERIAL	TRANSIT	IMP50301	0	HIRING OF A MOBILITY MANAGER	\$180

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
IMPERIAL	TRANSIT	IMP33000	0	COUNTY WIDE TRANSIT SYSTEM - OPERATING AND CAPITAL ASSISTANCE	\$67,724
IMPERIAL	TRANSIT	IMP33023	0	MED-EXPRESS SHUTTLE OPERATIONAL ASSISTANCE	\$2,752
IMPERIAL	TRANSIT	IMP43000	0	WEST SHORES DIAL-A-RIDE OPERATIONAL ASSISTANCE	\$1,629
IMPERIAL	TRANSIT	IMP50302	0	2 REPLACEMENT BUSES, TYPE VII. TOLL CREDITS USED AS MATCH FOR 5310 FUNDS: \$31 IN FY14/15 FOR CON	\$184
IMPERIAL	TRANSIT	IMP50303	0	1 REPLACEMENT BUSES, TYPE III AND EQUIPMENT PURCHASE. TOLL CREDITS USED AS MATCH FOR 5310 FUNDS: \$30 IN FY14/15 FOR CON	\$78
IMPERIAL	TRANSIT	IMP301004	0	COUNTY WIDE TRANSIT SYSTEM - IVT GOLD LINE - CAPITAL AND OPERATIONAL ASSISTANCE	\$749
IMPERIAL	TRANSIT	IMP33003	0	ADA PARATRANSIT SERVICE OPERATING ASSISTANCE	\$22,336
LOS ANGELES	LOCAL HIGHWAY	LA F5302	0	PROJECT WILL UPGRADE THE CURRENT TRAFFIC CONTROL SYSTEM TO AN ADAPTIVE TRAFFIC CONTROL SYSTEM (ATCS). PROJECT WILL REPLACE 90 TYPE 170 CONTROLLERS WITH TYPE 2070, ADD ADDITIONAL VEHICLE DETECTORS AT 102 LOCATIONS, AND UPGRADE COMMUNICATIONS EQUIPMENT AND CONNECTION TO FIBER-OPTIC BACKBONE. THE ATCS WILL CONTROL 102 INTERSECTIONS THROUGHOUT CULVER CITY.	\$1,475
LOS ANGELES	LOCAL HIGHWAY	LA F7303	0	NETWORK-WIDE SIGNAL SYNC WITH VID & ARTERIAL PERFORMANCE MEASUREMENT SYSTEM FOR ATCS: (1) OPTIMIZES SIGNAL COORDINATION/TIMING NETWORK-WIDE. (2) UPGRADES MAJOR INTERSECTIONS WITH ENHANCED SYSTEM DETECTION AND ARTERIAL PERFORMANCE MEASUREMENT CAPABILITIES ALONG WASHINGTON BL, SEPULVEDA BL, JEFFERSON BL, AND OTHERS.	\$1,236
LOS ANGELES	LOCAL HIGHWAY	LA F7507	0	BALLONA CREEK BIKE PATH CONNECTIVITY PROJECT AT HIGUERA BRIDGE: (1) INSTALLS NEW ACCESS RAMP (300 FT) FROM THE HIGUERA ST BRIDGE TO THE EXISTING BALLONA CREEK BIKE PATH WITH WAYFINDING SIGNAGE.	\$822
LOS ANGELES	LOCAL HIGHWAY	LA F3317	0	BUS SIGNAL PRIORITY IN CULVER CITY. DESIGN, DEVELOP & INSTALL WIRELESS BUS SIGNAL PRIORITY SYSTEM ON CULVER CITY BUS FLEET AND AT INTERSECTIONS TO INCREASE OPERATION EFFICIENCY & TRAVEL TIME SAVINGS. THE PROJECT INCLUDES INTERSECTIONS WITH TRANSIT SERVICE WITHIN THE BOUNDARY OF THE CITY OF CULVER CITY.	\$2,751
LOS ANGELES	LOCAL HIGHWAY	LA 06918	0	STEEP CANYON TRAILHEAD CONNECTOR TO THE CANYON LOOP TRAIL - RECOMMENDED FOR FUNDING UNDER THE NON-MOTORIZED ELEMENT OF THE RECREATIONAL TRAILS PROGRAM (GRANT AWARD \$153,915) REHABILITATE 850 LF OF TRAIL INCLUDING LANDSCAPE TIE STEPS.	\$210
LOS ANGELES	LOCAL HIGHWAY	LA F7300	0	DIAMOND BAR ADAPTIVE TRAFFIC CONTROL SYSTEM PROJECT: INSTALLS ADAPTIVE TRAFFIC CONTROL SYSTEM (ATCS) AT SIGNALIZED INTERSECTIONS ON DIAMOND BAR BL, GOLDEN SPRINGS DR, AND GRAND AV. (2) PROVIDES FULLY TRAFFIC RESPONSIVE SIGNAL CONTROL SYSTEM BASED ON TRAFFIC DEMANDS.	\$1,760
LOS ANGELES	LOCAL HIGHWAY	LA 06110	0	THE PROJECT INVOLVES THE DESIGN AND CONSTRUCTION MANAGEMENT OF INTERSECTION IMPROVEMENTS AT LAKEWOOD BOULEVARD/ROSEMEAD BOULEVARD AT TELEGRAPH ROAD. PROJECT IS ADDING DEDICATED RIGHT AND LEFT TURN LANES AT THE INTERSECTION. ALL LANES ARE ADDING UNDER 400' IN LENGTH.	\$2,120
LOS ANGELES	LOCAL HIGHWAY	LA E0479	0	FIRESTONE BLVD. FROM RYERSON AVE AND STEWART & GRAY RD. WIDEN SECTIONS OF FIRESTONE (BOTTLENECK FOR TURN LANES, ST RECONSTRUCTION, REHAB, & RESURFACE; & UPGRADE HANDICAP RAMPS	\$2,000
LOS ANGELES	LOCAL HIGHWAY	LA E1633	0	STUDY REPORT FOR THE INTER. OF OLD RIVER SCHOOL RD, FIRESTONE BLVD & UNION PACIFIC RAILROAD. REVIEW/ANALYZE OPERATIONS & SAFETY ASPECTS, DESIGN OPTIONS ETC. (E/P & P/S/E ONLY)	\$500
LOS ANGELES	LOCAL HIGHWAY	LA E2293	0	PARAMOUNT BLVD FROM GARNDENDALE ST AND TELEGRAPH RD -- ITS IMPROVEMENTS AS WELL AS MINOR WIDENING AT CRITICAL INTERSECTIONS TO ALLOW FOR SAID IMPROVEMENTS (NON-CAPACITY).	\$1,904
LOS ANGELES	LOCAL HIGHWAY	LA F1120	0	PARAMOUNT BL AT FIRESTONE BL IMPROVEMENTS. RECONSTRUCT CURB RETURNS AT EACH OF THE 4 CORNERS WITH 50' TURNING RADIUS. CONSTRUCT DOUBLE LEFT-TURN LANES AND EASTBOUND RIGHT-TURN POCKET ON FIRESTONE BLVD, STRIPE 3RD EB LANE AND MODIFY TRAFFIC SIGNAL SAFETY PROJECT TO ELIMINATE BOTTLENECK AT INTERSECTION.	\$3,695
LOS ANGELES	LOCAL HIGHWAY	LA F3114	0	LAKEWOOD BOULEVARD PHASE 3 IMPROVEMENTS. WIDEN TO PROVIDE 3 LANES IN EACH DIRECTION & 50 CURB RETURNS AT INTERSECTIONS. RECONSTRUCT INFRASTRUCTURE TO EXTEND LIFE BY 50 YEARS. REPLACE LANDSCAPING, LIGHTING, & TRAFFIC SIGNALS. PROJECT WILL GO FROM 4 TO 6 LANES	\$7,778
LOS ANGELES	LOCAL HIGHWAY	LA F3304	0	WOODRUFF AV FIBER-OPTIC TRAFFIC SIGNAL COMMUNICATIONS PROJ.1. INSTALL FIBER-OPTIC COMMUNICATION & VIDEO DETECTION SYSTEM ON WOODRUFF AV & INTERCONNECT IT TO EXISTING FIBER BACKBONE TO DEVELOP AN ETHERNET-BASED COMMUNICATION NETWORK.	\$923

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF3305	0	IMPERIAL HWY FIBER OPTIC TRAFFIC SIGNAL COMMUNICATIONS PROJ.1. INSTALL FIBER-OPTIC COMMUNICATION & VIDEO-DETECTION SYSTEM ON IMPERIAL HWY AND INTERCONNECT IT TO EXISTING FIBER BACKBONE TO DEVELOP AN ETHERNET-BASED COMMUNICATION NETWORK.	\$900
LOS ANGELES	LOCAL HIGHWAY	LAF514	0	TELEGRAPH ROAD, TRAFFIC THROUGHPUT AND SAFETY ENHANCEMENT BETWEEN THE RIO HONDO RIVER CHANNEL TO THE SAN GABRIEL RIVER CHANNEL, A DISTANCE OF 2.2 MILES. PROJECT INVOLVES THE CONSTRUCTION OF RAISED MEDIAN ISLANDS, MINOR WIDENING AT INTERSECTIONS, TRANSIT PRIORITY SYSTEM AND BIKE (2.2 MILES IN LENGTH) AND PEDESTRIAN CIRCULATION IMPROVEMENTS.	\$4,738
LOS ANGELES	LOCAL HIGHWAY	LAF718	0	FLORENCE AVENUE BRIDGE OVER SAN GABRIEL RIVER: (1) REPLACES UNDIVIDED 4-LANE BRIDGE ON FLORENCE AV BETWEEN LESTERFORD AV AND LITTLE LAKE RD AT THE SAN GABRIEL RIVER CROSSING WITH DUAL 45-FT-WIDE, 3-LANE BRIDGE (6 LANES TOTAL, 14 FT SEPARATION). (2) IMPROVES 200-FT APPROACHES ON EACH SIDE OF THE BRIDGE WITH WIDENED/ADA-COMPLIANT SIDEWALKS AND 2 FT WIDER SHOULDER TO IMPROVE CYCLIST SAFETY. SIDEWALKS ARE NEW. NO BIKE FACILITIES.	\$18,623
LOS ANGELES	LOCAL HIGHWAY	LAF731	0	DOWNNEY CITYWIDE TRANSIT PRIORITY SYSTEM PROGRAM: (1) SYNCHRONIZES TRAFFIC SIGNALS ALONG EXISTING TRANSIT ROUTES. (2) INSTALLS NEW FIBER OPTIC COMMUNICATION ALONG 5.5 MILES OF ARTERIAL STREETS TO CONNECT SIGNALS TO THE CENTRAL TRAFFIC MANAGEMENT CENTER. (3) INSTALLS AND INTEGRATES TRANSIT PRIORITY SYSTEM WITH THE TRAFFIC SIGNAL SYSTEM.	\$18,07
LOS ANGELES	LOCAL HIGHWAY	LA06007	0	THE MOUNTAIN AVE./DUARTE ROAD REALIGNMENT/RECONSTRUCTION, INCLUDING RE-ALIGNMENT AND RECONSTRUCTION OF A PORTION OF MOUNTAIN AVE AND DUARTE ROAD STREET PAVEMENT, RELOCATION OF STORM DRAIN STRUCTURES, REMOVAL AND REPLACEMENT OF CURB/GUTTER/SIDEWALK.	\$568
LOS ANGELES	LOCAL HIGHWAY	LAF5627	0	DUARTE GOLD LINE STATION PEDESTRIAN IMPROVEMENTS. THIS PROJECT IS LOCATED IN DUARTE ON DUARTE RD BETWEEN HIGHLAND AV AND BUENA VISTA ST. IT WILL FUND PEDESTRIAN IMPROVEMENTS AROUND THE DUARTE GOLD LINE STATION, CONNECTING THE STATION WITH SURROUNDING LAND USES AND OTHER TRANSIT LINES BY CONSTRUCTING SIDEWALK ON THE NORTH SIDE OF DUARTE RD AND INSTALLING PEDESTRIAN LIGHTING, LANDSCAPING, BENCHES, TRASH RECEPTACLES, CURB RAMPS, PEDESTRIAN CROSSINGS, AND WAYFINDING SIGNS.	\$1,646
LOS ANGELES	LOCAL HIGHWAY	LA06180	0	A 0.5 MILE CLASS III BIKE ROUTE WITH SHARROWS, A 0.7 MILE CLASS II GREEN-PAINTED BIKE LANE, AND A 2 MILE CLASS II BIKE LANE WITH BUFFER PAVEMENT STENCILING. IMPROVEMENTS INCLUDES ROADWAY RESURFACING, HIGH LIGHTING, CROSSWALK IMPROVEMENTS, CAMERA INSTALLATION AT INTERSECTIONS, AND WAYFINDING SIGNAGE. THE PROJECT RUNS 3.2 MILES ALONG SANTA ANITA FROM ELLIOT AVENUE (SOUTH) TO WEST HONDO PARKWAY (NORTH).	\$588
LOS ANGELES	LOCAL HIGHWAY	LAF504	0	EL MONTE: TRANSIT CYCLE FRIENDLY. EL MONTE PROPOSES TO IMPLEMENT THE 1ST PHASE OF THE EL MONTE BIKE-TRANSIT HUB COMPONENT (METRO BICYCLE TRANSPORTATION STRATEGIC PLAN) A COUNTYWIDE EFFORT TO IMPROVE BIKE FACILITIES	\$166
LOS ANGELES	LOCAL HIGHWAY	LAF3125	0	RAMONA CORRIDOR TRANSIT CENTER ACCESS PROJECT. CONSTRUCT A NEW UNDERPASS STRUCTURE ON RAMONA BLVD UNDER SANTA ANITA AVE TO ACCESS THE LOWER LEVEL OF THE EL MONTE TRANSIT CENTER. THE PROPOSED BUS TUNNEL RAMPS WILL BEGIN EAST OF THE SANTA ANITA AVENUE AND RAMONA BOULEVARD INTERSECTION ON RAMONA BOULEVARD AND THE TUNNEL WILL CONTINUE UNDER SANTA ANITA AVENUE (ALONG ROMONA BOULEVARD) TO THE LOWER LEVEL OF THE EL MONTE TRANSIT CENTER AND INCLUDES 1 BUS ONLY LANE IN EACH DIRECTION.	\$15,302
LOS ANGELES	LOCAL HIGHWAY	LAF5125	0	RAMONA BLVD, VALLEY BLVD, & VALLEY MALL INTERSECTION IMPROVEMENT. CITY WILL RECONFIGURE THE FIVE-WAY INTERSECTION IN ORDER TO ENHANCE THE INTERSECTION. TRAFFIC SIGNAL UPGRADE-DUAL LEFT-TURN LANES ON VALLEY BL AND RIGHT-TURN POCKETS ON RAMONA BL. CREATE ADDITIONAL CURB AREA FOR BICYCLE RACKS, PEDESTRIAN AMENITIES, BUS PADS, TURNS, AND CLASS II BIKE LANES LESS THAN 1/4 MILE.	\$2,614
LOS ANGELES	LOCAL HIGHWAY	LAF5705	0	SHARED PARKING PROGRAM/SMART PARKING DETECTION SYS IN DOWNTOWN AREA: I-10 FWY, EL MONTE BUSWAY, EL MONTE TRANSIT CTR, TRANSIT VILLAGE, AND EL MONTE METROLINK STATION. COMPREHENSIVE PARKING STRATEGY PLAN. INCLUDES SMART PARKING DETECTION SYSTEM AND SHARED PARKING PROGRAM. UTILIZE MOBILE COMMUNICATION DEVICES TO ASSESS THE PARKING AVAILABILITY AT MULTIPLE PARKING LOTS. PROVIDE REAL-TIME INVENTORY OF PARKING SPACES.	\$630
LOS ANGELES	LOCAL HIGHWAY	LAF7520	0	EL MONTE REGIONAL BICYCLE COMMUTER ACCESS IMPROVEMENTS: (1) INSTALLS A 200-FOOT BICYCLE/PEDESTRIAN BRIDGE ACROSS THE RIO HONDO RIVER APPROXIMATELY 300 FEET SOUTHWEST OF THE SAN BERNARDINO (I-10) FREEWAY (2) INSTALLS 0.74 MILE CLASS 2 BIKE LANES ON TYLER AV AND MERCED AV. (3) INSTALLS 1.46 MILE CLASS 3 BIKE ROUTES ON RAMONA BL, VALLEY BL, TOWN/NEWAY DR, AND BROCKWAY ST. (3) IMPLEMENTS WAYFINDING/ SIGNAGE, BRIDGE LIGHTING, BRIDGE ACCESS POINTS, AND THE RIO HONDO BIKE PATH UNDER I-10.	\$1,416
LOS ANGELES	LOCAL HIGHWAY	LA06321	0	PARK PLACE EXTENSION AND RAIL ROAD GRADE SEPARATION PROJECT STUDY. (GRADE SEPARATION IS NON-CAPACITY). COMPLETION OF PARK PLACE EXTENSION BETWEEN ALASKA AVENUE AND SEPULVEDA BOULEVARD IN THE CITY OF EL SEGUNDO. PARK PLACE FOUR LANE ROADWAY EXTENSION BETWEEN NASH AND ALLIED WAY.	\$1,250
LOS ANGELES	LOCAL HIGHWAY	LA06712	0	VERMONT AVE. ARTERIAL IMPROVEMENTS FROM ROSECRANS AVE. TO 182ND STREET. INCLUDES ADDITION OF TURN POCKETS WHERE GEOMETRICALLY POSSIBLE, CHANNELIZATION, TRAFFIC SIGNAL IMPROVEMENTS, PAVEMENT UPGRADES AND SOME CONCRETE WORK.	\$2,350

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA06713	0	ROSECRANS AVE. ARTERIAL IMPROVEMENTS FROM VERMONT AVE. TO GRENSHAW BLVD. INCLUDES RAISED LANDSCAPED MEDIAN ISLANDS, TRAFFIC SIGNAL UPGRADES, PAVEMENT UPGRADES, AND TRAFFIC CHANNELIZATION.	\$5,140
LOS ANGELES	LOCAL HIGHWAY	LA061011	0	SR-2/HOLLEY DRIVE INTERCHANGE SIGNALIZATION.	\$600
LOS ANGELES	LOCAL HIGHWAY	LA061031	0	PACIFIC AVE. IMPROVEMENTS: THE PROJECT IS A ROADWAY IMPROVEMENT, TRAFFIC SIGNAL MODIFICATION, AND FIBER OPTIC COMMUNICATION INSTALLATION. THE PROJECT IS LOCATED ON PACIFIC AVENUE, A MAJOR ARTERIAL, WITHIN LESS THAN A MILE OF FREEWAY (SR 134).	\$3,400
LOS ANGELES	LOCAL HIGHWAY	LA061032	0	THE PROJECT IS A ROADWAY IMPROVEMENT AND TRAFFIC SIGNAL INSTALLATION PROJECT. THE PROJECT IS LOCATED ON DORAN STREET BETWEEN BRAND BOULEVARD AND ADAMS STREET. PROJECT LOCATION IS WITHIN A MILE OF A FREEWAY CORRIDOR AS DEFINED BY METRO'S HIGHWAY OPERATION DEFINITION.	\$1,300
LOS ANGELES	LOCAL HIGHWAY	LA061033	0	ARDEN AVE. IMPROVEMENTS: THIS PROJECT IS A ROADWAY IMPROVEMENT AND INSTALLATION OF A NEW TRAFFIC SIGNAL LOCATED WITHIN ONE MILE OF A FREEWAY CORRIDOR AS DEFINED BY METRO'S HIGHWAY OPERATION DEFINITION.	\$910
LOS ANGELES	LOCAL HIGHWAY	LA061034	0	VERDUGO ROAD IMPROVEMENT PROJECT: THE PROJECT IS A ROADWAY IMPROVEMENT AND TRAFFIC SIGNAL MODIFICATION PROJECT AND IS LOCATED ON VERDUGO ROAD BETWEEN COLORADO STREET AND CITY OF LOS ANGELES BOUNDARY, A MAJOR ARTERIAL, WITHIN LESS THAN A MILE OF FREEWAY (SR 2) CORRIDOR AS DEFINED BY METRO'S HIGHWAY OPERATIONAL DEFINITION.	\$600
LOS ANGELES	LOCAL HIGHWAY	LA061035	0	VERDUGO BOULEVARD REHABILITATION PROJECT: THE PROJECT IS A ROADWAY IMPROVEMENT AND TRAFFIC SIGNAL MODIFICATION PROJECT AND IS LOCATED ON VERDUGO BOULEVARD BETWEEN VERDUGO ROAD AND CITY OF LA CANADA FLINTRIDGE BOUNDARY, A MAJOR ARTERIAL, WITHIN LESS THAN A MILE OF FREEWAY (SR 2) CORRIDOR AS DEFINED BY METRO'S HIGHWAY OPERATIONAL DEFINITION.	\$1,100
LOS ANGELES	LOCAL HIGHWAY	LA061036	0	NORTH BRAND BOULEVARD REHABILITATION PROJECT: THE PROJECT IS A ROADWAY IMPROVEMENT, TRAFFIC SIGNAL, STREET LIGHT AND ORNAMENTAL LIGHT MODIFICATION PROJECT AND IS LOCATED ON BRAND BOULEVARD BETWEEN FREEWAY 134 AND GLENOAKS BOULEVARD, A MAJOR ARTERIAL.	\$1,000
LOS ANGELES	LOCAL HIGHWAY	LA061037	0	COLORADO STREET REHABILITATION PROJECT: THE PROJECT IS A ROADWAY IMPROVEMENT AND TRAFFIC SIGNAL MODIFICATION PROJECT AND IS LOCATED ON COLORADO STREET BETWEEN KENILWORTH AVENUE AND CENTRAL AVENUE.	\$1,000
LOS ANGELES	LOCAL HIGHWAY	LA061132	0	THE CITYWIDE PEDESTRIAN PLAN: TO ESTABLISH A PLAN IMPROVING PEDESTRIAN SAFETY THROUGH A MULTIFACETED APPROACH.	\$500
LOS ANGELES	LOCAL HIGHWAY	LA061148	0	SIGNAL INSTALLATION AT VARIOUS LOCATIONS - PACIFIC AVE. TRAFFIC SIGNAL MODIFICATIONS. SIGNAL SYNCH FOR SIX (6) NON-CONSECUTIVE INTERSECTIONS ALONG PACIFIC AVENUE.	\$1,500
LOS ANGELES	LOCAL HIGHWAY	LA061208	0	TRAFFIC SIGNAL SYNCHRONIZATION - ALONG PARALLEL ARTERIALS: I-5 NORTH CORRIDOR: THIS PROJECT PROVIDES FOR AN UPGRADE TO THE TRAFFIC SIGNAL COMMUNICATION FACILITIES TO IMPROVE SIGNAL COORDINATION ALONG REGIONAL ARTERIALS IN THE VICINITY OF THE I-5 NORTH CONSTRUCTION CORRIDOR.	\$350
LOS ANGELES	LOCAL HIGHWAY	LA06202	0	TRAFFIC LIGHT SYNCHRONIZATION ALONG THREE MAJOR ARTERIAL, GLENDALE AVE, BRAND BLVD, SAN FERNANDO RD, AND COLORADO ST.	\$4,500
LOS ANGELES	LOCAL HIGHWAY	LA06401	0	SONORA AVE. AT GRADE CROSSING SAFETY IMPROVEMENTS, SONORA AND AIR WAY. NO LANE ADDITION.	\$2,797
LOS ANGELES	LOCAL HIGHWAY	LA06406	0	FAIRMONT AVE. PARK-N-RIDE FACILITY (83 PARKING SPACES) TO SERVE COMMUTERS USING SR-134, I-5. THE LOCATION OF THE PARK-N-RIDE IS FAIRMONT AVENUE AND SAN FERNANDO RD. ON THE SOUTH SIDE OF FAIRMONT AVENUE BETWEEN SAN FERNANDO ROAD AND SR-134 WESTBOUND FREEWAY RAMP. THE WORK INCLUDES EARTHWORK, DRAINAGE, AND PLACEMENT OF AC, LIGHTING, LANDSCAPING, FENCING, AND SIGNAGE WORK. THE WORK ALSO INCLUDES INSTALLING A SIDEWALK FOR PEDESTRIAN ACCESS FROM SAN FERNANDO ROAD.	\$2,000
LOS ANGELES	LOCAL HIGHWAY	LA06808	0	THE STUDY IS FOR THE GLENDALE NARROWS RIVERWALK BRIDGE OVER THE LOS ANGELES RIVER WILL PROVIDE A CONNECTION TO GRIFFITH PARK FROM THE COMMUNITIES NORTH AND EAST OF THE PARK THAT ARE NOW SEPARATED FROM THE PARK BY THE LOS ANGELES RIVER CHANNEL AND THE TWO FREEWAYS THAT CONVERGE ALONG THE SIDE OF THE CHANNEL ADJACENT TO GRIFFITH PARK.	\$600
LOS ANGELES	LOCAL HIGHWAY	LA06809	0	CONSTRUCTION OF CITYWIDE BIKEWAY FACILITY. THIS PROJECT INCLUDES CONSTRUCTION OF CLASS II AND SHARROWS RECOMMENDED IN THE GLENDALE BICYCLE MASTER PLAN AND INSTALLATION OF CITYWIDE BIKE RACKS, AND OTHER AMENITIES RELATED TO BICYCLE. THE PROJECT LENGTH MAY INCLUDE OVER 12 MILES OF BIKE LANES.	\$650
LOS ANGELES	LOCAL HIGHWAY	LA06811	0	STATE ROUTE 134 / GLENDALE AVENUE INTERCHANGE MODIFICATION. THIS PROJECT INCLUDES UPGRADING THE TRAFFIC SIGNAL AT THE SR-134 EASTBOUND ON AND OFF RAMP'S AND GLENDALE AVENUE. UPGRADING THE TRAFFIC SIGNAL AT GLENDALE AVENUE AND MONTEREY ROAD, REALIGNMENT OF CORONADO AND MONTEREY RD. AND GLENDALE AVE., REALIGNMENT OF MEDIANS ON MONTEREY RD, REALIGNMENT OF CURB AND GUTTER ON THE EAST SIDE OF GLENDALE AVE.	\$1,400

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA06812	0	LENDALE NARROWS BIKEWAY CULVERT BRIDGE. THIS PROJECT CONSIST OF CONSTRUCTION OF A SMALL BRIDGE OVER A CULVERT TO CONNECT LENDALE NARROWS TO FLOWER STREET TO CREATE A CLASS BIKE LANES ALONG LOS ANGELES RIVER. PROJECT LENGTH IS UNDER A MILE.	\$475
LOS ANGELES	LOCAL HIGHWAY	LA06840	0	FRONTAGE RD SO OF SR134 BETWEEN BRAND AND GENEVA ST-- PROJECT STUDY TO EVALUATE THE FEASIBILITY OF A FRONTAGE ROAD TO CONNECT SR134 EAST BOND OFF-RAMPS AT BRAND TO MARYLAND AVE.	\$200
LOS ANGELES	LOCAL HIGHWAY	LA06084	0	ADAMS STREET REHABILITATION PROJECT. NONE CAPACITY TYPE PROJECT.	\$372
LOS ANGELES	LOCAL HIGHWAY	LA F3714	0	ARROYO VERDUGO COMMUTE MANAGER SYSTEM. DEVELOPMENT OF A CUSTOMIZED TDM-SPECIFIC GEOGRAPHICALLY BASED WEBSITE.	\$670
LOS ANGELES	LOCAL HIGHWAY	LA F3715	0	ADVANCED WAYFINDING AND GUIDANCE SYSTEM. INSTALLATION OF PERMANENT CHANGEABLE MESSAGE SIGNS (LARGE) AND 20 STREET CHANGEABLE MESSAGE SIGNS (SMALL) THAT WILL PROVIDE REAL-TIME DYNAMIC DIRECTIONS TO AVAILABLE PARKING.	\$694
LOS ANGELES	LOCAL HIGHWAY	LA F5307	0	LENDALE SUB-REGIONAL TRAFFIC MANAGEMENT CENTER. PROJECT WILL CONNECT TO THE TRAFFIC SIGNAL NETWORK CITYWIDE AND WILL DESIGN AND IMPLEMENT A SUBREGIONAL TRAFFIC MANAGEMENT CENTER (TMC). SYSTEM WILL BE INTEGRATED WITH METRO'S REGIONAL INTEGRATION OF ITS (RIITS) AND THE COUNTY INFORMATION EXCHANGE NETWORK (IEN) SYSTEMS.	\$696
LOS ANGELES	LOCAL HIGHWAY	LA F7321	0	LENDALE REGIONAL ARTERIAL TRAFFIC PERFORMANCE MEASUREMENT SYSTEM : IMPLEMENTS ARTERIAL PERFORMANCE MEASUREMENT SYSTEM IN THE LENDALE TRAFFIC MANAGEMENT CENTER (GTMC) TO EXTRACT INFO FROM REAL-TIME INTELLIGENT TRANSPORTATION SYSTEMS (ITS). SYSTEM WILL PROVIDE REAL-TIME CORRIDOR CONDITIONS AND PERFORMANCE MEASURES TO LOS ANGELES COUNTY INFORMATION EXCHANGE NETWORK (IEN).	\$773
LOS ANGELES	LOCAL HIGHWAY	LA F7600	0	ALHAMBRA PEDESTRIAN IMPROVEMENT/WALKING VIABILITY PROJECT ON VALLEY: (1) INSTALLS ADA CURB RAMPS. (2) INSTALLS BUS STOP IMPROVEMENTS, INCLUDING PEDESTRIAN BENCHES, COVERED SHELTERS, TRASH CANS, WAYFINDING/SIGNAGE, CROSSWALK ENHANCEMENTS, PEDESTRIAN HYBRID BEACONS, PEDESTRIAN LIGHTING, PEDESTRIAN COUNTDOWN SIGNALS, AND REMOVING OBSTRUCTIONS FROM WALKWAYS.	\$1028
LOS ANGELES	LOCAL HIGHWAY	LA F1197	0	HUNTINGTON DR CAPACITY IMPROVEMENTS. MITIGATION COSTS EXCLUDED [PROJECT INVOLVES TRAFFIC FLOW AND CAPACITY IMPRMENTS INCL THE ADDITION OF A THROUGH LANE, TURN LANES & RECONSTRUCTION OF MEDIAN & CHANNELIZING ISLANDS]	\$2,925
LOS ANGELES	LOCAL HIGHWAY	LA F3607	0	ARCADIA GOLD LINE STATION PEDESTRIAN LINKAGE PROJECT. DESIGN AND CONSTRUCTION OF PEDESTRIAN IMPROVEMENTS AROUND THE PLANNED GOLD LINE ARCADIA STATION, CONNECTING THE COMMUNITIES WITH THE REGIONAL RAIL SYSTEM.	\$2,379
LOS ANGELES	LOCAL HIGHWAY	LA E1285	0	REHABILITATE PAVEMENT ON AZUSA AVENUE IN AZUSA. PROJECT LIMITS ARE FROM FIFTH ST. TO SANTA FE AVE..	\$360
LOS ANGELES	LOCAL HIGHWAY	LA F5309	0	CITY OF AZUSA TRAFFIC MANAGEMENT SYSTEM. THIS PROJECT WILL UPGRADE TRAFFIC SIGNALS AT 43 INTERSECTIONS IN THE CITY OF AZUSA. THE PROJECT WILL FUND THE DESIGN AND CONSTRUCTION/IMPLEMENTATION OF CONTROLLERS, WIRING, DETECTION, CONDUIT, FIBER OPTIC, COUNTDOWN PEDESTRIAN HEADS, SIGNALS, VIDEO DETECTION, CCTV CAMERAS AND TRAFFIC CONTROL AND MONITORING UPGRADES AT THE 43 INTERSECTIONS.	\$5,846
LOS ANGELES	LOCAL HIGHWAY	LA 061140	0	COMPLETE STREET IMPROVEMENTS ALONG MAINE AVE. FROM LOS ANGELES ST. TO ARROW HWY. IMPROVEMENTS INVOLVE THE RECONFIGURATION OF THE CORRIDOR BY MEANS OF ROAD DIET. PROJECT COMPONENTS INCLUDE (1) CLASS II BIKEWAYS (2) ROAD DIET FROM 4 TRAVEL LANES TO 2 LANES (3) SHARE LEFT TURN LANES (4) CURB EXTENSION AT 13 INTERSECTIONS (5) SIDEWALK EXTENSION (6) HIGH VISIBILITY CROSSWALKS (7) REPLACING PED SIGNALS AT 5 INTERSECTIONS (8) PED LIGHTING AND (9) ADA IMPROVEMENTS	\$4,152
LOS ANGELES	LOCAL HIGHWAY	LA F3507	0	SOUTH BALDWIN PARK COMMUTER BIKEWAY PROJECT. CONSTRUCT 3-MILE COMMUTER CLASS I BIKE PATH ALONG SAN GABRIEL RIVER AND WALNUT CREEK CONNECTING TO MAJOR EMPLOYMENT CENTERS ON BALDWIN PARK BLVD.	\$820
LOS ANGELES	LOCAL HIGHWAY	LA 06683	0	PCC INTERSECTIONS AT GAGE & WALKER AVE, TRAFFIC SIGNAL MODIFICATION, AND RESURFACING PAVEMENT FROM WILCOX AVE TO CHANSLOR AVE.	\$671
LOS ANGELES	LOCAL HIGHWAY	LA F7634	0	DESIGN WORK TO IMPROVE CONDITIONS FOR PEDESTRIANS IN ORDER TO INCREASE PEDESTRIAN SAFETY, AND TO IMPROVE THE PEDESTRIAN ENVIRONMENT IN ORDER TO PROMOTE WALKING AS A VIABLE FORM OF TRANSPORTATION, AND ENCOURAGE THE USE OF PUBLIC TRANSIT.	\$2,405
LOS ANGELES	LOCAL HIGHWAY	LA 061129	0	CITY WIDE SAFETY ENHANCEMENT PROJECT- CONSTRUCTION OF THE PROJECT WILL INCLUDE INSTALLATION OF PEDESTRIAN COUNTDOWN SIGNAL HEADS, ADA COMPLIANT ACCESS RAMPS, BICYCLE ROUTE SIGNAGE AND SHARED LANE MARKINGS AS WELL AS BICYCLE VIDEO DETECTION AT SIGNALIZED INTERSECTIONS.	\$997
LOS ANGELES	LOCAL HIGHWAY	LA F7120	0	EASTERN AVENUE AND FLORENCE AVENUE RSTI PROJECT : (1) WIDEN FLORENCE AVE AT INTERSECTION OF FLORENCE AVE AND EASTERN AVE TO ACCOMMODATE 2 WESTBOUND LEFT-TURN LANES AND A WESTBOUND DEDICATED RIGHT-TURN LANE. (2) WIDEN SIDEWALKS FROM 5 FT TO 8 FT ON FLORENCE AV AND INCLUDES HIGH VISIBILITY CROSSWALKS, PEDESTRIAN-LEVEL LIGHTING, LANDSCAPING, AND UPGRADED TRAFFIC SIGNAL TIMING.	\$3,385
LOS ANGELES	LOCAL HIGHWAY	LA E0326	0	CREATION OF A RAISED MEDIAN ON ALONDRA BLVD. BETWEEN CLARK AND WOODRUFF TO IMPROVE TRAFFIC SAFETY AND EFFICIENCY. THE MEDIAN WILL PROVIDE LANDSCAPING, LIGHTING AND IRRIGATION	\$385

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0655	0	LANDSCAPE AND IRRIGATE EAST BOUND 91 FREEWAY ON AND OFF RAMPS AT BELLFLOWER BL.	\$240
LOS ANGELES	LOCAL HIGHWAY	LA091211	0	THIS PROJECT WOULD PROVIDE TRAFFIC SIGNAL UPGRADES, SIGNAL CONTROLLER UPGRADES, TIMING PLANS, AND TRAFFIC SIGNAL SYSTEM MONITORING TO INTERSECTIONS ON ARTERIAL STREETS WITHIN 1 MILE OF THE INTERSTATE 5 CORRIDOR. SCOPE INCLUDES AUGMENTING BURBANK TMC STAFF FOR MONITORING SIGNAL COORDINATION AND POLICE TRAFFIC CONTROL DURING THE LIFE OF THE CONSTRUCTION PROJECT.	\$735
LOS ANGELES	LOCAL HIGHWAY	LA06625	0	SAN FERNANDO BLVD AT BURBANK BLVD INTERSECTION; FLARE INTERSECTION TO PROVIDE ADDITIONAL TURN LANES, WIDEN SIDEWALKS, ACCOMMODATE FUTURE BICYCLE LANES; RECONSTRUCT CURB AND GUTTER, CONCRETE PAVEMENT AND SIDEWALK; RELOCATE UTILITIES, ACQUIRE RIGHT OF WAY.	\$7,493
LOS ANGELES	LOCAL HIGHWAY	LA06914	0	MEASURE R ARROYO VERDUGO HIGHWAY OPERATIONAL IMPROVEMENTS ALONG (WITHIN 1 MILE) THE I-5 CORRIDOR IN BURBANK. INCLUDES 50 NON-CONTIGUOUS INTERSECTIONS SIGNAL IMPROVEMENTS, INSTALLATION OF FIBER COMMUNICATIONS, DETECTION AND CAMERAS.	\$2,600
LOS ANGELES	LOCAL HIGHWAY	LA06916	0	MEASURE R ARROYO VERDUGO HIGHWAY OPERATIONAL IMPROVEMENTS ALONG SR-134 CORRIDOR, INCLUDES APPROXIMATELY 20+ INTERSECTIONS (NON-CONSECUTIVE) AND INCLUDES CCTV, SIGNAL/TURN-SIGNAL IMPROVEMENTS, FIBER COMMUNICATIONS AND VIDEO DETECTION.	\$2,975
LOS ANGELES	LOCAL HIGHWAY	LA06948	0	INTERSECTION IMPROVEMENT - IMPROVE TRAFFIC SIGNAL OPERATION AND TIMING, REDUCE TRAFFIC CONGESTION AT THE INTERSECTION AND IMPROVE PEDESTRIAN SAFETY THROUGH THE MODIFICATION OF MEDIAN ISLANDS, INSTALLATION OF NEW MEDIAN ISLANDS, THE MODIFICATION OF EXISTING PEDESTRIAN CROSSWALKS AND MODIFICATION OF TRAFFIC SIGNAL PHASING AND TIMING.	\$1,600
LOS ANGELES	LOCAL HIGHWAY	LA0726	0	VANDWEN/EMPIRE/CLYBOURN RAILROAD CROSSING GRADE SEPARATION STUDY PROJECT	\$1,000
LOS ANGELES	LOCAL HIGHWAY	LAF502	0	SAN FERNANDO BIKEWAY, IMPLEMENT A CLASS I BIKEWAY ALONG SAN FERNANDO BLVD, VICTORY PLACE AND BURBANK WESTERN CHANNEL TO COMPLETE THE BURBANK LEG OF A 12 MILE BIKEWAY.	\$8,239
LOS ANGELES	LOCAL HIGHWAY	LAF3313	0	BURBANK-LENDALE TRAFFIC SYSTEM COORDINATION, REPLACE TYPE 170 TRAFFIC SIGNAL CONTROLLERS WITH TYPE 2070 & ASSOCIATED COMMUNICATIONS EQUIPMENT IN BURBANK & LENDALE & INSTALL SYSTEM DETECTION ON GLENDALES BL & SAN FERNANDO BL. CITY OF BURBANK AND CITY OF LENDALE ALONG GLENDALES BOULEVARD BETWEEN BUENA VISTA STREET IN BURBANK AND GENOVA STREET IN LENDALE, AND ALONG SAN FERNANDO BOULEVARD BETWEEN OLIVE AVENUE IN BURBANK AND GLENDALE AVENUE IN LENDALE (SIG SYN - APPROX. 65 SIGNALS).	\$1,274
LOS ANGELES	LOCAL HIGHWAY	LAF3509	0	BURBANK CHANNEL BIKEWAY REGIONAL GAP CLOSURE - DESIGN AND CONSTRUCT A CLASS I BICYCLE AND PEDESTRIAN PATH ALONG THE BURBANK WESTERN FLOOD CONTROL CHANNEL. THE PROJECT INCLUDES BIKEWAY TREATMENTS AT THREE CONTROLLED LOCAL STREET CROSSINGS (1) FLOWER ST/OLIVE AVE, (2) VERDUGO/BIKE PATH, (3) PROVIDENCIA/LAKE ST), AND A GRADE SEPARATED CROSSING AT ALAMEDA AV. THE PROJECT LIMITS ON THE BURBANK WESTERN FLOOD CONTROL CHANNEL ARE FROM OLIVE AVE/FLOWER ST TO ALAMEDA AVE FOR APPROXIMATELY 0.79 MILES.	\$4,384
LOS ANGELES	LOCAL HIGHWAY	LAF5306	0	BURBANK TRAFFIC RESPONSIVE SIGNAL SYSTEM, UPGRADE 20 SIGNALS ON HOLLYWOOD WAY AND 18 ON BUENA VISTA ST. CONNECT 38 SIGNALS TO THE FIBER-OPTIC CABLE-TRUNK LINE AND PURCHASE FIBER-OPTIC MODEMS, INCLUDES A DEMAND-RESPONSIVE TRAFFIC SIGNAL SYSTEM ALONG HOLLYWOOD WAY AND BUENA VISTA ST., LICENSE, SYSTEM INTEGRATION AND TESTING OF THE QUICK TRACK ADAPTIVE CONTROL SOFTWARE.	\$743
LOS ANGELES	LOCAL HIGHWAY	LAF5701	0	BURBANK TRAVELER INFORMATION AND WAYFINDING SYSTEM - THIS STATIC AND DYNAMIC WAYFINDING SIGNAGE PROJECT FOR PROVIDING DRIVERS INFORMATION ABOUT PARKING OPTIONS AND DESTINATIONS IN DOWNTOWN BURBANK AND NEAR BOB HOPE AIRPORT AND PROVIDING TRANSIT USERS ARRIVAL OF THE NEXT BUS. ADDITIONAL SIGNAGE WILL BE INSTALLED AT THE TWO RAIL STATIONS IN BURBANK AND BICYCLE SIGNAGE WILL BE INCLUDED TO HELP IDENTIFY DESTINATION AND TRAVEL DISTANCE FOR THIS MODE.	\$889
LOS ANGELES	LOCAL HIGHWAY	LA06212	0	CONVERT LAS VIRGENES RD. FROM 2 LANE ROAD TO 4 LANE ROAD BETWEEN AGOURA RD. AND LOST HILLS RD.; 2 LANES IN EACH DIRECTION PLUS TURNING POCKETS.	\$7700
LOS ANGELES	LOCAL HIGHWAY	LA06607	0	MULHOLLAND HIGHWAY OPERATIONAL IMPROVEMENT - THE PROJECT WILL CREATE CONSISTENCY BY ESTABLISHING 2 LANES AND A CENTER DIVIDER (CURRENTLY THE ROAD VARIES BETWEEN 2, 3, AND 4 LANES THROUGHOUT THE PROJECT AREA). PROJECT INCLUDES RIGHT TURN POCKETS - 4 FOR A TOTAL OF 560 FEET. THIS PROJECT BENEFITS THE REGION THROUGH IMPROVING TRAFFIC FLOW AND CIRCULATION; THIS CORRIDOR IS PART OF THE LVM COG EMERGENCY MANAGEMENT CORRIDOR AND IS ALSO A NATIONALLY RENOWNED CORRIDOR.	\$7,600
LOS ANGELES	LOCAL HIGHWAY	LAF7516	0	MULHOLLAND HIGHWAY GAP CLOSURE: (1) BIKE/PEDESTRIAN IMPROVEMENTS ON MULHOLLAND HWY AND ON OLD TOPANGA CANYON RD. (2) INSTALLATION OF 0.5 MILE-CLASS 2 BIKE LANES ON MULHOLLAND HWY, NEW SIDEWALKS, RAMPS AND RETAINING WALLS.	\$545
LOS ANGELES	LOCAL HIGHWAY	LA00173	0	BRIDGE NO. 53C0652, SEPULVEDA BLVD, OVER DOMINGUEZ CHANNEL, 1/2 MI E/O ALAMEDA ST. REHABILITATE 4-LANE BRIDGE & WIDEN TO 6-LANE, UPGRADE BRIDGE RAILINGS.	\$6,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA06130	0	ACTIVE TRANSPORTATION PROGRAM - CITY-WIDE BIKE AND PEDESTRIAN IMPROVEMENTS - THE INFRASTRUCTURE COMPONENT INCLUDES A CLASS II BIKE LANE (107 MILE) ON SANTA FE AVE, HIGH VISIBILITY CROSSWALKS, COUNTERDOWN PEDESTRIAN SIGNALS, CURB RAMPS, ETC. THE NON-INFRASTRUCTURE COMPONENT INCLUDES, EDUCATION, ENCOURAGEMENT, AND ENFORCEMENT PROGRAMMING THAT WILL OCCUR OVER A THREE YEAR PERIOD.	\$1,482
LOS ANGELES	LOCAL HIGHWAY	LA06179	0	TRANSFORM MAINTENANCE ROAD TO A NEW 1.3 MILE CLASS II BIKE PED PATH ON DOMINGUEZ CHANNEL. IMPROVEMENTS INCLUDE IMPROVING HORIZONTAL AND VERTICAL GEOMETRY FOR IMPROVED SIGHT DISTANCE, ADDING A GUARDRAIL TO EXISTING BRIDGE, AND IMPROVING THE AVALON BLVD. INTERSECTION SIGNAL	\$1,340
LOS ANGELES	LOCAL HIGHWAY	LAF7322	0	BROADWAY INTERSECTION IMPROVEMENTS TRAFFIC SIGNAL MODIFICATION : MODIFIES FIVE SIGNALIZED INTERSECTIONS ON BROADWAY BETWEEN ALONDRA BLVD AND VICTORIA ST TO INCLUDE LONGER SIGNAL MAST ARMS TO IMPROVE VISIBILITY OF SIGNAL INDICATIONS, IMPROVE LIGHTING, UPGRADE SIGNAL CABINET AND EQUIPMENT, IMPROVE SIGNAL TIMING, AND IMPROVE THE OPERATION OF THE INTERSECTIONS BY ADDING PROTECTIVE/PERMISSIVE LEFT-TURN PHASING AS WARRANTED.	\$814
LOS ANGELES	LOCAL HIGHWAY	LA06349	0	STREET AND DRAINAGE RECONSTRUCTION AT SHEILA STREET AND COMMERCE WAY.	\$600
LOS ANGELES	LOCAL HIGHWAY	LAF5108	0	GARFIELD AVE/WASHINGTON BL MULTIMODAL INTERSECTION IN THE CITY OF COMMERCE. PROJECT WILL IMPROVE INTERSECTION BY ADDING A DEDICATED RIGHT-TURN POCKET ON SOUTHBOUND GARFIELD. ON WASHINGTON BL, ONE RIGHT-TURN POCKET WILL BE ADDED IN THE WESTBOUND DIRECTION. PED FEATURES INCLUDE WIDER NEW 5-FOOT SIDEWALKS ALONG GARFIELD AV AND WASHINGTON BL. THE RELOCATION OF BUS STOPS, HIGH VISIBILITY CROSSWALKS, ADA-COMPLIANT CURB RAMPS, RAILROAD TRACK CROSSINGS, AND PEDESTRIAN-ACTUATED TRAFFIC SIGNALS.	\$978
LOS ANGELES	LOCAL HIGHWAY	LAF7201	0	COMMERCE GOODS MOVEMENT ATLANTIC BOULEVARD: WASHINGTON BOULEVARD TO COMD STREET : (1) IMPLEMENT'S SOUTHBOUND RIGHT-TURN/OVERLAP SIGNAL PHASING FROM ATLANTIC BL ONTO WASHINGTON BL TO IMPROVE MOBILITY FOR TRUCKS AND VEHICLES. (2) STREETSCAPE IMPROVEMENTS, SUCH AS RAISED MEDIANS, CROSSING IMPROVEMENTS, AND SIDEWALK IMPROVEMENTS TO IMPROVE PEDESTRIAN SAFETY AND REDUCE PEDESTRIAN/VEHICLE CONFLICT.	\$1,172
LOS ANGELES	LOCAL HIGHWAY	LA06131	0	WILMINGTON AVE SAFE STREETS PED/BICYCLE IMPROVEMENTS IS A PED/BIKE SAFETY IMPROVEMENT PROJECT FOR THE COMMUNITIES ADJACENT TO THE WILMINGTON AVENUE TRANSPORTATION CORRIDOR BY DEVELOPING SAFER PED CROSSINGS AND INTERSECTIONS AS WELL AS INSTALLING BIKE PATHS TO IMPROVE PED/BIKE SAFETY. TOTAL LENGTH OF CLASS II BIKE WAY IS 10.9 MILE ALONG WILMINGTON AVE BETWEEN EL SEGUNDO BLVD AND ROSECRANS AVE (0.9 MILE) AND ALONG ROSECRANS AVE BETWEEN WILMINGTON AVE AND COMPTON CREEK (0.19 MILE).	\$996
LOS ANGELES	LOCAL HIGHWAY	LA06718	0	INSTALL SAFETY LIGHTS ON COMPTON CREEK.(DEMO ID 205 PUBLIC LAW 03 APP ACT 108-72002)	\$496
LOS ANGELES	LOCAL HIGHWAY	LAE1321	0	COMPTON ARTERIAL RECONSTRUCTION AND IMPROVEMENT PROGRAM (NON-CAPACITY).	\$3,840
LOS ANGELES	LOCAL HIGHWAY	LAE2194	0	GREENLEAF ROW COMMUNITY ENHANCEMENT PROJECT DESIGN AND CONSTRUCTION OF BIKEWAY PED WALK WAY AND UPGRADE SIGNALIZATION	\$3,840
LOS ANGELES	LOCAL HIGHWAY	LAE2819	0	ROSECRANS AVE OVERHEAD AND ARTERIAL RECONSTRUCTION PROJECT(NON-CAPACITY).SAFTEA-LU1321. ISTE A 36.	\$15,000
LOS ANGELES	LOCAL HIGHWAY	LAE3768	0	COMPTON ARTERIAL RECONSTRUCTION AND IMPROVEMENT PROGRAM (NON-CAPACITY).	\$3,000
LOS ANGELES	LOCAL HIGHWAY	LA067326	0	COMPTON CREEK BIKEWAY EXTSN - PHASE II DESIGN & CNSTRUCT 6 MI OF CLAS II BIKE/PED PATH FRM GREENLEAF BL TO ARTESIA FWY WILL INC BIKE PATH, PED WALKWAY SIGNAGE, STRPNG. (PPNO 2869).	\$427
LOS ANGELES	LOCAL HIGHWAY	LAF5501	0	CITY OF COVINA BICYCLE NETWORK-CONSTRUCT CLASS II BIKE LANES ON CITRUS AV (1.8 MI), FRONT ST (0.13 MI), SECOND AV (0.87 MI), BADILLO ST (3.61 MI) AND AZUSA AV (1.53 MILES). THIS PROJECT PROVIDES DIRECT CONNECTIVITY TO A REGIONALLY SIGNIFICANT BIKE-TRANSIT HUB (COVINA METROLINK STATION) IDENTIFIED IN METRO'S 2006 BICYCLE TRANSPORTATION STRATEGIC PLAN. THE PROJECT WILL ALSO PROVIDE SECURE BIKE PARKING AT A LOCATION DETERMINED TO HAVE SIGNIFICANT NEED FOR BICYCLISTS.	\$1048
LOS ANGELES	LOCAL HIGHWAY	LA06451	0	BRIDGE NO. 53C0876, HIGUERA ST, OVER BALLONA CR. BETWEEN EASTHAM DRIVE AND JEFFERSON BLVD. REPLACE 3 LANE BRIDGE WITH A NEW 4 LANE BRIDGE....	\$8,091
LOS ANGELES	LOCAL HIGHWAY	LAE3069	0	SEPUVEDA BOULEVARD WIDENING PROJECT TO ADD A THIRD SOUTHBOUND LANE ON SEPUVEDA BOULEVARD WITHIN THE EXISTING RIGHT OF WAY BETWEEN JEFFERSON BL/PLAYA STREET TO GREEN VALLEY CIRCLE SEPUVEDA BL FROM SAWTELL AVE TO JEFFERSON/PLAYA ST WILL BE RE-STRIPED.	\$8,132
LOS ANGELES	LOCAL HIGHWAY	LAF659	0	PEDESTRIAN IMPROVEMENTS FOR INTERSECTIONS WITH BUS STOPS. THIS PROJECT CONSISTS OF SAFETY AND AESTHETIC-RELATED PEDESTRIAN IMPROVEMENTS AT INTERSECTIONS ALONG MAJOR ARTERIALS WITH HIGH TRANSIT AND PEDESTRIAN ACTIVITIES WITHIN THE CITY OF CULVER CITY.	\$1066
LOS ANGELES	LOCAL HIGHWAY	LAF177	0	REAL-TIME MOTORIST PARKING INFORMATION SYSTEM DEMONSTRATION. THIS PROJECT WILL PROVIDE A REAL-TIME INFORMATION SYSTEM TO COMMUNICATE AND GUIDE MOTORISTS TO AVAILABLE PARKING SPACES IN SELECTED PARKING STRUCTURES IN THE CITY OF CULVER CITY.	\$1,072

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF3175	0	CULVER BOULEVARD REALIGNMENT PROJECT, CULVER BL, WIDENING W/ FRONTAGE ROAD NARROWING, SEPARATED BY REBUILT BIKE/PEDESTRIAN, W/ RAISED MEDIAN, TURN LANES, TRAFFIC SIGNAL, COUNTDOWN PED HEADS AND OTHER IMPROVEMENTS. THE PROJECT LIMITS ARE SEPULVEDA BL. TO THE WEST AND ELENDA STREET TO THE EAST, LOCATED ENTIRELY WITHIN THE CITY OF CULVER CITY. ALL OF THE REALIGNMENT WILL BE WITHIN THE EXISTING PUBLIC RIGHT-OF-WAY. SAFTEA-LU 3069 PG 119 STA1: 1375.	\$5,965
LOS ANGELES	LOCAL HIGHWAY	LAF3318	0	TRAFFIC MONITORING AND SURVEILLANCE SYSTEM GAP CLOSURE. DESIGN AND IMPLEMENTATION OF 14 CCTV CAMERA TRAFFIC MONITORING AND SURVEILLANCE SYSTEM, HUB SWITCHING EQUIPMENT AND APPROX. 4 MI OF FIBER OPTIC COMMUNICATION CABLES, AND EOC VIDEO.	\$3,048
LOS ANGELES	LOCAL HIGHWAY	LAP4M001	0	THE CITY-WIDE PEDESTRIAN PLAN WILL IDENTIFY VIABLE BICYCLE AND PEDESTRIAN CORRIDORS, ASSESS INTERSECTIONS WITH HIGH PEDESTRIAN/ BICYCLE ACCIDENT RATES, AND TARGET INFRASTRUCTURE IMPROVEMENTS FOR THOSE INTERSECTIONS/SEGMENTS. THE DOCUMENT WILL COORDINATE ALL EXISTING CITY PEDESTRIAN POLICIES AND RECOMMENDED INFRASTRUCTURE FOR IMPLEMENTATION IN A USER-FRIENDLY MANUAL.	\$500
LOS ANGELES	LOCAL HIGHWAY	LA06737	0	MARINE AVENUE AND AVIATION BOULEVARD INTERSECTION IMPROVEMENT PROJECT INCLUDES STREET WIDENING, PROPOSING TO WIDEN THE NORTH SIDE OF MARINE AVENUE TO ADD THE NEEDED LANE CAPACITY ON MARINE AVENUE AT AVIATION BOULEVARD. THIS PROJECT WILL REQUIRE 23' OF DEDICATION FROM FFA RIGHT-OF-WAY ON THE NORTH SIDE OF MARINE AVENUE TO ACCOMMODATE A SECOND WESTBOUND LEFT-TURN LANE (RESULTING IN DOUBLE LEFT-TURN LANES), A 3RD WESTBOUND THROUGH LANE AND A DEDICATED WESTBOUND RIGHT-TURN POCKET.	\$900
LOS ANGELES	LOCAL HIGHWAY	LAF3109	0	HAWTHORNE BOULEVARD MOBILITY IMPROVEMENT PROJECT. IMPROVE CIRCULATION, INCREASING EFFICIENCY FOR VEHICULAR, PEDESTRIAN, PUBLIC TRANSIT AND BICYCLE MOVEMENT ON HAWTHORNE BLVD. THE PROJECT LIMITS IS FROM EL SEGUNDO BOULEVARD TO THE NORTH AND TO THE SOUTHERN CITY LIMIT AT ROSECRANS AVENUE. FROM I-105/120 STREET TO EL SEGUNDO BOULEVARD.	\$10,830
LOS ANGELES	LOCAL HIGHWAY	LAF5101	0	EL SEGUNDO BOULEVARD IMPROVEMENT PROJECT. THIS PROJECT IS LOCATED IN THE CITY OF HAWTHORNE AND WILL IMPROVE EL SEGUNDO BL AT THE INTERSECTIONS OF HAWTHORNE BL, PRAIRIE AV, DOTY AV, CERISE AV, AND CHADRON AV, A DISTANCE OF 1.3 MILES. THE INTERSECTION OF EL SEGUNDO BL AND PRAIRIE AV WILL BE WIDENED TO ACCOMMODATE A DEDICATED WESTBOUND RIGHT-TURN LANE AND TO RESTRIPE EL SEGUNDO BL TO ACCOMMODATE DUAL LEFT-TURN LANES FOR BOTH THE EASTBOUND AND WESTBOUND DIRECTIONS.	\$4,174
LOS ANGELES	LOCAL HIGHWAY	LAF7101	0	PRAIRIE AVENUE MOBILITY PROJECT : (1) WIDENS PRAIRIE AV INTERSECTIONS AT EL SEGUNDO BL AND AT ROSECRANS AV TO CONSTRUCT DOUBLE LEFT-TURN POCKETS FOR TRAFFIC FLOW IMPROVEMENT AND TO INSTALL CLASS III BIKE ROUTES ON BOTH SIDES. (2) TRAFFIC SIGNAL UPGRADE AND SYNCHRONIZATION OF 8 INTERSECTIONS BETWEEN 118TH AND MARINE. (3) INSTALLS CLASS III BIKE EQUIPMENTS, IMPROVES PEDESTRIAN FACILITIES, AND UPGRADES ADA ACCESS RAMPS, NEW MEDIAN CURBS AND LANDSCAPING AT INTERSECTIONS.	\$5,103
LOS ANGELES	LOCAL HIGHWAY	LA06141	0	STATE ST. COMPLETE STREET PROJECT BETWEEN RANDOLPH ST AND SANTA ANA ST (1.5 MILE) PROPOSES IMPROVEMENTS THAT WILL HELP IMPROVE STATE STREET'S OVERALL OPERATION AND EFFICIENCY WHILE PROMOTING BICYCLING AND WALKING WITHIN HUNTINGTON PARK.	\$1,184
LOS ANGELES	LOCAL HIGHWAY	LAF7312	0	HUNTINGTON PARK SIGNAL SYNCHRONIZATION & BUS SPEED IMPROVEMENT : (1) SYNCHRONIZES SIGNALIZED INTERSECTIONS, RECONFIGURES TRAFFIC LANES TO ALLOW DUAL TURNING LANES, INSTALLS CHANGEABLE MESSAGE SIGNS ALONG PACIFIC BL. (2) SIGNAL IMPROVEMENTS INCLUDING CONTROLLER UPGRADES, NEW MASTS, VIDEO ACTIVATED TRAFFIC CONTROLLERS, AND SYNCHRONIZATION OF SIGNALIZED MID-BLOCK PEDESTRIAN CROSSINGS ON PACIFIC BL.	\$1,186
LOS ANGELES	LOCAL HIGHWAY	LAF7702	0	DOWNTOWN HUNTINGTON PARK I-PARK SYSTEM IMPLEMENTATION : PROVIDES 4 CHANGEABLE MESSAGING PARKING SIGNS, 12 WAY FINDING PARKING SIGNS, 10 BICYCLE RACKS, AND 6 BICYCLE LOCKERS AT THE DOWNTOWN SHARED PARKING DISTRICT ALONG PACIFIC BL. TO IMPROVE BICYCLE ACCESS AND IMPROVE TRAFFIC CIRCULATION.	\$780
LOS ANGELES	LOCAL HIGHWAY	LA00442	0	RETROFITTING THE EXISTING TWO-LANE WIDE PECK ROAD BRIDGE OVER THE SAN GABRIEL RIVER FWY (ROUTE 605) & WIDEN IT TO ACCOMMODATE 4 LANES (2 EACH DIRECTION) TO ELIMINATE BOTTLENECK	\$13,600
LOS ANGELES	LOCAL HIGHWAY	LA00443	0	REHABILITATING THE EXISTING AZUSA AVE. BRIDGE OVER THE UPRR TRACKS AND VALLEY BLVD. APPLY NEW PAINT TO THE EXISTING STEEL BRIDGE TO AVOID FURTHER WEATHER CORROSION. TOLL CREDITS WILL BE USED TO MATCH STPLF FUNDS.	\$2,912
LOS ANGELES	LOCAL HIGHWAY	LAF5100	0	SR57/60 CONFLUENCE. IMPROVE GRAND AVENUE INTERSECTION AT GOLDEN SPRINGS DRIVE: WIDEN GRAND AVE. FROM SR-60 FREEWAY TO LAVENDER DRIVE. A DISTANCE OF 0.2 MILES. PROJECT WILL ADD 1 THRU SB LANE AND 2 THRU NB LANE. WIDEN GOLDEN SPRINGS DRIVE BETWEEN COPLEY DR AND RACQUET CLUB DRIVE. ADD WB LEFT-TURN LANE AND A DEDICATED RIGHT-TURN LANE, WIDEN SIDEWALKS AND ADD PEDESTRIAN COUNTDOWN SIGNALS.	\$16,819
LOS ANGELES	LOCAL HIGHWAY	LA00188	0	ARBOR VITAE STREET FROM LA BREA AVENUE TO PRAIRIE AVENUE - RECONSTRUCTING/UPGRADING PAVEMENT, NEW C&G, SIDEWALKS, DRIVEWAYS, PEDESTRIAN RAMPS, LANDSCAPING AND STREET LIGHTING.	\$3,532

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA06843	0	MEASURES ITS PHASE IV - PART A OF A TWO PART ITS IMPROVEMENT PROJECT. DESIGN AND CONSTRUCTION OF APPROXIMATELY 2.7 MILES OF COMMUNICATION INFRASTRUCTURE ALONG LA BREA, FLORENCE, GREENSHAW, MANCHESTER AND CENTINELA. SIGNAL SYNCHRONIZATION (APPROX. 20 LOCATIONS); DESIGN AND CONSTRUCTION OF SYSTEM DETECTION (APPROX. 40 INTERSECTIONS); CHANGEABLE MESSAGE SIGNS (2 LOCATIONS); CCTV CAMERAS (APPROX. 6 LOCATIONS) AND TRAFFIC MANAGEMENT CENTER EQUIPMENT AND COMMUNICATION NETWORK INTEGRATION.	\$3,500
LOS ANGELES	LOCAL HIGHWAY	LAE1934A	0	CENTURY BLVD PEDESTRIAN SAFETY AND TRANSPORTATION IMPROVEMENTS ELEMENTS WILL INCLUDE THE ADDITION OF EXCLUSIVE RIGHT AND LEFT TURN LANES, RAISED MEDIANS, TRAFFIC SIGNAL AND STREET LIGHT UPGRADES, CROSSWALK AND SIDEWALK IMPROVEMENTS, PARKWAY LANDSCAPING AND PAVEMENT REHABILITATION.	\$4,428
LOS ANGELES	LOCAL HIGHWAY	LAF3130	0	FLORENCE AVE REGIONAL TRANSPORTATION CORRIDOR IMPRVTM PROJ. RECONFIGURATION OF 1.2 MILE SEGMENT OF FLORENCE AV INCLUDING NEW FLORENCE AV/REONDO BL INTERSECTION & RELATED CAPACITY PED/BIKE IMPRV TO REBALANCE STREET INTO MULTIMODAL CORRIDOR.	\$4,091
LOS ANGELES	LOCAL HIGHWAY	LAF5300	0	CITY OF INGLEWOOD ITS - PHASE IV. 2.7 MILES OF FIBER-OPTICS ON LA CIENEGA BLVD., CENTINELA AVE., FLORENCE AVE. AND PRAIRIE AVE. NEW CCTV, SPEED DETECTION SYSTEMS AND WEB-BASED TRAVELER INFORMATION. UPGRADE THE CURRENT TRAFFIC CONTROL SYSTEM (TCS) TO ADAPTIVE TCS AND REPLACE 5 TYPE 170 CONTROLLERS WITH TYPE 2070 CONTROLLERS ON PRAIRIE AVE. THERE ARE APPROXIMATELY 23 INTERSECTIONS THAT WILL RECEIVE VARIOUS ITS IMPROVEMENTS.	\$1,245
LOS ANGELES	LOCAL HIGHWAY	LAF7319	0	INGLEWOOD ITS - PHASE V. (1) DESIGNS AND CONSTRUCTS COMPUTERIZED TRAFFIC CONTROL AND MONITORING SYSTEMS. (2) EXPANDS CENTRAL TRAFFIC CONTROL AND ADVANCE TRAFFIC MANAGEMENT AT 39 INTERSECTIONS. (3) IMPROVES 6.13 MILES OF FIBER OPTIC COMMUNICATIONS, (4) EXPANDS CLOSED CIRCUIT TELEVISION CAMERAS (CCTV) AT 10 INTERSECTIONS, (5) INSTALLS CHANGEABLE MESSAGE SIGNS (CMS) AT 2 INTERSECTIONS, AND (6) INSTALLS EW COMMUNICATION HUBS AT 3 INTERSECTIONS.	\$1,918
LOS ANGELES	LOCAL HIGHWAY	LAF5522	0	FOOTHILL BLVD. LINK BIKEWAY & PEDESTRIAN GREENBELT PROJECT, BRIGGS AVE. TO ALTA CANYADA RD., CONSTRUCT 1.5 MILES OF CLASS II BIKE LANES, BIKE AND BUS FACILITIES, RAISED MEDIAN AND 0.5 MILES OF PEDESTRIAN BELTWAY WITH LIGHTING AND HARDSCAPE.	\$2,038
LOS ANGELES	LOCAL HIGHWAY	LA06937	0	DE LAMO BOULEVARD AT LAKEWOOD BOULEVARD INTERSECTION IMPROVEMENTS - ADD A SECOND LEFT TURN LANE IN ALL DIRECTIONS, MODIFY EXISTING TRAFFIC SIGNALS, WIDEN BOX CULVERT SOUTH OF DEL AMO BOULEVARD, REMOVE OR MODIFY RAISED MEDIANS ON LAKEWOOD BOULEVARD, WIDEN SOUTHSIDE OF DEL AMO BOULEVARD (NO NEW THRU LANES), AND WIDEN LAKEWOOD BOULEVARD TO ACCOMMODATE A THIRD THRU LANE SOUTHBOUND THROUGH THE INTERSECTION WITHIN THE EXISTING RIGHT OF WAY IN THE CITIES OF LAKEWOOD AND LONG BEACH.	\$2,885
LOS ANGELES	LOCAL HIGHWAY	LA0D447	0	AVENUE L GAP CLOSURE FROM 60TH STREET WEST TO 30TH WEST, ADDING AN ADDITIONAL LANE IN EACH DIRECTION, INCLUDING A MEDIAN (WITHIN CITY JURISDICTION)	\$4,620
LOS ANGELES	LOCAL HIGHWAY	LA0G166	0	WIDENING OF 30TH ST WEST FROM AVENUE M TO AVENUE L (APPROX. 1 MILE) FROM 2 VEHICULAR TRAVEL LANES TO 4 LANES. 8 FOOT CLASS II BIKE LANES WILL BE STRIPPED ON BOTH SIDES OF THE STREET.	\$2,280
LOS ANGELES	LOCAL HIGHWAY	LAF5304	0	TRAFFIC SIGNAL SYSTEM MODERNIZATION. THE PROJECT BOUNDARIES ARE FROM AVE H TO AVENUE AND 70TH ST WEST TO 30TH ST EAST. IT WILL REPLACE 28 MILES OF COPPER CABLE WITH FIBER OPTIC IN EXISTING CONDUIT, INSTALL NEW ETHERNET SWITCHES IN EXISTING CONTROLLER CABINETS, UPDATE EXISTING FIBER BACKBONE EQUIPMENT, INSTALL EQUIPMENT TO VIEW IMAGES REMOTELY THROUGH EXISTING VIDEO DETECTION, AND INSTALL WIRELESS COMMUNICATIONS TO REMOTE SIGNALIZED INTERSECTIONS.	\$2,018
LOS ANGELES	LOCAL HIGHWAY	LAF5803	0	AVENUE I CORRIDOR IMPROVEMENTS. 15TH ST W TO 10TH ST W PROJECT IS LOCATED IN LANCASTER ALONG AVE I BETWEEN 15TH ST W AND 10TH ST W. IT WILL INSTALL STREETSCAPE IMPROVEMENTS TO INCLUDE LANDSCAPING, BIKE PATH, BUFFER, SIDEWALK, BUS STOP IMPROVEMENTS, CENTERLINE MEDIANS, ADDITIONAL PARALLEL PARKING FOR NON-RESIDENTIAL USES, AND ADA ACCESSIBILITY.	\$744
LOS ANGELES	LOCAL HIGHWAY	LA0G1053	0	INGLEWOOD AVENUE WIDENING PHASE III - INGLEWOOD AVENUE ROADWAY WIDENING ON THE WEST SIDE OF THE ROADWAY TO PROVIDE FOR THE ADDITION OF A THIRD SOUTHBOUND LANE BETWEEN ROSEGRANS AVENUE AND MARINE AVENUE AND RAISED MEDIAN ISLANDS WITH SIDEWALK ENHANCEMENTS ADJACENT TO LAWDALE HIGH SCHOOL.	\$3,615
LOS ANGELES	LOCAL HIGHWAY	LA0G954	0	THIS PROJECT WILL IMPROVE OUTDATED AND NON-ACTUATED TRAFFIC SIGNAL SYSTEMS WITHIN LAWDALE AND WILL INCLUDE: FULL ACTUATION, INADEQUATE BICYCLE & PEDESTRIAN ACCOMMODATION, LIMITED TIMING PLANS, NEW CONTROLLERS/CABINETS WHERE NEEDED, AND NEW WIRING/LOOPS WHERE NEEDED AT ALL INTERSECTIONS.	\$1,500
LOS ANGELES	LOCAL HIGHWAY	LAE2906	0	INGLEWOOD AVENUE WIDENING PHASE II - INGLEWOOD WIDENING BETWEEN MANHATTAN BEACH BLVD AND WEST 156TH STREET THE ROADWAY WIDENING ALONG EAST SIDE OF INGLEWOOD AVENUE TO ACCOMMODATE A DEDICATED THIRD LANE IN THE NORTH BOUND DIRECTION (PHASE I); AND INGLEWOOD AVENUE AT MARINE AVENUE FOR ROADWAY WIDENING TO ACCOMMODATE THREE DEDICATED RIGHT TURN LANE POCKETS, AS WELL AS MODIFICATION TO THE SIGNAL SYSTEM TO IMPROVE TRAFFIC OPERATIONS AT THIS INTERSECTION (PHASE II).	\$4,515

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF7500	0	HAWTHORNE BOULEVARD CLASS II BICYCLE LANES: (I) INSTALLS 1.0 MILE OF CLASS 2 BIKE LANES ON HAWTHORNE BLVD FOR BOTH DIRECTIONS. (2) PROVIDES BICYCLE PARKING.	\$234
LOS ANGELES	LOCAL HIGHWAY	LA06972	0	IN LOMITA, PACIFIC COAST HIGHWAY AT WALNUT ST & WESTERN AVE AT PALOS VERDES DRIVE NORTH, IMPROVE MULTIPHASE SIGNAL OPERATIONS, OPTIMIZE CYCLES, EMPLOY PROTECTED, PERMISSIVE LEFT-TURN PHASES, RESTRICT AND CONTROL TURNING WITH STRIPING ON WALNUT. EMPLOY EMERGENCY VEHICLE PREEMPTION, CROSSWALK MARKINGS, AUDIBLE PED SIGNAL AND COUNTDOWN DEVICES. ADA MEDIAN IMPROVEMENT, SIGNAL UPGRADES, BICYCLE DETECTION, SIGNAL HEAD, LENS & VISOR UPGRADES.	\$900
LOS ANGELES	LOCAL HIGHWAY	LA068094	0	PIER B INTERMODAL RAIL YARD EXPANSION: PROJECT WILL EXPAND PIER B INTERMODAL RAIL YARD TO FACILITATE ADDITIONAL RAIL SHIPMENTS.	\$250,000
LOS ANGELES	LOCAL HIGHWAY	LA068129	0	PORTS OF LONG BEACH AND LOS ANGELES ATMS/ATIS PROJECT TO IMPROVE TRAFFIC OPERATIONS ON THE: I-710, I-110, SR47103.	\$1,410
LOS ANGELES	LOCAL HIGHWAY	LA06088	0	GRADE SEPARATION FOR REEVES CROSSING AT TERMINAL ISLAND WOULD ELIMINATE TRAFFIC CONFLICTS AND ALLOW EFFICIENT MOVEMENT OF TRAINS IN TERMINAL ISLAND WITHOUT CONCERN FOR IMPACTS TO VEHICULAR TRAFFIC.	\$10,580
LOS ANGELES	LOCAL HIGHWAY	LA06169	0	PIER F SUPPORT YARD: THIS PROJECT PROVIDES STORAGE TRACKS ON THE PIER F ROAD CUL-DE-SAC, WHICH ARE USEFUL FOR SUPPORT FUNCTIONS SUCH AS SET OUT OF BAD ORDER RAIL CARS AND POSSIBLY ENGINE TIE-UP.	\$37,380
LOS ANGELES	LOCAL HIGHWAY	LA06170	0	TRACK REALIGNMENT AT OCEAN BOULEVARD: THIS PROJECT WILL CREATE IMPROVED LEAD TRACKS TO THE METROPOLITAN STEVEDORING CO. (METRO) RAIL YARD AND TO PIER F ON-DOCK RAIL YARD.	\$77,435
LOS ANGELES	LOCAL HIGHWAY	LA06171	0	NAVY MOLE STORAGE YARD: THE PROPOSED PROJECT INCLUDES THREE NEW TRACKS ALONG THE WEST SIDE OF PIER T. THIS PROJECT WILL ALSO INVOLVE RELOCATING THE EXISTING UTILITIES.	\$12,850
LOS ANGELES	LOCAL HIGHWAY	LA06172	0	TI WYE TRACK REALIGNMENT: THIS PROJECT WILL PROVIDE FOR DOUBLE TRACKING THE SOUTH LEG OF THE WYE TO ACCOMMODATE SIMULTANEOUS TRAIN SWITCHING MOVES FROM THESE VARIOUS ACTIVITIES ON TERMINAL ISLAND.	\$12,260
LOS ANGELES	LOCAL HIGHWAY	LA06173	0	RECONFIGURATION OF CONTROL POINT (CP) MOLE - THE NEW CONTROL POINT AT THE MOLE WILL ENABLE INCREASED TRAIN SPEEDS AND REDUCED TRAIN DELAYS CAUSED BY MANUAL SWITCH OPERATIONS.	\$20,240
LOS ANGELES	LOCAL HIGHWAY	LA06993	0	ATLANTIC AVENUE AND WILLOW STREET INTERSECTION IMPROVEMENTS: ADDITION OF LEFT AND RIGHT TURN LANES FOR THE NORTHBOUND AND SOUTHBOUND APPROACH.	\$300
LOS ANGELES	LOCAL HIGHWAY	LA06701	0	DEVELOP AND IMPLEMENT TRAFFIC CALMING MEASURES FOR TRAFFIC EXITING THE I-710 INTO LONG BEACH	\$1920
LOS ANGELES	LOCAL HIGHWAY	LAE1296	0	LONG BEACH INTELLIGENT TRANSPORTATION SYSTEM	\$2,880
LOS ANGELES	LOCAL HIGHWAY	LAE3793	0	CALIFORNIA AVE WIDENING: FROM WILLOW AVE AND SPRING ST WIDEN CALIFORNIA AVE TO SECONDARY MODIFIED HIGHWAY STREET STANDARDS (NON-CAPACITY).	\$1,200
LOS ANGELES	LOCAL HIGHWAY	LAF1341	0	OCEAN BL. SIGNAL SYNCHRONIZATION AND ENHANCEMENT PROJECT. INSTALLATION OF NEW SIGNALS, INTERCONNECT, PEDESTRIAN SAFETY ENHANCEMENTS, ADA ACCESS RAMPS, TRANSIT INFORMATION SYSTEMS, AND TRAFFIC SIGNAL UPGRADES AND RECONSTRUCTION. OCEAN BL, ALAMITOS TO LIVINGSTON	\$2,392
LOS ANGELES	LOCAL HIGHWAY	LAF1528	0	SAN GABRIEL RIVER BIKE PATH GAP CLOSURE AT WILLOW STREET. CREATION OF OFF-STREET BICYCLE PATH TO ACHIEVE BICYCLE ROUTE GAP CLOSURE ON WILLOW STREET FROM THE SAN GABRIEL RIVER BIKE PATH WEST TO STUDEBAKER ROAD. BIKE PATH DISTANCE: .5 MILES.	\$978
LOS ANGELES	LOCAL HIGHWAY	LAF1530	0	BICYCLE SYSTEM GAP CLOSURES & IMPROVED LA RIVER BIKE PATH. PROJECT WILL CONSTRUCT PRIORITY CLASS I & III BICYCLE SYSTEM GAP CLOSURES IN LONG BEACH AND IMPROVE CONNECTION TO LA RIVER. CLASS II BIKE LANES 4.8 MILES. CLASS III 3 MILES.	\$1,231
LOS ANGELES	LOCAL HIGHWAY	LAF1636	0	CITY OF LONG BEACH ATHERTON STREET ENHANCEMENT PROJECT. REHABILITATING THE LANDSCAPED MEDIAN TO ENHANCE THE EXPERIENCE OF OVER 37,000 PEDESTRIANS, BICYCLISTS, TRANSIT USERS AND AUTOS DAILY.	\$1,322
LOS ANGELES	LOCAL HIGHWAY	LAF3615	0	LONG BEACH BLVD. PEDESTRIAN IMPROVEMENT PROJECT. PROJECT PROVIDES PEDESTRIAN-ORIENTED IMPROVEMENTS TO LONG BEACH BOULEVARD INCLUDING PEDESTRIAN LIGHTING, STREET TREES, AND CROSSWALK TREATMENTS.	\$2,521
LOS ANGELES	LOCAL HIGHWAY	LAF5503	0	CITY OF LONG BEACH PHASE II BIKE SHARE PROGRAM. THIS PROJECT IS LOCATED IN THE CITY OF LONG BEACH AND WILL IMPLEMENT A PHASE II BIKE-SHARE PROGRAM. FUNDS ARE REQUESTED FOR THE PURCHASE AND INSTALLATION OF 500 BIKES, 50 DOCKING STATIONS AND KIOSKS, AND WAYFINDING/ SIGNAGE. THE PROJECT WILL SUPPORT LOCAL AND METRO TRANSIT STATIONS, EMPLOYMENT AREAS, BUSINESS DISTRICTS, AND MAJOR ACTIVITY NODES.	\$2,828

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF5609	0	DOWNTOWN LONG BEACH PINE AVENUE STREETScape IMPROVEMENT. THIS PROJECT IS LOCATED ON PINE AVE BETWEEN SEASIDE WY AND ANAHEIM ST. IT WILL IMPLEMENT STREET IMPROVEMENTS, SUSTAINABLE DESIGN FEATURES, AND PEDESTRIAN ENHANCEMENTS ALONG A MAJOR TRANSIT NODE INCLUDING: PEDESTRIAN LIGHTING, CROSSWALK ENHANCEMENTS, DIAGONAL CROSSWALKS, STREET FURNITURE, BIKE RACKS, STREET TREES, LANDSCAPING, BOLLARDS TO FACILITATE STREET CLOSURE FOR COMMUNITY EVENTS AND REMOVAL OF OBSTRUCTIONS FROM THE WALKWAY.	\$4,271
LOS ANGELES	LOCAL HIGHWAY	LAF5808	0	ATLANTIC AVENUE STREETScape ENHANCEMENTS. THIS PROJECT IS LOCATED IN LONG BEACH ALONG ATLANTIC AVENUE BETWEEN MARKET ST AND SOUTH ST. IT WILL INSTALL STREETScape IMPROVEMENTS, SHADE TREES, PEDESTRIAN LIGHTING AND DECORATIVE PAVEMENT FEATURES. FUNDS ARE REQUESTED FOR DESIGN, CONSTRUCTION AND INSTALLATION COSTS. THE ORIGINAL SCOPE OF THIS PROJECT WAS REDUCED BY ELIMINATING THE SECTION BETWEEN SOUTH ST AND ARTESIA BL.	\$643
LOS ANGELES	LOCAL HIGHWAY	LAF7117	0	REDONDO AVENUE AND ANAHEIM STREET INTERSECTION IMPROVEMENTS: (1) WIDENS REDONDO AVENUE AND ANAHEIM STREET INTERSECTION AND RELOCATE BUS STOPS AND UTILITIES TO LENGTHEN LEFT-TURN POCKETS IN WESTBOUND AND EASTBOUND DIRECTIONS ON ANAHEIM ST. (2) ADDS EXCLUSIVE RIGHT-TURN LANE ON SOUTHBOUND APPROACH ON REDONDO AV. (3) INSTALLS BUS STOP ENHANCEMENTS, BIKE-SENSITIVE LOOP DETECTORS, AND BIKE RAMP AT INTERSECTION CORNERS.	\$1,236
LOS ANGELES	LOCAL HIGHWAY	LAF7204	0	PIER B STREET FREIGHT CORRIDOR RECONSTRUCTION: (1) REALIGNS PIER B ST BETWEEN PICO AV AND PIER A WY AND WIDENS INTO 2 LANES IN EACH DIRECTION TO IMPROVE GOODS MOVEMENT MOBILITY AND ENHANCE PEDESTRIAN TRAVEL. (2) CONSTRUCTS NEW SIDEWALK ON THE SOUTH SIDE OF PIER B ST. (3) CONSTRUCTS J-HOOK FLYOVER TO CONNECT PIER B ST WITH ANAHEIM ST.	\$105,791
LOS ANGELES	LOCAL HIGHWAY	LAF7314	0	SANTA FE AVENUE SYNCHRONIZATION ENHANCEMENT PROJECT: (1) UPGRADES TRAFFIC SIGNALS ALONG THE SANTA FE AV CORRIDOR AND REPLACES OBSOLETE EQUIPMENTS. (2) REPLACES EXISTING SIGNAL CONTROLLERS WITH ADVANCED TRAFFIC CONTROLLERS TO CONNECT WITH THE ADAPTIVE TRAFFIC CONTROL SYSTEM (ATCS). (3) INSTALLS CCTVS AND CLASS III BIKE ROUTE ALONG SANTA FE AV. (4) FURNISHES PEDESTRIAN PUSH BUTTONS AND LED COUNTDOWN PEDESTRIAN HEADS.	\$3,200
LOS ANGELES	LOCAL HIGHWAY	LAF7316	0	ARTESIA CORRIDOR ATCS ENHANCEMENT PROJECT: (1) UPGRADES TRAFFIC SIGNALS ALONG ARTESIA BL BETWEEN LONG BEACH BL AND DOWNEY AV TO CONNECT WITH ADAPTIVE TRAFFIC CONTROL SYSTEM (ATCS). (2) INSTALLS CCTV AND CMS ON ARTESIA BL. (3) INSTALLS FIBER OPTIC CABLE AND DEVICES TO CONNECT SIGNALS TO EACH OTHER AND TRAFFIC MANAGEMENT CENTER (TMC). (4) TWO NEW TRAFFIC SIGNALS IN COMPTON (5) INSTALLS CLASS II BIKE LANE IN BOTH DIRECTIONS FROM ATLANTIC AV TO SUSANA RD. (6) PEDESTRIAN IMPROVEMENTS.	\$3,045
LOS ANGELES	LOCAL HIGHWAY	LA0C8120	0	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN & CONSTRUCTION OF MULTI JURISDICTIONAL, SIGNAL SYSTEM IMPROVEMENTS ON REGIONAL ARTERIALS & ADVANCED ITS TECHNOLOGY. (APPROX. 770 INTERSECTIONS)	\$9,627
LOS ANGELES	LOCAL HIGHWAY	LA0D260	0	STATE ROUTE 90 CONNECTOR ROAD TO ADMIRALTY WAY. THIS PROJECT WILL IMPROVE THE SR-90/SR-1 INTERSECTION INCLUDING THE ADDITION OF A LANE IN EACH DIRECTION AND CONSTRUCTION OF A DIRECT ROAD BETWEEN ADMIRALTY WAY AND SR-90	\$6,000
LOS ANGELES	LOCAL HIGHWAY	LA0D461	0	RECONSTRUCT - THE OLD ROAD FROM HILLCREST PARKWAY TO LAKE HUGHES RD & WIDEN FROM 40' TO 68'; 2 VEH. LANES AND A 5' CLASS II BIKE LANE IN EA DIR & STRIPPED MEDIAN (FROM 2 TO 4 LNS & EA DIR) FOR 2.1 MILES.	\$24,743
LOS ANGELES	LOCAL HIGHWAY	LA0D465	0	COLIMA ROAD - CITY OF WHITTIER LIMITS TO FULLERTON ROAD, FOR A TOTAL DISTANCE OF 4.9 MILES. THE PROJECT WILL WIDEN COLIMA RD BY UP TO SIX FEET AT SPOT LOCATIONS AND RESTRIPE TO ACCOMMODATE THREE THROUGH LANES IN EACH DIRECTION. A CLASS II BIKEWAY FROM THE CITY OF WHITTIER WILL BE EXTENDED TO ALLENTON AV. A DISTANCE OF 1.2 MILES, AND BUS PADS WILL BE REPLACED. INCLUDES MEDIAN LANDSCAPING. TOLL CREDITS USED TO MATCH FY 14/15 AND FY 15/16 CMAQ.	\$11,538
LOS ANGELES	LOCAL HIGHWAY	LA0G1068	0	INTERSECTION IMPROVEMENTS AT NORWALK BOULEVARD AND WASHINGTON BOULEVARD. PROVIDE ADDITIONAL WESTBOUND THRU LANE ALONG WASHINGTON BOULEVARD. INCREASE NORTHBOUND LEFT TURN STORAGE ALONG NORWALK BOULEVARD.	\$550
LOS ANGELES	LOCAL HIGHWAY	LA0G1069	0	VARIOUS INTERSECTION IMPROVEMENTS AT NORWALK BOULEVARD AND WHITTIER BOULEVARD INCLUDING LEFT TURN PHASING, RIGHT TURN PHASING, ADDING RIGHT TURN LANES, AND LEFT TURN STORAGE LENGTHENING. A THRU LANE WILL BE CONFIGURED THROUGH SOME WIDENING AND RE-STRIPPING ON SOUTHBOUND NORWALK ABOUT 350 FEET ON BOTH SIDES OF THE INTERSECTION	\$2,830
LOS ANGELES	LOCAL HIGHWAY	LA0G1070	0	THE PROJECT IS VARIOUS INTERSECTION IMPROVEMENTS AT CARMENITA ROAD AND TELEGRAPH RD. THE WORK CONSISTS OF: PROVIDE ADDITIONAL NB THRU LANE ALONG CARMENITA RD. PROVIDE ADDITIONAL EB LEFT TURN LANE ALONG TELEGRAPH RD. INCREASE WB LEFT TURN STORAGE ALONG TELEGRAPH RD AND TELEGRAPH RD TO BE SIGNED AS A CLASS III BIKE ROUTE IN ACCORDANCE WITH THE LA COUNTY BICYCLE MASTER PLAN.	\$800
LOS ANGELES	LOCAL HIGHWAY	LA0G1072	0	VARIOUS INTERSECTION IMPROVEMENTS AT VALLEY VIEW AVENUE AND IMPERIAL HIGHWAY INCLUDING: PROVIDE ADDITIONAL WB LEFT TURN LANE ALONG IMPERIAL HIGHWAY, PROVIDE NB RIGHT TURN OVERLAP PHASING, PROVIDE ADDITIONAL EB LEFT TURN LANE ALONG IMPERIAL HIGHWAY, AND VALLEY VIEW AVE TO BE SIGNED AS A CLASS III BIKE ROUTE IN ACCORDANCE WITH THE LA COUNTY BICYCLE MASTER PLAN	\$1640

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA061073	0	VARIOUS INTERSECTION IMPROVEMENTS AT PAINTER AVENUE AND MULBERRY DRIVE INCLUDING: PROVIDE ADDITIONAL NB LEFT TURN LANE ALONG PAINTER AVE, PROVIDE EB RIGHT TURN POCKET ALONG MULBERRY DR, INCREASE EB LEFT TURN STORAGE ALONG MULBERRY DR, PROVIDE WB RIGHT TURN POCKET ALONG MULBERRY DR, INCREASE WB LEFT TURN STORAGE ALONG MULBERRY DR, PROVIDE NB RIGHT TURN POCKET ALONG PAINTER AVE, PROVIDE SB RIGHT TURN POCKET ALONG PAINTER AVE.	\$2,410
LOS ANGELES	LOCAL HIGHWAY	LA061089	0	THIS PROJECT IS A STUDY THAT PROPOSES TO WIDEN A 0.4 MILE SEGMENT OF FULLERTON ROAD BY INCREASING THE NUMBER OF LANES FROM 4 TO 6 LANES BETWEEN THE SR-60 EASTBOUND RAMP AND CAMINO BELLO. TOLL CREDITS - LOCAL AND STATE HWY OF \$173 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE PE PHASE	\$1,500
LOS ANGELES	LOCAL HIGHWAY	LA061108	0	MATCH TO HBP 3471 - LOS ANGELES COUNTY 3471 PM00043, BRIDGE PREVENTIVE MAINTENANCE PROGRAM, VARIOUS LOCATIONS WITHIN THE COUNTY OF LOS ANGELES. THIS PROJECT IS THE MATCH TO HBP 3471 IN GROUP PROJECT LA000800. TOLL CREDITS OF \$273 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE. TOLL CREDITS - LOCAL AND STATE HWY OF \$273 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$2,499
LOS ANGELES	LOCAL HIGHWAY	LA061126	0	NON-INFRASTRUCTURE PEDESTRIAN PLANS AND PROGRAMS IN THE UNINCORPORATED COMMUNITIES OF WEST WHITTIER-LOS NIETOS, LAKE LOS ANGELES, WEST ATHENS-WESTMONT AND WALNUT PARK. SCOPE OF WORK INCLUDES DATA COLLECTION AND ANALYSIS, COMMUNITY PARTICIPATORY PLANNING VIA COLLABORATION, PUBLIC AWARENESS MEDIA CAMPAIGN ACROSS UNINCORPORATED COUNTY COMMUNITIES, AND TAILORED, CULTURALLY-COMPETENT OUTREACH, EDUCATION AND ENCOURAGEMENT PROGRAMS SPECIFIC TO EACH COMMUNITY.	\$1,498
LOS ANGELES	LOCAL HIGHWAY	LA061127	0	THE PROJECT INVOLVES CONSTRUCTION OF 0.6-MILE LONG CLASS I BIKE AND MULTIUSE PATH FACILITY. PROJECT IS LOCATED IN THE UNINCORPORATED AREA OF NORTHELMONTE. THE TRAIL IS A KEY EAST-WEST GAP CLOSURE TO CONNECT RIO HONDO BIKE TRAIL TO THE SAN GABRIEL RIVER REGIONAL BIKE TRAIL. A DIRECT CONNECTION TO ELMONTE SCHOOL FROM THE EXISTING RIO HONDO CHANNEL BIKEWAY IS ALSO PROPOSED AS PART OF THIS PROJECT. TOLL CREDITS OF \$23 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE. TOLL CREDITS - LOCAL AND ST	\$2,574
LOS ANGELES	LOCAL HIGHWAY	LA061146	0	KENNETH HAHN STATE REC AREA-PARK TO PLAYA TRAIL (RT-19-034)	\$2,400
LOS ANGELES	LOCAL HIGHWAY	LA061197	0	INSTALL 1.8 MILE BIKE LANES ON 170TH STE BETWEEN AVENUE M-4 AND AVENUE M-8 AND BETWEEN EAST AVENUE P AND EAST PALMDALE BOULEVARD. PROJECT IS PART OF HIGHWAY SAFETY IMPROVEMENT PROGRAM. TOLL CREDITS WILL BE USED TO MATCH FY17 FEDERAL FUNDS FOR THE CON PHASE	\$898
LOS ANGELES	LOCAL HIGHWAY	LA069998	0	THIS PROJECT PROPOSES TO WIDEN A 0.4 MILE SEGMENT OF FULLERTON ROAD BY INCREASING THE NUMBER OF LANES FROM 4 TO 6 LANES BETWEEN THE SR-60 EASTBOUND RAMP AND CAMINO BELLO. \$57 OF TOLL CREDIT FOR FY16/17 AND \$115 OF TOLL CREDIT FOR FY17/18 FOR PA&E/PS&E. \$229 OF TOLL CREDIT FOR CON FOR FY18/19. TOLL CREDITS OF \$57 WILL BE USED TO MATCH FY17 FEDERAL FUNDS FOR THE PE PHASE, TOLL CREDITS OF \$115 WILL BE USED TO MATCH FY18 FEDERAL FUNDS FOR THE PE PHASE, TOLL CREDITS OF \$229 WILL BE USED TO MATCH FY19 FEDE	\$3,500
LOS ANGELES	LOCAL HIGHWAY	LA9711031	0	CASTAIC CUTOFF FROM LAKE HUGHES RD TO SAN FRANCISCO CANYON RD CONSTRUCT NEW ROAD 412-FOOT LANES AND 10-FOOT SHOULDERS	\$7,600
LOS ANGELES	LOCAL HIGHWAY	LA E0896	0	THIS PROJECT WILL INVOLVE INSTALLATION OF FIBER OPTIC COMMUNICATIONS FOR THE TRAFFIC SIGNALS ALONG COLIMA ROAD FROM AZUSA AVE TO STONER CREEK ROAD AND ALONG FULLERTON ROAD FROM COLIMA ROAD TO GALE AVENUE. CAMERAS AND CONNECTING CABLES WILL BE INSTALLED AT THE INTERSECTION OF COLIMA ROAD AND STONER CREEK ROAD. A RIGHT TURN LANE WILL ALSO BE ADDED TO THE INTERSECTION OF COLIMA ROAD AND FULLERTON ROAD	\$1,500
LOS ANGELES	LOCAL HIGHWAY	LA E1228	0	REPAIR ROSECRANS AND ALONDRA BRIDGES PER THE COUNTY OF LOS ANGELES TRIENNIAL INSPECTION REPORT.	\$49
LOS ANGELES	LOCAL HIGHWAY	LA E1920	0	DE LAMO BLVD - FROM NORMANDIE AVE AND NEW HAMPSHIRE - RECONSTRUCT AND WIDEN . FROM 1 LANE EA DIR TO 2 LANES IN EA DIR.	\$29,320
LOS ANGELES	LOCAL HIGHWAY	LA F1311	0	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN & CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION, INTERSECTION OPERATIONAL IMPROVEMENTS, AND INTELLIGENT TRANSP. SYSTEM COMPONENTS ON REGIONAL ARTERIALS. SYNCHRONIZES 50 CONSECUTIVE INTERSECTIONS.	\$8,962
LOS ANGELES	LOCAL HIGHWAY	LA F1312	0	GATEWAY CITIES FORUM TRAFFIC SIGNAL CORRIDORS, PHASE V. DESIGN AND CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION AND INTERSECTION OPERATIONAL IMPROVEMENTS ON REGIONAL ARTERIALS IN THE GATEWAY CITIES REGION. INCLUDES 86 CONSECUTIVE INTERSECTIONS.	\$16,893
LOS ANGELES	LOCAL HIGHWAY	LA F1321	0	SAN GABRIEL VALLEY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN & CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION, INTERSECTION OPERATIONAL IMPROVEMENTS, AND INTELLIGENT TRANSPORTATION SYSTEM COMPONENTS. SYNCHRONIZES 83 CONSECUTIVE INTERSECTIONS.	\$19,286
LOS ANGELES	LOCAL HIGHWAY	LA F1514	0	EMERALD NECKLACE BIKE TRAIL PROJECT. DESIGN AND CONSTRUCT 1.1 MILES OF CLASS I BIKE PATH TO CONNECT DUARTE ROAD TO THE SAN GABRIEL RIVER BICYCLE TRAIL	\$503

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF1634	0	EL PUEBLO PEDESTRIAN IMPROVEMENTS PHASE I, II, III, & IV. DESIGN AND CONSTRUCTION OF ENHANCED FACILITIES TO IMPROVE & ASSIST PEDESTRIAN MOVEMENT IN THE EL PUEBLO DISTRICT & OTHER LANDMARKS IN DOWNTOWN LA. WAYFINDING ELEMENT IN TDM F1718.	\$12,763
LOS ANGELES	LOCAL HIGHWAY	LAF1718	0	EL PUEBLO PEDESTRIAN IMPROVEMENTS PHASE I, II, III, & IV. WAYFINDING ELEMENT OF ENHANCED PEDESTRIAN FACILITIES TO IMPROVE AND ASSIST PEDESTRIAN MOVEMENT IN THE EL PUEBLO DISTRICT & OTHER LANDMARKS IN DOWNTOWN LA. ALSO IN PED MODE (F1634)	\$1,746
LOS ANGELES	LOCAL HIGHWAY	LAF3136	0	WIDEN THE OLD ROAD FROM NORTH OF MAGIC MOUNTAIN PKWY TO HENRY MAYO DR TO 1200 FT WEST OF THE OLD ROAD. PROJECT IS LOCATED ON THE OLD RD. FROM APPROXIMATELY 700 FT NORTH OF MAGIC MOUNTAIN PARKWAY TO HENRY MAYO DR FROM THE OLD ROAD TO THE SR126 HOOK RAMPS, AND RYE CANYON RD BTWN THE OLD RADD AND AVENUE STANFORD. WIDENING FROM 4 TO 6 LANES TO REDUCE BOTTLENECK. TOLL CREDITS WILL BE USED TO MATCH STPL FUNDS.	\$67,222
LOS ANGELES	LOCAL HIGHWAY	LAF3308	0	SAN GABRIEL VALLEY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN AND CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCH, INTERSECTION OPERATIONAL IMPROVEMENTS, AND INTELLIGENT TRANSPORTATION SYSTEM COMPONENTS ON REGIONAL ARTERIALS. APPROX. 183 SIGNALS TOTAL.	\$24,812
LOS ANGELES	LOCAL HIGHWAY	LAF3309	0	GATEWAY CITIES FORUM TRAFFIC SIGNAL CORRIDORS PROJ. PHASE VI. DESIGN AND CONSTRUCT MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION, INTERSECTION OPERATIONAL IMPROVEMENTS & ITS COMPONENTS ON REGIONAL ARTERIALS IN GATEWAY CITIES AREA. (APPROX. 126 SIGNALS)	\$14,786
LOS ANGELES	LOCAL HIGHWAY	LAF3310	0	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN AND CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION, OPERATIONAL IMPROVEMENTS & ITS COMPONENTS ON ARTERIALS IN THE SOUTH BAY AREA OF LA COUNTY. (APPROX 40+ SIGNALS)	\$12,980
LOS ANGELES	LOCAL HIGHWAY	LAF3519	0	NORTH COUNTY BIKEWAYS. INSTALL THREE CLASS II AND THREE CLASS III BIKEWAY SEGMENTS, INCLUDING SIGNAGE, STRIPING, ROAD WIDENING, & ROAD SHOULDER IMPROVEMENTS. (APPROX. 3.88 MILES OF BIKE LANES AND 3.18 MILES OF BIKE ROUTES.)	\$1,825
LOS ANGELES	LOCAL HIGHWAY	LAF3628	0	WILLOWBROOK AREA ACCESS IMPROVEMENTS TO MLK MACC. THIS PROJECT WILL CONSTRUCT SIDEWALK IMPROVEMENTS AND RELOCATE SIGNAL FACILITIES BETWEEN THE IMPERIAL/WILMINGTON METRO RAIL STATION AND THE MLK MACC. THE PROJECT IS LOCATED IN THE UNINCORPORATED WILLOWBROOK AREA NEAR THE ROSA PARKS METRO RAIL STATION AND THE MLK JR. MULTI-SERVICE AMBULATORY CARE CENTER (MACC). TOLL CREDITS - TRANSIT (TDC) OF \$58 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	\$5,691
LOS ANGELES	LOCAL HIGHWAY	LAF3716	0	WILLOWBROOK AREA ACCESS IMPROVEMENTS TO MLK MACC. IMPLEMENT WAYFINDING SYSTEM INCLUDING TRANSIT INFORMATION AS PART OF A LARGER PROJECT, INCLUDING PEDESTRIAN IMPROVEMENTS, BIKEWAY & STREET SCAPING. THE PROJECT IS LOCATED IN THE COUNTY OF LOS ANGELES, IN THE UNINCORPORATED COMMUNITY OF WILLOWBROOK NEAR THE IMPERIAL/WILMINGTON ROSA PARKS METRO RAIL STATION AND THE MARTIN LUTHER KING JR. MULTI-SERVICE AMBULATORY CARE CENTER (MACC).	\$665
LOS ANGELES	LOCAL HIGHWAY	LAF5110	0	FULLERTON ROAD AT PATHFINDER ROAD, ET AL. PROJECT SCOPE INCLUDES WIDENING AND RESTRIPING THE INTERSECTIONS OF PATHFINDER RD AT FULLERTON RD AND PATHFINDER RD AT BREA CANYON CUTOFF TO ADD TURN LANES. THE PROJECT WILL ADD A 5-FOOT WIDE CLASS II BIKE LANE ON BOTH SIDES OF PATHFINDER RD LEADING FROM THE INTERSECTION OF PATHFINDER RD AT FULLERTON RD TO THE PATHFINDER COUNTY PARK ENTRANCE, A ONE-QUARTER MILE DISTANCE.	\$918
LOS ANGELES	LOCAL HIGHWAY	LAF5115	0	AVENUE L ROADWAY WIDENING PROJECT: WIDEN AVENUE L FROM ONE LANE TO TWO LANES IN EACH DIRECTION FROM 40TH ST WEST TO 57TH ST (TOTAL DISTANCE 1.7 MI) INCLUDE LEFT- AND RIGHT-TURN POCKETS WHERE AVENUE L INTERSECTS WITH 40TH, 42ND, 45TH, 50TH AND 55TH STREETS. CURBS AND GUTTER RECONSTRUCTION, A 12-FOOT WIDE CLASS II BIKE LANE IN EACH DIRECTION AND 8-FOOT WIDE SIDEWALKS ON BOTH SIDES OF THE STREET.....	\$11,094
LOS ANGELES	LOCAL HIGHWAY	LAF5310	0	RAMONA BOULEVARD/BADILLO STREET/COVINA BOULEVARD TSSP/BSP. IMPLEMENTATION OF A TRAFFIC SIGNAL SYNCHRONIZATION PROJECT (TSSP) ON RAMONA BL/BADILLO ST/COVINA BL FROM SANTA ANITA AV TO THE 57 FREEWAY. A BUS SIGNAL PRIORITY (BSP) PROJECT WILL BE IMPLEMENTED ON RAMONA BL/BADILLO ST FROM TYLER AV TO GRAND AV TO GIVE TRANSIT PRIORITY FOR FOOTHILL TRANSIT OPERATIONS (APPROX. 48 SIGNAL LOCATIONS)	\$4,242
LOS ANGELES	LOCAL HIGHWAY	LAF5314	0	GATEWAY CITIES FORUM TRAFFIC SIGNAL CORRIDORS PROJECT - IMPROVE TRAFFIC SIGNAL OPERATIONS BY UPGRADING EACH TRAFFIC SIGNAL TO FEDERAL AND STATE STANDARDS, PROVIDING ADDITIONAL VEHICLE DETECTION TO ENABLE OPERATION AS A FULLY TRAFFIC-ACTUATED SIGNAL, INSTALLING THE APPROPRIATE COMPONENTS TO ENABLE EACH SIGNAL TO BE CAPABLE OF TIME-BASED COORDINATION AND RETIMING SIGNALS TO IMPROVE THE OVERALL PROGRESSION OF TRAFFIC. (APPROXIMATELY 17 SIGNALS INCLUDED)	\$2,481
LOS ANGELES	LOCAL HIGHWAY	LAF5315	0	SAN GABRIEL VALLEY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. THIS PROJECT INCLUDES 6 INTERSECTIONS AT MYRTLE AV/PECK RD BETWEEN HUNTINGTON DR AND CLARK ST AND PROVIDES FOR SYSTEM WIDE COORDINATION, TIMING AND OPERATIONAL IMPROVEMENTS AND TRAFFIC SIGNAL SYNCHRONIZATION, EQUIPMENT UPGRADES AND INTERSECTION OPERATIONAL IMPROVEMENTS. (APPROX. 20+ SIGNALS)	\$1,551

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF5316	0	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT - SYSTEMWIDE COORDINATION, TIMING AND OPERATIONAL IMPROVEMENTS AND TRAFFIC SIGNAL SYNCHRONIZATION, EQUIPMENT UPGRADES AND INTERSECTION OPERATIONAL IMPROVEMENTS IN SOUTH BAY REGION. 25 SIGNALS SYSTEM WIDE. ADDITIONALLY, THIS PROJECT WILL INSTALL ANY WARRANTED AND FEASIBLE ROADWAY IMPROVEMENTS ALONG THE ROUTES TO IMPROVE OVERALL PROGRESSION.	\$2,351
LOS ANGELES	LOCAL HIGHWAY	LAF5514	0	VERMONT AVE BIKE LANE - MANCHESTER BLVD TO EL SEGUNDO BLVD. FUNDS ARE REQUESTED TO DESIGN AND CONSTRUCT CLASS II BIKE LANES ON VERMONT AV (3.0 MILES). SHORT TERM BICYCLE RACKS (14) ARE ALSO PROPOSED AT KEY DESTINATIONS.. TOLL CREDITS OF \$10 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	\$1,317
LOS ANGELES	LOCAL HIGHWAY	LAF5515	0	FLORENCE METRO BLUE LINE STATION BIKEWAY ACCESS IMPROVEMENTS, DESIGN AND CONSTRUCT 11.19 MILES OF CLASS III BIKE ROUTES WITH SHARROWS AND ENHANCED TREATMENTS (BICYCLE BOULEVARD). SHORT-TERM BICYCLE PARKING WILL BE PROVIDED AND LIMIT LINE LOOP DETECTORS WILL BE UPGRADED TO DETECT BICYCLES AT ALL REQUIRED SIGNALIZED INTERSECTIONS. CLASS III BIKE ROUTES WITH SHARROWS WILL BE INSTALLED AT VARIOUS LOCATIONS. TOLL CREDITS - LOCAL AND STATE HWY OF \$18 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	\$1624
LOS ANGELES	LOCAL HIGHWAY	LAF5704	0	METRO GREEN LINE VERMONT STATION WAYFINDING SIGNAGE. THIS PROJECT IS LOCATED IN THE UNINCORPORATED COMMUNITY OF WEST ATHENS/ WESTMONT WITHIN ONE-AND-A-HALF MILE RADIUS OF THE METRO GREEN LINE VERMONT STATION. THIS WAYFINDING SIGNAGE PROJECT WILL DIRECT CYCLISTS AND PEDESTRIANS WHO ARE TRAVELING TO OR FROM THE GREEN LINE VERMONT STATION.	\$496
LOS ANGELES	LOCAL HIGHWAY	LAF7305	0	GATEWAY CITIES FORUM TRAFFIC SIGNAL CORRIDOR PROJECT : DESIGNS AND CONSTRUCTS ITS IMPROVEMENTS ALONG NORWALK BL, SAN ANTONIO DR, PIONEER BL BETWEEN BEVERLY BL AND CARSON ST INCLUDING SYNCHRONIZATION AND RETIMING OF TRAFFIC SIGNALS, EQUIPMENT UPGRADES, SYSTEM DETECTION, CCTV CAMERAS (UPTO 14 CCTVS), AND CHANGEABLE MESSAGE SIGNS.	\$4,048
LOS ANGELES	LOCAL HIGHWAY	LAF7306	0	FOOTHILL BOULEVARD TRAFFIC SIGNAL CORRIDOR PROJECT : (1) TRAFFIC SIGNAL SYNCHRONIZATION, EQUIPMENT UPGRADES AND INTERSECTION OPERATIONAL IMPROVEMENTS FOR 28 INTERSECTIONS ALONG FOOTHILL BL BETWEEN LOWELL AV AND CROWN AV. (2) INSTALLS TWO (2) CLOSED CIRCUIT TELEVISION (CCTV) CAMERAS AND WIRELESS NETWORK COMMUNICATIONS INFRASTRUCTURE WHICH WILL PROVIDE FOR EXPANSION OF ADVANCED TRANSPORTATION MANAGEMENT SYSTEM (ATMS) ALONG FOOTHILL BL.	\$3,660
LOS ANGELES	LOCAL HIGHWAY	LAF7307	0	SAN GABRIEL VALLEY FORUM TRAFFIC SIGNAL CORRIDOR PROJECT : IMPLEMENTS ITS ENHANCEMENTS INCLUDING SYNCHRONIZATION AND RETIMING OF TRAFFIC SIGNALS, EQUIPMENT UPGRADES, SYSTEM DETECTION, CCTV CAMERAS, AND CHANGEABLE MESSAGE SIGNS TO EXPAND ADVANCED TRANSPORTATION MANAGEMENT SYSTEM (ATMS).	\$4,531
LOS ANGELES	LOCAL HIGHWAY	LAF7308	0	EAST LOS ANGELES TRAFFIC SIGNAL CORRIDOR PROJECT : (1) SYNCHRONIZES TRAFFIC SIGNALS AND IMPLEMENTS UPGRADES AT 13 SIGNALIZED INTERSECTIONS ALONG 3.5 MILE SEGMENT OF EASTERN AV, BETWEEN MEDFORD ST AND OLYMPIC BLVD. (2) INSTALLS FIBER OPTIC COMMUNICATIONS ALONG CESAR CHAVEZ AV, RAMONA BL, AND ATLANTIC BL TO CONNECT TRAFFIC SIGNALS TO LADPW ADVANCED TRANSPORTATION MANAGEMENT SYSTEM (ATMS).	\$3,430
LOS ANGELES	LOCAL HIGHWAY	LAF7310	0	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT - PROJECT AREA IS NORMANDIE AV BETWEEN 92ND ST AND EL SEGUNDO BL, MANHATTAN BEACH BL BETWEEN MANHATTAN AV AND VAN NESS AV, AND HAWTHORNE BL BETWEEN IMPERIAL HIGHWAY AND MANHATTAN BEACH BL. PROJECT SCOPE INCLUDES (1) SYNCHRONIZATION AND RETIMING TRAFFIC SIGNALS, EQUIPMENT UPGRADES, SYSTEM DETECTION, CCTV CAMERAS, CHANGEABLE MESSAGE SIGNS. (2) UPGRADE TRAFFIC SIGNAL OPERATIONS TO BE CAPABLE OF TIME-BASED COORDINATION.	\$5,103
LOS ANGELES	LOCAL HIGHWAY	LAF7703	0	EXPERIENELA 3.0-MOBILITY IN THE CLOUD : DEVELOPS AND IMPLEMENTS CLOUD COMPUTING BASED SOFTWARE TECHNOLOGY TO PROVIDE TRANSIT USERS LOCATION SPECIFIC INFORMATION VIA PERSONAL MOBILE DEVICES AND INTERACTIVE KIOSKS AT KEY TRANSPORTATION FACILITIES.	\$974
LOS ANGELES	LOCAL HIGHWAY	LAF7806	0	VERMONT AVENUE STREETSCAPE IMPROVEMENT PROJECT: (1) INSTALLS STREETSCAPE IMPROVEMENTS THAT INCLUDE LANDSCAPING AND PLANTING OF DROUGHT TOLERANT TREES, PERMEABLE CONCRETE PAVERS, NON-PERMEABLE INTERLOCKING CONCRETE PAVERS AT BUS STOPS, AND DECORATIVE CROSSWALKS. (2) LANDSCAPING WILL HAVE AUTOMATED IRRIGATION SYSTEM AND FLOW-THROUGH FILTRATION PLANTERS.	\$956
LOS ANGELES	LOCAL HIGHWAY	LA0C8164	0	EXPOSITION BLVD RIGHT-OF-WAY BIKE PATH-WESTSIDE EXTENSION, DESIGN AND CONSTRUCTION OF 2.5 MILES OF CLASS I BIKEWAY, LIGHTING, LANDSCAPING & INTERSECTION IMPROVEMENTS. (PPNG# 3184)	\$14,710
LOS ANGELES	LOCAL HIGHWAY	LA0G1047	0	ROSECRANS/MARQUARDT GRADE SEPARATION: THIS PROJECT INCLUDES CONSTRUCTION OF BNSF THIRD TRACK AND GRADE SEPARATION AT THE INTERSECTION OF ROSECRANS/MARQUARDT IN THE CITY OF SANTA FE SPRINGS. THIS WILL RESULT IN ENHANCING THE SAFETY AND TRAFFIC FLOW ON SURFACE STREETS THROUGHOUT THE RAIL CORRIDOR AS WELL AS ENHANCING THE EFFICIENCY OF TRAIN MOVEMENT AND POSSIBLY ATTRACT MORE RIDERSHIP.	\$120,000
LOS ANGELES	LOCAL HIGHWAY	LA0G1050	0	DORAN STREET GRADE SEPARATION, DEVELOP A GRADE SEPARATION AT DORAN STREET ON THE METROLINK VALLEY SUBDIVISION TO IMPROVE SAFETY.	\$40,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA06113	0	ACTIVE TRANSPORTATION EDUCATION PROGRAM THAT WILL FUND TEMPORARY ONE-DAY "OPEN STREET" EVENTS THROUGHOUT LOS ANGELES COUNTY. "OPEN STREET" EVENTS CLOSE STREETS TO AUTOMOTIVE TRAFFIC AND OPEN THEM TO PEOPLE TO WALK, BIKE AND TAKE TRANSIT.....	\$4,000
LOS ANGELES	LOCAL HIGHWAY	LA06182	0	EXPRESS LANES - 64 BIKE STATION AND 840 BIKES FOR DEPLOYMENT OF THE BIKESHARE WITHIN 1 MILE RADIUS OF RAIL STATIONS.	\$4,354
LOS ANGELES	LOCAL HIGHWAY	LA06609	0	SOUTH BAY MEASURE R HIGHWAY PROGRAM DEVELOPMENT, ADMINISTRATION, INTER-GOVERNMENTAL RELATIONS, AND PROJECT OVERSIGHT.	\$6,754
LOS ANGELES	LOCAL HIGHWAY	LA29202N	0	MTA TIP ADMINISTRATION PLANNING, PROGRAMMING AND MONITORING FOR STIP PROJECTS THROUGHOUT LA COUNTY (200 CFP 7116 STATE ONLY 3594.2001 CFP 8401, PPNO 3535, 9001A, 9001)	\$83,457
LOS ANGELES	LOCAL HIGHWAY	LA990351	0	IMPROVE GLENDALE BLVD / FWY RT 2 TERMINUS RECONFIG / REDSIGN, TRAFFIC MGMT. NEIGHBORHOOD SAFETY MEASURES (TEAZ1-#413).	\$14,258
LOS ANGELES	LOCAL HIGHWAY	LA996205	0	REHAB LANKERSHIM SP. STATION REFURBISH HISTORIC DEPOT, LANDSCAPE, PARKING FACILITIES, BUS SHUTTLES, BIKE LOCKERS	\$3,600
LOS ANGELES	LOCAL HIGHWAY	LAE0938	0	DESIGN AND CONSTRUCT REALIGNMENT OF BRAHMA DRIVE AT WINNETKA TO ELIMINATE HAZARDOUS CONDITION	\$300
LOS ANGELES	LOCAL HIGHWAY	LAE148	0	LOS ANGELES REGIONAL DIESEL EMISSIONS REDUCTION PROGRAM FOR ENGINE RETROFIT PROVIDES INCENTIVE GRANTS TO OWNER OPERATORS OLD DIESEL TRUCKS TO UPGRADE EQUIPMENT TO REDUCE EMISSIONS	\$449
LOS ANGELES	LOCAL HIGHWAY	LAE1683	0	STUDY - ORANGELINE CORRIDOR DEVELOPMENT PROJ - HIGH SPEED MAGLEV & STATION AREA DEVELOPMENT FROM NORTH LA TO SOUTH OC FOLLOWING SR14 AND FORMER PACIFIC RAILROAD CORRIDOR	\$336
LOS ANGELES	LOCAL HIGHWAY	LAE3439	0	EXPAND DIESEL EMISSIONS REDUCTION PROGRAM OF GATEWAY CITIES COG	\$2,676
LOS ANGELES	LOCAL HIGHWAY	LA F1848	0	LOS ANGELES CITY COLLEGE (LACC) RED LINE STATION EXTENSION. CREATE AN EXTENSION OF THE ENTRANCE TO THE METRO RED LINE STATION AT VERMONT / WILLOW BROOK AV TO THE LACC CAMPUS	\$1,471
LOS ANGELES	LOCAL HIGHWAY	LA067330	0	SAN FERNANDO RD ROW BIKE PATH PHASE II- CONSTRUCT 2.75 MILES CLASS (FRM FIRST ST TO BRANFORD ST, ON MTA-OWNED ROW/PARLEL TO SAN FERNANDO RD. LINK CYCLISTS TO NUMEROUS BUS LANE. PPNO 2868.	\$10,198
LOS ANGELES	LOCAL HIGHWAY	LA0C8036	0	HYPERION AV UNDER WAWERLY DR BRIDGE. RE-CONFIGURE SIDEWALKS ALONG HYPERION. RE-ALIGN I-5 NB OFF-RAMP AT GLENDALE BLVD. PROVIDE ALTERNATIVE BIKEWAY ACCESS TO LA RIVER. PPNO 3092.	\$14,422
LOS ANGELES	LOCAL HIGHWAY	LA0C8037	0	SOTTO ST BRIDGE OVER MISSION RD & HUNTINGTON DR WILL DEMOLISH EXISTING BRIDGE AND REALIGN THE STREET TO INCREASE TRAFFIC FLOW ADDING A 0.5 BIKE LANE. PPNO 3093 3380 (BRIDGE #53C0013)	\$24,221
LOS ANGELES	LOCAL HIGHWAY	LA0C8042	0	VANDWEN ST BRIDGE (BR NO. 53C1362) WIDENING & REHAB. PROJECT WILL WIDEN EXISTING BRIDGE TO MATCH THE STREET IT WILL ALLOW INC TRAFFIC FLOW AND SAFETY. CONSTRUCT BIKE PATH UNDER. PPNO 3095 3378 AB 3090	\$14,917
LOS ANGELES	LOCAL HIGHWAY	LA0C8046	0	BURBANK BLVD WIDENING-LANKERSHIM BLVD TO CLEON AVE. FROM VARYING ROADWAY WIDTH TO MODIFIED MAJOR HIGHWAY STANDARDS. FROM 1 LN TO 2 LNS IN EACH DIRECTION. PPNO 3097.	\$15,417
LOS ANGELES	LOCAL HIGHWAY	LA0C8055	0	MOORPARK ST WIDENING - WOODMAN AVE TO MURIETTA AVE.- WIDEN EXISTING ROADWAY FROM VARYING WIDTH TO 70 FEET TO PROVIDE ON ADDTL TRAFFIC LANE IN EA DIR & UPGRADE HIGHWAY TO SECONDARY HWY STANDARDS. THIS PROJECT IMPROVES 2080 LF OF MOORPARK AVE. PPNO 3103.	\$6,495
LOS ANGELES	LOCAL HIGHWAY	LA0C8063	0	RIVERSIDE DR. VIADUCT REPLACEMENT. REPLACEMENT OF EXISTING 2-LANE BRIDGE WITH 2 THROUGH LANES BRIDGE FLARING 4 LANES AT SAN FERNANDO ROAD WITH NEW ROUNDABOUT. BIKE LANE ADDED COMBINED WITH 53C-1932 - WILL RESULT IN INCR. CIRCULATION. PPNO 3105 (53C-0160)	\$57,077
LOS ANGELES	LOCAL HIGHWAY	LA0C8064	0	SAN FERNANDO MISSION BLVD WIDENING, WHERE NECESSARY, BET SEPULVEDA BLVD & I-5 FWY. FROM 1 LANE TO 2 LANES IN EACH DIRECTION. PPNO 3106.	\$2,472
LOS ANGELES	LOCAL HIGHWAY	LA0C8075	0	CESAR CHAVEZ AVE / LORENA ST / INDIANA ST INTERSECTION IMPROVEMENTS. RECONSTRUCTION OF A FIVE-LEGGED SIGNALIZED INTERSECTION INTO A MODERN ROUNDABOUT. THE CONSTRUCTION OF THE ROUNDABOUT WILL REDUCE THE COMPLEXITY OF THE INTERSECTION AND WILL IMPROVE TRAFFIC FLOW AND SAFETY.	\$10,933
LOS ANGELES	LOCAL HIGHWAY	LA0C8084	0	WINNETKA AVE BRIDGE WIDEN & REHAB. - WIDEN THE RIVER CROSSING FROM 4 TO 6 LANES, CONSTRUCT BIKE UNDERPASS. PPNO 3108 3377 AB 3090 REP (53C1388)	\$10,519
LOS ANGELES	LOCAL HIGHWAY	LA0C8086	0	NORTH SPRING ST. OVER LOS ANGELES RIVER 4 MILES WEST OF I-5. REHABILITATE AND WIDEN 4 LANE BRIDGE (NO ADDED LANES) ADD SIDEWALKS UPGRADE BRIDGE RAILINGS (53C0859). HIGH COST PROJECT AGREEMENT REQUIRED.	\$48,267
LOS ANGELES	LOCAL HIGHWAY	LA0C8089	0	BARHAM / CAHUENGA / INTERSECTION WIDEN IMPROVEMENT, FOR LEFT/RIGHT TURN IMPROV. PPNO 3111.	\$2,412

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0F007	0	LENDALE BLVD. - HYPERION AVE. COMPLEX OF BRIDGES OVER LA RIVER, I-5 AND RIVERSIDE DR. REHABILITATION/SEISMIC RETROFIT; UPGRADE BRIDGE RAILING; INCLUDES BRIDGES 53C-1881, 53C-1882, 53C-1883, 53C-1884, 53C-1885, 53C-1886, 53C-1887 AND 53-1069. NO ADDITIONAL LANES. REALIGN I-5 NORTH BOUND OFF RAMP. CONSTRUCT A PEDESTRIAN BRIDGE OVER LA RIVER (APPROX. 426 FEET). (FED PROJECT ID: BHL5-5006(18))	\$41,056
LOS ANGELES	LOCAL HIGHWAY	LA0F008	0	LENDALE BLVD. OVER LA RIVER. REHABILITATE / RETROFIT BRIDGE AND WIDEN BY 12 FEET. UPGRADE BRIDGE RAILINGS. NO ADDED LANES. PRELIMINARY ENGINEERING ONLY. CONSTRUCTION TO BE DONE UNDER LA0F007 (53C1881) LENDALE-HYPERION COMPLEX OF BRIDGES. (#53C-1883)	\$1,930
LOS ANGELES	LOCAL HIGHWAY	LA0F009	0	LENDALE BLVD. OVER LA RIVER. REHABILITATE / RETROFIT BRIDGE AND WIDEN BY 12 FEET. UPGRADE BRIDGE RAILINGS. NO ADDED LANES. PRELIMINARY ENGINEERING ONLY. CONSTRUCTION TO BE DONE UNDER LA0F007 (53C1881) LENDALE-HYPERION COMPLEX OF BRIDGES. (BRIDGE #53C1884, BHL5-5006(187))	\$2,350
LOS ANGELES	LOCAL HIGHWAY	LA0G104	0	BRIDGE NO. 53C1880/530595. SIXTH STREET, OVER LA RIVER, E SANTA ANA FREEWAY. REPLACE SEISMICALLY/STRUCTURALLY DEFICIENT SIXTH STREET VIADUCT WITH NEW VIADUCT. NO LANES BEING ADDED. TOLL CREDITS USED IN LIEU OF PROP'IB SEISMIC BOND FUNDS.	\$421,817
LOS ANGELES	LOCAL HIGHWAY	LA0G185	0	EXPRESS LANES - TRAFFIC CALMING FOR THOSE WALKING OR BICYCLING INCLUDING SHARROWS. SPEED HUMPS, ADA RAMPS, ROUABOUTS, CURB EXTENSIONS ON BUDLONG AVENUE BETWEEN EXPOSITION AND GAGE AVENUE.	\$16,632
LOS ANGELES	LOCAL HIGHWAY	LA0G186	0	EXPRESS LANES - AT&SAC CONSTRUCTION OF NEW COMMUNICATIONS PATH TO CLOSE GAP AND ENSURE LESS FREQUENT INTERRUPTIONS OF DATA COMMUNICATIONS.	\$1,500
LOS ANGELES	LOCAL HIGHWAY	LA0G187	0	EXPRESS LANES - CESAR CHAVEZ GREAT ST. FROM EVERGREEN TO ST. LOUIS ST. THE PROJECT INCLUDES PLANS TO EXPAND SIDEWALKS, GROW TREES AND PLANTS, IMPROVE STREET LIGHTING AND ADD STREET FURNITURE.	\$435
LOS ANGELES	LOCAL HIGHWAY	LA0G181	0	ATCS - CENTRAL BUSINESS DISTRICT. DEVELOP A FULLY TRAFFIC RESPONSIVE SIGNAL CONTROL SYSTEM TO APPROXIMATELY 180 INTERSECTIONS CURRENTLY OPERATIONAL WITH AT&SAC CAPABILITY.	\$9,215
LOS ANGELES	LOCAL HIGHWAY	LA0G182	0	THE CENTRAL CITY/EAST PROJECT WILL PROVIDE A FULLY TRAFFIC RESPONSIVE SIGNAL CONTROL SYSTEM TO APPROXIMATELY 150 INTERSECTIONS CURRENTLY OPERATIONAL WITH AT&SAC CAPABILITY.	\$4,885
LOS ANGELES	LOCAL HIGHWAY	LA0G686	0	HIGHLAND PARK PEDESTRIAN IMPROVEMENTS ALONG FIGUEROA BETWEEN AVENUE 60 AND AVENUE 60	\$250
LOS ANGELES	LOCAL HIGHWAY	LA0G709	0	EL DORADO & BROMWICH SIDEWALK IMPROVEMENTS - IMPROVEMENTS WILL BE ON: 1) EL DORADO AV-BROMWICH ST TO MONTAGUE ST, AND 2) BROMWICH ST-EL DORADO AV TO SAN FERNANDO RD. CONSTRUCTION ELEMENTS WILL INCLUDE CONCRETE CURB, GUTTER, SIDEWALKS, ADA-COMPLIANT ACCESS RAMPS AND ASPHALT CONCRETE PAVING.	\$586
LOS ANGELES	LOCAL HIGHWAY	LA0G70	0	ECHO PARK/SUNSET BL. STREETSCAPE BEAUTIFICATION - PROJECT WILL PROVIDE FOR CONSTRUCTION OF PEDESTRIAN AND STREETSCAPE IMPROVEMENTS ALONG SUNSET BL IN THE ECHO PARK AREA. PROJECT ELEMENTS WILL INCLUDE SIDEWALK IMPROVEMENTS, STREET TREES, TRANSIT AMENITIES, AND PARKWAY LANDSCAPING.	\$708
LOS ANGELES	LOCAL HIGHWAY	LA0G860	0	LEMON GROVE LIGHTING PHASE 2 - LEMON GROVE AREA BOUNDED BY SANTA MONICA BLVD(NORTH), WESTERN AVE (WEST), LEMON GROVE AVE (SOUTH) AND THE HOLLYWOOD FREEWAY (EAST). INSTALL NEW STREET LIGHTING SYSTEM - INSTALLATION OF NEW CONDUIT, WIRING, PULLBOXES, FOUNDATIONS, STREET LIGHTING ELECTROLES. THIS PROJECT WILL USE \$31 OF TOLL CREDITS TO \$3 IN PE AND \$28 IN CONSTRUCTION IN FY2015. TOLL CREDITS OF \$3 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE PE PHASE. TOLL CREDITS OF \$28 WILL BE USED TO MATCH FY15	\$267
LOS ANGELES	LOCAL HIGHWAY	LA0G899	0	THIS PROJECT WILL INSTALL SENSORS TO MONITOR OCCUPANCY AND ADJUST PRICES FOR 543 ON-STREET PARKING SPACES AND 366 OFF-STREET PARKING SPACES IN ORDER TO REDUCE EMISSIONS WHILE SEARCHING FOR PARKING.	\$750
LOS ANGELES	LOCAL HIGHWAY	LA98STIP3	0	ALAMEDA ST AND N SPRING ST ARTERIAL REDESIGN - REALIGN ALAMEDA/N SPRING ELIMINATING INEFFICIENT INTERSECTN WITH MAIN ST/N MAIN STREET. 3 NB LANES & 3 SB LANES.	\$9,555
LOS ANGELES	LOCAL HIGHWAY	LA996425	0	INSTALL REVERSIBLE LANE ON SEPULVEDA BL THROUGH TUNNEL AT MULHOLLAND DR. INSTALL BIKE FACILITIES FROM SKIRBALL CENTER DR TO BEL AIR CREST RD. IMPLEMENT INTERSECTION IMPROVEMENTS AT SKIRBALL CENTER DR, 1-405 FWY SB ON-RAMP, MORAGA DR, WILSHIRE BL. BIKE FACILITIES LESS THAN A MILE.	\$9,301
LOS ANGELES	LOCAL HIGHWAY	LAED180	0	LAUREL CANYON BLVD NEAR VICTORY BLVD. PROJECT WILL PROVIDE FOR PEDESTRIAN SAFETY AND BEAUTIFICATION TREATMENT. ELEMENTS INCLUDE LANDSCAPED MEDIAN ISLANDS.	\$1,200
LOS ANGELES	LOCAL HIGHWAY	LAED346	0	LIGHTING, AND SAFETY IMPROVEMENTS ON ROAD LEADING TO HANSEN DAM RECREATION AREA. ACCESS IMPROVEMENTS INCLUDING HILLSIDE STABILIZATION AND PARKING LOT REHABILITATION ALONG OSBORNE STREET BETWEEN GLENDALE BOULEVARD AND DRONFIELD AVENUE [REF P.L. 110-244, SEC 105(A)(23-4)] (CHANGE PER H.R.1195-6/6/08)	\$6,500

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA E0388B	0	CONSTRUCTION OF A TRAFFIC SIGNAL AT THE INTERSECTION OF INDEPENDENCE AVE. AND SHERMAN WAY.	\$125
LOS ANGELES	LOCAL HIGHWAY	LA E0427	0	IMPLEMENT STREETScape PROJECT ON CENTRAL AVE. FROM 103RD STREET TO IMPERIAL HIGHWAY NEAR THE WATTS/103RD STREET STATION, WATTS.	\$4,000
LOS ANGELES	LOCAL HIGHWAY	LA E0518	0	IN THE CITY OF LOS ANGELES, ON BROADWAY W/S FROM 4TH ST. TO 235 N/O 4TH ST, AND 4TH ST FROM BROADWAY TO 120 W/O BROADWAY. REMOVE AND REPLACE SIDEWALKS INCLUDING PORTIONS THAT SPAN.	\$2,500
LOS ANGELES	LOCAL HIGHWAY	LA E0550	0	REHABILITATE STREET SURFACE OF CEDROS AVE BETWEEN BURBANK BLVD AND MAGNOLIA BLVD. WILL PROVIDE FOR ASPHALT CONCRETE RESURFACING. NON CAPACITY ENHANCING AND ALL ON LA ROW	\$43
LOS ANGELES	LOCAL HIGHWAY	LA E0732	0	RIVERSIDE DRIVE NON-CAPACITY IMPROVEMENTS BETWEEN VAN NUYS BLVD AND TILDEN AVE.	\$400
LOS ANGELES	LOCAL HIGHWAY	LA E0937	0	REHABILITATE STREET SURFACES IN SHERMAN OAKS; PROJECT WILL PROVIDE ASPHALT CONCRETE RESURFACING OF VARIOUS STREETS IN THE SHERMAN OAKS AREA. PROJECT WILL NOT ENHANCE TRAFFIC CAP.	\$123
LOS ANGELES	LOCAL HIGHWAY	LA E1093	0	SAN FERNANDO RD NORTH - FROM ASTORIA ST TO SAYRE ST. WIDEN ROADWAY AND CONSTRUCT CONCRETE SIDEWALK, CURB, GUTTER, ACCESS RAMPS, AND BULKHEAD.	\$1,060
LOS ANGELES	LOCAL HIGHWAY	LA E1440	0	RECONFIGURE SAN FERNANDO RD. FROM FLETCHER DR. TO I-5 FWY. INSTALL LEFT-TURN CHANNELIZATION, IMPROVE PEDESTRIAN AMENITIES, INSTALL WIDER SIDEWALKS, MEDIAN ISLANDS AND LANDSCAPING WHERE FEASIBLE BETWEEN CAZADOR STREET TO JUST SOUTH OF ALICE STREET.	\$6,450
LOS ANGELES	LOCAL HIGHWAY	LA E1531	0	CONSTRUCTION OF A SMART CROSSWALK SYSTEM AT THE INTERSECTION OF ARMINTA ST. AND MASON AVE.	\$50
LOS ANGELES	LOCAL HIGHWAY	LA E1601	0	TRANSPORTATION ENHANCEMENT TO CHILDREN'S MUSEUM OF LOS ANGELES. THIS PROJECT WILL PROVIDE FOR NEW SIDEWALKS, CURB, GUTTER, ADA-COMPLIANT ACCESS RAMPS, AND STREET TREES ALONG FOOTHILL BL AND OSBORNE ST, ADJACENT TO THE FUTURE CHILDREN'S MUSEUM OF LOS ANGELES.	\$1,200
LOS ANGELES	LOCAL HIGHWAY	LA E1816	0	BURBANK BLVD & HAYVENHURST AVE INTERSECTION IMPROVEMENTS - REDUCE WIDTH OF MEDIAN ISLANDS ON BURBANK BLVD TO INSTALL ADDITIONAL LEFT TURN LANE FROM W/B BURBANK TO S/B HAYVENHURST, AND EXCLUSIVE RIGHT TURN LANE FROM E/B BURBANK TO S/B HAYVENHURST; MODIFY TRAFFIC SIGNAL & STREET LIGHTING.	\$1,081
LOS ANGELES	LOCAL HIGHWAY	LA E1867	0	CONSTRUCTION OF SMART CROSSWALK AT THE INTERSECTION OF TOPANGA CANYON AND GAUJT ST.	\$50
LOS ANGELES	LOCAL HIGHWAY	LA E1933	0	ENHANCE BYZANTINE LATINO QUARTER TRANSIT PLAZAS AT NORMANDIE AND PICO, AND HOOVER AND PICO, LOS ANGELES BY IMPROVING STREETSCAPES, INCLUDING EXPANDING CONCRETE AND PAVING	\$500
LOS ANGELES	LOCAL HIGHWAY	LA E2147	0	NORTHWEST SAN FERNANDO VALLEY RD & SAFETY IMPROVEMENT. LINDLEY AVE. (STRATHERN TO CHASE), ROSCOE BLVD. CONSTRUCTION OF NEW ROADWAY LIGHTING ON MAJOR TRANSPORTATION CORRIDORS.	\$1,000
LOS ANGELES	LOCAL HIGHWAY	LA E2279	0	STREETSCAPE IMPROVEMENTS ALONG CENTRAL AVE FROM WASHINGTON BLVD TO VERNON AVE INCLUDING PED LIGHTING, NEW BUS STOPS AND STREET FURNITURE, SIDEWALK WIDENING, CROSSWALK ENHANCEMENTS, TREES ETC.	\$4,000
LOS ANGELES	LOCAL HIGHWAY	LA E2299	0	WIDEN HASKELL AVENUE BETWEEN CHASE ST. AND ROSCOE BLVD - SAFETY IMPROVEMENTS.	\$200
LOS ANGELES	LOCAL HIGHWAY	LA E2515	0	WIDEN BUNDY DR. BETWEEN WILSHIRE AND SANTA MONICA BLVD - WIDEN FROM 2 LANES TO 4 LANES.	\$4,250
LOS ANGELES	LOCAL HIGHWAY	LA E2538	0	KOREATOWN PAVILION GARDEN TO ENHANCE THE NORTHEAST CORNER OF NORMANDIE AND OLYMPIC BL. ENHANCE AN EXISTING POCKET PARK AT THE INTERSECTION OLYMPIC AND NORMANDIE/ROLO WITH DECORATIVE CONCRETE PAVING AND IMPROVE STREETSCAPE BY ADDING PEDESTRIAN IMPROVEMENTS SUCH AS STREET FURNITURE, LIGHTING, LANDSCAPING, AND COMMUNITY IDENTIFIERS.	\$250
LOS ANGELES	LOCAL HIGHWAY	LA E2634	0	CONSTRUCTION OF A TRAFFIC SIGNAL AT THE INTERSECTION OF HAMLIN ST. AND CORBIN AVE.	\$125
LOS ANGELES	LOCAL HIGHWAY	LA E2699	0	CONSTRUCTION OF NEW MULTI-USE PATH/TRAIL ALONG RIVER BANK BETWEEN SEPULVEDA BLVD & KESTER AVE INCLUDING ACCESS RAMPS, RETAINING WALLS, LANDSCAPING ETC.	\$574
LOS ANGELES	LOCAL HIGHWAY	LA E2828	0	IMPLEMENT STREETSCAPE IMPROVEMENTS ALONG WILBUR AVE TO ENHANCE TRAFFIC AND PEDESTRIAN SAFETY. PROJECT WILL PROVIDE FOR SIDEWALK IMPROVEMENTS, ADA-COMPLIANT ACCESS RAMPS, AND STREET TREES TO ENHANCE WILBUR AVE AND PROVIDE FOR PEDESTRIAN SAFETY.	\$100
LOS ANGELES	LOCAL HIGHWAY	LA E3157	0	REHABILITATE ADDISON ST BETWEEN KESTER AVE AND LEMONA AVE. PROVIDE ASPHALT CONCRETE RESURFACING ON THE PROPOSED PROJECT LIMITS. WILL NOT ENHANCE TRAFFIC CAPACITY.	\$47
LOS ANGELES	LOCAL HIGHWAY	LA E3201	0	CONSTRUCTION OF A TRAFFIC SIGNAL AT THE INTERSECTION OF OSO AVE. AND VANOWEN ST.	\$125

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF3764	0	ITS & INTERSECTION IMPROVEMENTS IN AND NEAR LAX AIRPORT, WHICH MAY INCLUDE RESTRIPING, SIGNAL PHASE CHANGES, AND THE ADDITION OF INTELLIGENT TRANSPORTATION SYSTEM EQUIPMENT.	\$1,250
LOS ANGELES	LOCAL HIGHWAY	LAF141	0	VICTORY BL WIDENING FROM TOPANGA CYN BL TO DE SOTO AV. WIDEN THE SOUTH SIDE OF VICTORY BL FROM TOPANGA CYN BL TO DE SOTO AV TO PROVIDE AN ADDITIONAL EB TRAVEL LANE	\$11,655
LOS ANGELES	LOCAL HIGHWAY	LAF205	0	OLYMPIC BL AND MATEO STREET GOODS MOVEMENT IMP-PHASE II. IMPROVEMENT OF FREEWAY ACCESS BY WIDENING WB OLYMPIC BL BET MATEO ST & SANTA FE AV FOR A RIGHT-TURN LANE, AND NB MATEO ST BET OLYMPIC BL & PORTER ST FOR INCREASED CURB RETURN.	\$4,421
LOS ANGELES	LOCAL HIGHWAY	LAF524	0	SAN FERNANDO RD. BIKE PATH PH. IIIA/IIIB - CONSTRUCTION, RECOMMEND PHASE IIIA-CONSTRUCTION OF A CLASS I BIKE PATH WITHIN METRO OWNED RAIL RIGHT-OF-WAY ALONG SAN FERNANDO RD. BETWEEN BRANFORD ST. AND TUXFORD ST IN CL. BRIDGE. 2 MILE BIKE PATH.	\$12,714
LOS ANGELES	LOCAL HIGHWAY	LAF535	0	BICYCLE WAYFINDING SIGNAGE PROGRAM. WAYFINDING SIGNS TO DIRECT BICYCLISTS, AND EDUCATE MOTORISTS, TO THE LOCATIONS OF DEDICATED BIKE PATHS, LANES AND ROUTES, DESTINATIONS, AND TRANSIT HUBS THROUGHOUT LOS ANGELES.	\$504
LOS ANGELES	LOCAL HIGHWAY	LAF611	0	CESAR CHAVEZ TRANSIT CORRIDOR (110 Fwy TO ALAMEDA). INSTALLATION OF PEDESTRIAN/TRANSIT RIDER AMENITIES INC. BUS STOP GARDENS AT THREE INTERSECTIONS, NEW PEDESTRIAN LIGHTING, STREET TREES IN A LANDSCAPED PARKWAY & WAYFINDING SIGNAGE.	\$2,350
LOS ANGELES	LOCAL HIGHWAY	LAF612	0	CENTURY CITY URBAN DESIGN AND PEDESTRIAN CONNECTION PLAN. PROJECT WILL IMPLEMENT SIDEWALK IMPROVEMENTS, DECORATIVE CROSSWALKS, MEDIAN ISLAND, CURB RAMPS, PEDESTRIAN LIGHTING, SHELTERS, BENCHES, TRASH RECEPTACLES & STREET TREES. THE PHYSICAL IMPROVEMENTS WILL CONSIST OF A MEANDERING PEDESTRIAN WALKWAY, SOLAR-POWERED PEDESTRIAN SCALE LIGHTING, STREET LIGHTING, TRASH RECEPTACLES, BUS BENCHES, (10) BICYCLE RACKS.	\$3,342
LOS ANGELES	LOCAL HIGHWAY	LAF613	0	EXPO LINE STN STREETSCAPE PROJECT-EAST CRENSHAW TO JEFFERSON. DESIGN & CONSTRUCTION OF PEDESTRIAN RELATED STREETSCAPE IMPROVEMENTS WITHIN 1/4 MILE FROM EACH OF 3 LIGHT RAIL STATIONS ALONG EXPOSITION BLVD BETWEEN CRENSHAW & JEFFERSON.	\$3,262
LOS ANGELES	LOCAL HIGHWAY	LAF615	0	EASTSIDE LIGHT RAIL PEDESTRIAN LINKAGE. IMPROVE PEDESTRIAN LINKAGES TO METRO'S GOLD LINE LRT ON 1ST ST BETWEEN SOTO ST TO RIVERA ST AND FRESNO ST TO CONCORD ST. PEDESTRIAN LINKAGE ELEMENTS TO INCLUDE SIDEWALK IMPROVEMENTS, STREET TREES, CROSSWALK ENHANCEMENTS, PEDESTRIAN LIGHTING, AND STREETSCAPE AMENITIES. THE PROJECT'S PURPOSE IS TO PROMOTE AND FACILITATE PEDESTRIAN ACTIVITY AND INCREASE PEDESTRIAN SAFETY LEADING TO METRO'S GOLD LINE EASTSIDE EXTENSION STATIONS.	\$2,990
LOS ANGELES	LOCAL HIGHWAY	LAF617	0	HOLLYWOOD PEDESTRIAN/TRANSIT CROSSROADS PHASE II. DESIGN AND INSTALL PEDESTRIAN AND TRANSIT USER ENHANCEMENTS, EXTENDING THE ORIGINAL HOLLYWOOD PEDESTRIAN/TRANSIT IMPROVEMENT PROJECT TO INCLUDE HIGHLAND AVENUE AND VINE STREET. DISTANCE 0.56 MILES.	\$860
LOS ANGELES	LOCAL HIGHWAY	LAF639	0	FASHION DISTRICT STREETSCAPE PHASE II. STREETSCAPE IMPROVEMENTS ENHANCING THE PEDESTRIAN ENVIRONMENT TO FACILITATE INCREASED PEDESTRIAN USAGE BETWEEN LA FASHION DISTRICT'S CORE AND THE 7TH ST TRANSIT CORRIDOR FOR A DISTANCE OF 1 MILE.	\$1,971
LOS ANGELES	LOCAL HIGHWAY	LAF662	0	SOLANO CANYON-ZANJA MADRE-CHINATOWN-BROADWAY BUS STOP IMPROV. IMPROVE 8 BUS STOPS ALONG BROADWAY-BERNARD ST TO SOLANO AV WITH STREET FURNITURE & LANDSCAPING, INCREASING ACCESSIBILITY, TRANSFERS & TRANSIT USE	\$1,115
LOS ANGELES	LOCAL HIGHWAY	LAF704	0	DOWNTOWN L.A. ALTERNATIVE GREEN TRANSIT MODES TRIAL PROGRAM. OFFER SHARED RIDE-BICYCLE AND NEIGHBORHOOD ELECTRIC VEHICLE TRANSIT SERVICES TO LA CITY HALL AS AN ALTERNATIVE TO OVERCROWDED DASH SERVICE	\$1026
LOS ANGELES	LOCAL HIGHWAY	LAF708	0	HOLLYWOOD INTEGRATED MODAL INFORMATION SYSTEM. INSTALLATION OF ELECTRONIC, DIRECTION AND PARKING AVAILABILITY SIGNS WITH INTERNET CONNECTIVITY TO PROVIDE ADVANCE AND REAL-TIME INFORMATION INTENDED TO INCREASE TRANSIT RIDERSHIP	\$2,708
LOS ANGELES	LOCAL HIGHWAY	LAF725	0	WIFI ON THE GOLD LINE. WIFI INTERNET INSTALLED ON GOLD LINE TRAINS, POLES & STATIONS, EASTSIDE EXTENSION, CHINATOWN & LITTLE TOKYO/ARTS DISTRICTS.	\$1,238
LOS ANGELES	LOCAL HIGHWAY	LAF844	0	ANGELS WALK CRENSHAW. TO PROMOTE PEDESTRIAN ACTIVITY WITHIN THE PROJECT LIMITS WITH A GUIDEBOOK AND 15 ON-STREET INFORMATION MARKERS (HISTORIC STANCHIONS) AT STRATEGIC LOCATIONS.	\$764
LOS ANGELES	LOCAL HIGHWAY	LAF845	0	ANGELS WALK HIGHLAND PARK. TO PROMOTE PEDESTRIAN ACTIVITY WITHIN THE PROJECT LIMITS WITH A GUIDEBOOK AND 15 ON-STREET INFORMATION MARKERS AT STRATEGIC LOCATIONS.	\$784
LOS ANGELES	LOCAL HIGHWAY	LAF846	0	ANGELS WALK NORTH HOLLYWOOD. TO PROMOTE PEDESTRIAN ACTIVITY WITHIN THE PROJECT LIMITS WITH A GUIDEBOOK AND 15 ON-STREET INFORMATION MARKERS AT STRATEGIC LOCATIONS.	\$714
LOS ANGELES	LOCAL HIGHWAY	LAF3142	0	EXPOSITION PARK TRAFFIC CIRCULATION IMPROVEMENTS, WIDEN THE INTERSECTIONS OF VERMONT AVE & MARTIN LUTHER KING, JR. BLVD & FIGUEROA ST & MARTIN LUTHER KING JR BLVD TO PROVIDE EXCLUSIVE RIGHT TURN LANES.	\$4,477

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF3144	0	FOOTHILL BLVD AND SIERRA HWY INTERSECTION IMPROVEMENTS. WIDEN FOOTHILL BL TO PROVIDE AN ADDITIONAL N/B THROUGH LANE, RESTRIPE SIERRA HWY TO PROVIDE ADDITIONAL W/B RIGHT TURN LANE, & SIGNALIZE THE INTERSECTION.	\$1,860
LOS ANGELES	LOCAL HIGHWAY	LAF3146	0	HIGHLAND AVENUE WIDENING-ODIN STREET TO FRANKLIN AVENUE. WIDEN THE EXISTING ROADWAY FROM 75 FT TO 87 FT TO ADD ADDITIONAL TURNING TRAFFIC LANE ALONG HIGHLAND AVE & UPGRADE THE HIGHWAY TO MAJOR HIGHWAY STANDARDS.	\$5,804
LOS ANGELES	LOCAL HIGHWAY	LAF3148	0	NORTH MAIN ST. GRADE SEPARATION: CONSTRUCT A NEW GRADE SEPARATION OVER UPRR AND METROLINK & LA RIVER WHILE PRESERVING THE EXISTING HISTORIC N. MAIN ST. BRIDGE. BIKE LANES WILL BE ADDED AT THE SHOULDERS OF THE BRIDGE. OTHER WORK COMPONENTS INCLUDE REALIGNING ALBION STREET AND MODIFYING THE INTERSECTIONS OF NORTH MAIN AND MESNAGER STREET AT THE WEST END.	\$91,280
LOS ANGELES	LOCAL HIGHWAY	LAF3171	0	DE SOTO AVE WIDENING: RONALD REAGAN FWY TO DEVONSHIRE ST.. WIDEN DE SOTO AVE FR SR-118 TO DEVONSHIRE ST TO PROVIDE 3 LANES IN EACH DIRECTION & UNIFORM ROADWAY WIDTH. EXISTING ASPHALT BERMS TO BE REPLACED WITH CURB, GUTTER, & 10' SIDEWALK. SIDEWALK IS 1.42 MILES, 90% OF THE SIDEWALKS ALONG THE PROJECT LIMITS WILL BE NEW.	\$11,536
LOS ANGELES	LOCAL HIGHWAY	LAF3314	0	INTELLIGENT TRANSPORTATION SYSTEM (ITS) COMMUNICATION SYSTEM. UPGRADE AND REPLACE UNDER CAPACITY COMMUNICATION SYSTEM HARDWARE IN ORDER TO PROVIDE A VIABLE AND COST EFFECTIVE COMMUNICATION LINK BETWEEN TRAFFIC CORRIDORS AND THE LA COUNTY IEN.	\$5,493
LOS ANGELES	LOCAL HIGHWAY	LAF3315	0	CITY/COUNTY TRAFFIC MANAGEMENT INTEGRATION PHASE 2 PROJECT. INTEGRATE THE IEN TRAFFIC SIGNAL TIMING DATA AS SECOND LEVEL INPUTS INTO ATCS AND MAKE REVISIONS FROM 2007 CALL APPLICATION TO THIS PROJECT.	\$1673
LOS ANGELES	LOCAL HIGHWAY	LAF3513	0	DESIGN AND CONSTRUCT 3.85 MILE BIKEWAY ALONG FUTURE EXPOSITION LIGHT RAIL CORRIDOR BETWEEN VENICE/ROBERTSON BLVD'S. AND SANTA MONICA CITY LIMITS AT CENTINELA. CLASS I AND CLASS II BIKEWAYS.	\$9,139
LOS ANGELES	LOCAL HIGHWAY	LAF3514	0	DESIGN AND CONSTRUCT 0.28 MILES CLASS I BIKE FACILITY NORTH OF I-10 FROM MOTOR AVE. TO 500 FEET EAST OF DUNLEER DR. (CONTINUOUS BIKEWAY FROM EXPOSITION PARK TO SANTA MONICA BEACH).	\$5,521
LOS ANGELES	LOCAL HIGHWAY	LAF3515	0	SAN FERNANDO RD. BIKE PATH PH. IIB CONSTRUCTION. CONSTRUCT 2.75 MILE CLASS I BIKE PATH WITHIN METRO RIGHT-OF-WAY ALONG SAN FERNANDO RD. BETWEEN TUXFORD ST. AND COHASSET ST. TO COMPLETE 12-MILE BIKEWAY. THE PROJECT IS LOCATED WITHIN THE CITY OF LOS ANGELES. IN THE COMMUNITY OF SUN VALLEY. THE PROJECT CONSISTS OF A CLASS I FACILITY 12 FEET IN WIDTH AND 2.75 MILES IN LENGTH BETWEEN TUXFORD ST. AND COHASSET ST. (BURBANK CITY LIMIT).	\$12,716
LOS ANGELES	LOCAL HIGHWAY	LAF3631	0	WESTLAKE MACARTHUR PARK PEDESTRIAN IMPROVEMENT PROJECT. INSTALL PEDESTRIAN IMPROVEMENTS INCL. PEDESTRIAN LIGHTING, SIDEWALK ENHANCEMENTS, STREET FURNITURE & TREES, ENHANCED CROSSWALKS, & BUS STOP AMENITIES.	\$1674
LOS ANGELES	LOCAL HIGHWAY	LAF3632	0	WESTERN AV BUS STOP & PEDESTRIAN IMPROVEMENT PROJECT. INSTALL PEDESTRIAN AND TRANSIT AMENITIES TO ENHANCE THE PEDESTRIAN ENVIRONMENT ALONG WESTERN AV BTW EXPOSITION BL & I-10 FREEWAY.	\$1,472
LOS ANGELES	LOCAL HIGHWAY	LAF3640	0	LANI - EVERGREEN PARK STREET ENHANCEMENT PROJECT. INCREASE PEDESTRIAN SAFETY AND ACCESS BY PROVIDING IMPROVED CROSSWALKS, NEW BUS SHELTERS AND STREET TREES TO ENHANCE CONNECTIVITY BETWEEN TRANSIT AND AREA LANDMARKS. THE PROPOSED PROJECT IS LOCATED IN THE BOYLE HEIGHTS COMMUNITY OF LOS ANGELES.	\$10,775
LOS ANGELES	LOCAL HIGHWAY	LAF3646	0	ARTS DISTRICT/LITTLE TOKYO GOLD LINE STATION LINKAGES. PEDESTRIAN ENHANCEMENTS INCLUDING SIDEWALK/PATH PAVING, PED LIGHTS, STREET TREES/PLANTING; DISTRICT SIGNAGE; ENTRY ELEMENTS; STREET FURNITURE; CROSSWALK PAVING; AND BIKE PARKING. (10 BIKE RACKS)	\$4,439
LOS ANGELES	LOCAL HIGHWAY	LAF3647	0	MENLO AVE/MLK VERMONT EXPO STATION PEDESTRIAN IMPROVEMENTS. IMPROVE PEDESTRIAN ACCESS TO THE NEW EXPO STATION ON VERMONT AVE BY INSTALLING SIDEWALKS, LANDSCAPING, AND LIGHTING ALONG MENLO AVE AND MLK JR. BLVD. PLUS A MEDIAN ON MLK BLVD.	\$3,302
LOS ANGELES	LOCAL HIGHWAY	LAF3650	0	WESTERN AVE EXPO LINE STATION LINKAGE PROJECT (SOUTH). PROJECT WILL DESIGN AND CONSTRUCT PEDESTRIAN & SAFETY ENHANCEMENTS INTENDED TO INCREASE THE USAGE OF PUBLIC TRANSPORTATION AND CREATE A LINK TO METRO EXPO LR STATION AT WESTERN & EXPOSITION. PROPOSED IMPROVEMENTS INCLUDE SIDEWALK IMPROVEMENTS, SAFETY LIGHTING AT BUS STOPS, STREET FURNITURE, AND ENHANCED CROSSWALKS.	\$858
LOS ANGELES	LOCAL HIGHWAY	LAF3651	0	EASTSIDE LIGHT RAIL PEDESTRIAN LINKAGES, PHASE II. ENHANCE MULTI-MODAL ACCESS TO THE MARIACHI & SOTO GOLD LINE STATIONS. FOCUSING ON 1ST STREET. PEDESTRIAN IMPROVEMENTS TO ENHANCE MULTI-MODAL ACCESS TO THE MARIACHI & SOTO GOLD LINE STATIONS, FOCUSING ON FIRST ST. & INTERSECTING CORRIDORS OF BOYLE, ST. LOUIS, STATE, AND SOTO STREETS (ENCOMPASSING APPROXIMATELY 0.5 MILES ON EACH CROSS STREET). PROJECT ELEMENTS TO INCLUDE NEW PEDESTRIAN CROSSING SIGNALS.	\$3,651
LOS ANGELES	LOCAL HIGHWAY	LAF3653	0	PASADENA AVE PED CONNECTION TO GOLD LINE HERITAGE SQ STATION. THIS PROJECT WILL IMPLEMENT SIDEWALK IMPROVEMENTS, STREET FURNITURE, SAFETY LIGHTING, STREET TREES, AND ENHANCED CROSSWALKS ALONG PASADENA AVE BETWEEN BROADWAY TO FIGUEROA ST. THIS PROJECT WILL IMPROVE PEDESTRIAN CONNECTIVITY TO THE GOLD LINE HERITAGE SQUARE STATION.	\$2,567

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF3657	0	BEVERLY BOULEVARD TRANSPORTATION ENHANCEMENTS, PROVIDE TRANSIT-ORIENTED STREETScape IMPROVEMENTS TO INCREASE PED SAFETY & TRANSIT USE ALONG BEVERLY BL, VERMONT, ALVARADO, TOLUCA, TREE ROOT PRUNING, TREE WELLS, ADA ACCESS, LANDSCAPING.	\$1,374
LOS ANGELES	LOCAL HIGHWAY	LAF3721	0	ANGELS WALK SILVERLAKE, PROMOTE PEDESTRIAN ACTIVITY WITHIN THE PROJECT LIMITS WITH A GUIDEBOOK AND 15 ON-STREET INFORMATION MARKERS (HISTORIC STANCHIONS) AT STRATEGIC LOCATIONS.	\$844
LOS ANGELES	LOCAL HIGHWAY	LAF3722	0	ANGELS WALK BOYLE HEIGHTS, PROMOTE PEDESTRIAN ACTIVITY WITHIN THE PROJECT LIMITS WITH A GUIDEBOOK AND 15 ON-STREET INFORMATION MARKERS (HISTORIC STANCHIONS) AT STRATEGIC LOCATIONS.	\$818
LOS ANGELES	LOCAL HIGHWAY	LAF3726	0	FIRST AND LAST MILE TRANSIT CONNECTIVITY OPTIONS, IMPLEMENT A PILOT SHARED FLEET VEHICLE PROGRAM THAT INCLUDES, BIKES, ALTERNATIVE GREEN VEHICLES FOR FIRST & LAST MILES FROM UNION STATION TO AND OTHER DOWNTOWN LOCATIONS.	\$1,641
LOS ANGELES	LOCAL HIGHWAY	LAF3731	0	DOWNTOWN LA INTER-MODAL TRANSIT INFORMATION AND WAYFINDING, INSTALL TRANSIT INFORMATION MONITORS, VARIABLE MESSAGE SIGNS, INTERACTIVE KIOSKS & PARKING AVAILABILITY SIGNAGE ALONG BROADWAY CORRIDOR TO DOLYMPIC.	\$1,612
LOS ANGELES	LOCAL HIGHWAY	LAF5121	0	BALBOA BL WIDENING AT DEVONSHIRE ST. THIS PROJECT WILL IMPROVE THE INTERSECTION OF BALBOA BL AND DEVONSHIRE ST BY WIDENING BALBOA BL BY THREE FEET FOR A DISTANCE OF 0.1 MILE IN BOTH DIRECTIONS. THIS WIDENING WILL ENABLE THE INTERSECTION OF BALBOA BL AND DEVONSHIRE ST TO BE RESTRIPTED AND RECONFIGURED TO ACCOMMODATE DUAL LEFT-TURN LANES IN THE NORTHBOUND AND SOUTHBOUND DIRECTIONS OF BALBOA BL. THE PROJECT INCLUDES CURB AND GUTTER WORK AND MODIFICATIONS TO THE EXISTING SIDEWALK.	\$1,858
LOS ANGELES	LOCAL HIGHWAY	LAF5207	0	ALAMEDA STREET DOWNTOWN LA: GOODS MOVEMENT, PHASE I. THIS PROJECT WILL PROVIDE CONGESTION RELIEF, IMPROVE MOBILITY/REDUCE CONFLICTS, AND IMPROVE SAFETY FOR BOTH AUTOS AND TRUCKS BY PROVIDING INTERSECTION IMPROVEMENTS. PROJECT WILL ALSO REMOVE ABANDONED RAIL LINES, REPAIR PAVEMENT, ADD NEW STREET LIGHTING, AND CONSTRUCT PEDESTRIAN IMPROVEMENTS.	\$7,132
LOS ANGELES	LOCAL HIGHWAY	LAF5317	0	ITS PLATFORM UPGRADES-THIS PROJECT INCLUDES TWO PARTS: COMPUTER NETWORK ARCHITECTURE UPGRADE (CNA) AND COMMUNICATIONS SYSTEM & CENTRAL COMPUTER CORE UPGRADE (CSC). THE CNA WILL INCREASE CAPACITY OF THE AT&T CENTRAL COMPUTER NETWORK. THE CSC INVOLVES UPGRADE OF NEW SOFTWARE COMMUNICATIONS STACKS TO INCREASE CAPABILITY OF EACH COMMUNICATIONS CHANNEL TO TRANSMIT VARIOUS TRAFFIC DATA.	\$2,875
LOS ANGELES	LOCAL HIGHWAY	LAF5518	0	THIS PROJECT IS LOCATED IN THE CITY OF LOS ANGELES IN THE WEST SAN FERNANDO VALLEY, CONSTRUCTION OF A BICYCLE/PEDESTRIAN PATH FROM OWENSMOUTH AV TO MASON AV (1.25 MILES) ALONG THE SOUTH BANK OF THE LA RIVER, INCLUDES UNDERPASSES AT DE SOTO AV AND CANOGA AV// BUSWAY BRIDGES. THE PROJECT WILL INCLUDE LIGHTING, RAILING, STRIPING AND SIGNAGE AND A CONNECTION STRUCTURE TO THE METRO ORANGE LINE BIKEWAY.	\$6,136
LOS ANGELES	LOCAL HIGHWAY	LAF5519	0	THIS PROJECT IS LOCATED IN THE CITY OF LOS ANGELES. CONSTRUCTION OF BICYCLE FRIENDLY STREET TREATMENTS: AT LEAST 100 DIRECTIONAL SIGNS, AT LEAST 500 SHARED LANE MARKINGS, AND BICYCLE DETECTORS AND MARKINGS PROVIDED TO AT LEAST 15 SIGNALIZED INTERSECTIONS. OTHER TREATMENTS WILL INCLUDE TRAFFIC CALMING DEVICES AND DIVERSION, WHICH INCLUDE AT LEAST ONE DIVERTER AND ROUNDABOUT.	\$732
LOS ANGELES	LOCAL HIGHWAY	LAF5525	0	TO DESIGN AND CONSTRUCT CURB-SIDE BICYCLE PARKING (BICYCLE CORRAL) THAT WILL SERVE EACH COUNCIL DISTRICT. THE PROJECT REQUIRES SURFACE MODIFICATIONS TO CURBSIDE PARKING AREAS FOR INSTALLING AT LEAST 150 BIKE RACKS.	\$1,215
LOS ANGELES	LOCAL HIGHWAY	LAF5620	0	EXPO LINE - TRANSIT/PEDESTRIAN LINKAGES - WEST: IT WILL FUND PEDESTRIAN IMPROVEMENTS BY INSTALLING DECORATIVE SIDEWALKS, STREET TREES, NEW AND UPGRADED ACCESS RAMPS, TRASH RECEPTACLES, BENCHES, BICYCLE RACKS, PEDESTRIAN LIGHTING, AND DECORATIVE CROSSWALKS. FUNDS ARE REQUESTED FOR DESIGN AND CONSTRUCTION COSTS. PEDESTRIAN LINKAGES 2.5 MILES.	\$2,890
LOS ANGELES	LOCAL HIGHWAY	LAF5624	0	WASHINGTON BLVD PEDESTRIAN TRANSIT ACCESS (HOOPER/ALAMEDA) II, LOCATED ON WASHINGTON BL BETWEEN HOOPER AV AND ALAMEDA ST AND ON LONG BEACH AV BETWEEN WASHINGTON BL AND 20TH ST, PEDESTRIAN IMPROVEMENTS, PEDESTRIAN LIGHTING, CROSSWALK ENHANCEMENTS, CURB EXTENSIONS, NEW RAILROAD CROSSING SIGNALS, AND NEW ACCESS TO THE STATION FROM THE SOUTH, DISTANCE 0.99 MILES.	\$2,296
LOS ANGELES	LOCAL HIGHWAY	LAF5632	0	HOLLYWOOD/WESTERN STREETSCAPE PUBLIC AND PEDESTRIAN IMPROVEMENTS ON HOLLYWOOD BLVD BETWEEN GOWER ST AND WESTERN AV AND ON WESTERN AV BETWEEN HOLLYWOOD BL AND CARLTON WAY. INSTALLATION OF NEW SIDEWALK PAVING, CURB RAMPS, BUS SAFETY LIGHTING, TRASH RECEPTACLES, BENCHES, BIKE RACKS, STREET TREES, LANDSCAPING, CURB EXTENSIONS, PUBLIC ART, AND DECORATIVE CROSSWALKS.	\$3,923
LOS ANGELES	LOCAL HIGHWAY	LAF5707	0	ANGELS WALK CENTRAL AVENUE. THIS PROJECT WILL PROVIDE 15 ON-STREET INFORMATION MARKERS (HISTORIC STANCHIONS), GUIDE BOOKS AND DIGITAL ACCESS ON THE INTERNET TO GUIDE PEDESTRIANS AND TRANSIT USERS IN A SIGNIFICANT SEGMENT OF CENTRAL AV, INFORMING THEM OF THE HISTORY AND CULTURE OF THE AREA. IT WILL ALSO LINK THE PEDESTRIAN TO DOWNTOWN VIA CONNECTIONS TO PUBLIC TRANSIT OPTIONS ALONG THIS ANGELS WALK ROUTE.	\$858

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA05710	0	EXPERIENCE LA HISTORIC CULTURAL NEIGHBORHOOD CONNECTIONS. INSTALLATION OF 22 KIOSKS AT TRANSIT HUBS IN ACTIVITY CENTERS THROUGHOUT THE CITY OF LOS ANGELES. BY UTILIZING SMART TECHNOLOGY TRANSIT USERS WILL BE ABLE TO USE CELL PHONES OR THE KIOSK TO FIND INFORMATION THAT WILL MAKE THE TRANSFER MORE SEAMLESS TO THEIR FINAL DESTINATION.	\$1,705
LOS ANGELES	LOCAL HIGHWAY	LA07109	0	SOTO STREET WIDENING FROM MULTNOMAH STREET TO MISSION ROAD: (1) WIDENS SOTO ST BETWEEN MULTNOMAH ST AND NORTH MISSION RD (0.6 MILE) FROM A BI-DIRECTIONAL 1-LANE ROADWAY TO 2-LANE ROADWAY IN EACH DIRECTION. (2) WIDENS EXISTING SIDEWALKS FROM 4 FT TO 8 FT FOR WHEELCHAIR ACCESSIBILITY. (3) CONSTRUCTS CLASS II BIKE LANE IN BOTH DIRECTIONS, PEDESTRIAN LIGHTING, A NEW STRIPED MEDIAN, AND SHOULDERS ON BOTH SIDES OF THE STREET.	\$3,511,880
LOS ANGELES	LOCAL HIGHWAY	LA07125	0	SHERMAN WAY WIDENING BETWEEN WHITSETT AVENUE TO HOLLYWOOD FREEWAY: (1) WIDEN A SOUTH SIDE OF SHERMAN WAY BY APPROX 20 FT TO PROVIDE A THROUGH AND DEDICATED RIGHT-TURN ONLY LANE ONTO THE HOLLYWOOD Fwy SOUTHBOUND ON-RAMP. (2) INSTALLS PEDESTRIAN FACILITIES AND LANDSCAPING. (3) WIDENS THE OUTSIDE CURB LANE BY 6 FT TO ACCOMMODATE SAFER BIKE TRAVEL.	\$1,499
LOS ANGELES	LOCAL HIGHWAY	LA07131	0	CENTURY BOULEVARD EXTENSION BETWEEN GRAPE STREET AND ALAMEDA STREET: EXTENDS CENTURY BL BY APPROX 2,600 FT FROM GRAPTE ST TO ALAMEDA ST WITH A 2 LANE ROADWAY, SIDEWALKS ON BOTH SIDES, CLASS II BIKE LANE, PED/BIKE FACILITIES, AND LANDSCAPING.	\$11,129
LOS ANGELES	LOCAL HIGHWAY	LA07205	0	ALAMEDA STREET WIDENING FROM ANAHEIM STREET TO 300 FT SOUTH OF PCH: (1) WIDENS ALAMEDA ST BETWEEN ANAHEIM ST AND 300 FT SOUTH OF PACIFIC COAST HIGHWAY FROM 2 TO 3 LANES IN EACH DIRECTION FOR CONGESTION RELIEF AND IMPROVE GOODS MOVEMENT MOBILITY.	\$9,709
LOS ANGELES	LOCAL HIGHWAY	LA07207	0	ANAHEIM STREET WIDENING - FARRAGUT AVENUE TO DOMINGUEZ CHANNEL: WIDEN ANAHEIM ST BETWEEN FARRAGUT AV AND DOMINGUEZ CHANNEL FROM 2 TO 3 LANES IN EACH DIRECTION FOR CONGESTION RELIEF AND IMPROVE GOODS MOVEMENT MOBILITY. THIS UPGRADES THE ARTERIAL TO MAJOR HIGHWAY STANDARDS.	\$6,566
LOS ANGELES	LOCAL HIGHWAY	LA07628	0	WATT'S STREETSCAPE IMPROVEMENTS PHASE 2: INSTALLS ADA RAMPS, LANDSCAPING STREET TREES, STREET FURNITURE, PED LIGHTING, CROSSWALK ENHANCEMENTS, CURB EXTENSIONS, SHARROWS, AND PED & BIKE WAYFINDING SIGNAGE.	\$836
LOS ANGELES	LOCAL HIGHWAY	LA07708	0	INTERACTIVE BICYCLE BOARD DEMO PROJECT: INSTALLS 12 INTERACTIVE DISPLAY SCREENS AND 96 BICYCLE COUNTERS TO ENCOURAGE GREATER USE OF BICYCLES AND REDUCING VEHICLE MILES TRAVELED.	\$684
LOS ANGELES	LOCAL HIGHWAY	LA07814	0	LADOT STREETS FOR PEOPLE: TRANSIT CORRIDOR PARKLETS AND PLAZAS: INSTALLS 12 PARKLETS AND 3 PLAZAS. THE LIMITS OF THE PARKLETS WILL BE EQUAL TO TWO CURBSIDE PARKING SPACES (APPRX. 40X6). THE PLAZA LIMIT VARIES RANGING FROM 2,000 TO 6,000 SF.	\$546
LOS ANGELES	LOCAL HIGHWAY	LA061042	0	AVIATION BL AT MARINE AV DUAL SB TO EB LEFT TURN LANES: THIS PROJECT WOULD WIDEN THE WEST SIDE OF AVIATION BL NORTH OF MARINE AV TO PROVIDE DUAL LEFT-TURN LANES IN THE SB TO EB DIRECTION.	\$1,500
LOS ANGELES	LOCAL HIGHWAY	LA061043	0	AVIATION BL AT ARTESIA BL SB TO WB RIGHT-TURN LANE: THIS PROJECT WOULD WIDEN THE WEST SIDE OF AVIATION BLVD. NORTH OF ARTESIA BLVD. TO PROVIDE A SB TO WB RIGHT-TURN LANE.	\$1,500
LOS ANGELES	LOCAL HIGHWAY	LA061044	0	SEPULVEDA BL AT MANHATTAN BEACH BL, DUAL LEFT-TURN LANES, WB TO SB, NB TO WB & EB TO NB.	\$980
LOS ANGELES	LOCAL HIGHWAY	LA06820	0	SEPULVEDA BOULEVARD (SR-1) AT MARINE AVENUE DUAL WESTBOUND TO SOUTHBOUND LEFT-TURN LANES: THIS PROJECT WILL WIDEN THE EXISTING ROADWAY ALONG MARINE AVENUE AT SEPULVEDA BLVD (SR-1) TO PROVIDE AN ADDITIONAL WESTBOUND LEFT-TURN LANE.	\$335
LOS ANGELES	LOCAL HIGHWAY	LA01696	0	RECONSTRUCTION OF THE STRAND STAIRWAYS IN THE CITY OF MANHATTAN BEACH TO IMPROVE BEACH ACCESS AND ACCOMMODATE INCREASED PEDESTRIAN TRAFFIC. TOLL CREDITS - LOCAL AND STATE HWY OF \$320 WILL BE USED TO MATCH FYS FEDERAL FUNDS FOR THE CON PHASE	\$1,760
LOS ANGELES	LOCAL HIGHWAY	LA06861	0	HUNTINGTON DRIVE PHASE II FROM MAGNOLIA TO SHAMROCK - CONSTRUCTION ACTIVITIES WILL REMOVE/ REPLACE DAMAGED CONCRETE PANELS, REPLACE CURBING IN THE MEDIAN ISLAND, UPGRADE HANDICAP ACCESS RAMPS, UPGRADE PEDESTRIAN COUNTERS ON TRAFFIC SIGNALS, RE-STRIPE AND INSTALL PAVEMENT MARKERS, REPLACE STREET SIGNS WITH NEW REGULATORY SIGNS, CRACK SEAL AND JOINT REPAIRS AND INSTALL BUS TURNOUTS. (APPROX 0.8 MI). UTILIZING TOLL CREDITS TO MATCH STPL AND RSTP.	\$2,028
LOS ANGELES	LOCAL HIGHWAY	LA061181	0	2.86 MILES CLASS III BIKE PATH: 196 MILES CLASS II BIKE PATH CONVERTED FROM ON-STREET PARKING AND MEDIAN. CLASS III BIKE PATH: MONTEREY PASS RD/GARVEY AVE (2.86 MILE). CLASS II BIKE PATH: CESAR CHAVEZ/RIGGIN (1.96 MILE)	\$420
LOS ANGELES	LOCAL HIGHWAY	LA00106	0	PEDESTRIAN/BICYCLE FACILITIES: LANDSCAPE AND ARTWORK ENHANCEMENTS ADJACENT TO THE I-5/SR 10 AND THE LOS ANGELES RIVER.	\$5,038
LOS ANGELES	LOCAL HIGHWAY	LA00458	0	PROJECT WILL PROVIDE FOR THE CONSTRUCTION OF A 3.25 MILE BIKEWAY ALONG THE RESTORED BANKS OF THE PACOIMA WASH.	\$983

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0G1063	0	STUDEBAKER ROAD AT ROSECRANS AVENUE INTERSECTION IMPROVEMENTS - PROVIDE ADDITIONAL NB & SB LEFT TURN LANES ON STUDEBAKER, ADDITIONAL EB & WB LEFT TURN LANES ON ROSECRANS, & EB & SB RIGHT TURN OVERLAP PHASING, INCREASE NB LEFT TURN STORAGE ON STUDEBAKER & WB LEFT TURN STORAGE ON ROSECRANS, WIDEN 2' ON NORTH SIDE OF ROSECRANS EAST OF STUDEBAKER & SOUTH SIDE OF ROSECRANS WEST OF STUDEBAKER WITHIN EX. ROW, MODIFY EXISTING MEDIUM ISLAND ON ROSECRANS, MODIFY TRAFFIC SIGNALS, & RELOCATE STREET LIGHTS	\$1,670
LOS ANGELES	LOCAL HIGHWAY	LA0G1064	0	BLOOMFIELD AVENUE AT IMPERIAL HIGHWAY INTERSECTION IMPROVEMENTS - PROVIDE ADDITIONAL WB LEFT TURN LANE ON IMPERIAL, PROTECTED SB LEFT TURN PHASING, AND NB RIGHT TURN OVERLAP PHASING, INCREASE WB & EB LEFT TURN STORAGE ON IMPERIAL AND NB & SB LEFT TURN STORAGE ON BLOOMFIELD, WIDEN 1' ON NORTH SIDE OF IMPERIAL EAST OF BLOOMFIELD WITHIN EXISTING ROW, MODIFY EXISTING MEDIUM ISLAND, MODIFY TRAFFIC SIGNAL, AND RELOCATE STREET LIGHTS	\$920
LOS ANGELES	LOCAL HIGHWAY	LA0G1065	0	PIONEER BOULEVARD AT IMPERIAL HIGHWAY INTERSECTION IMPROVEMENTS - PROVIDE ADDITIONAL EB LEFT TURN LANE ON IMPERIAL AND SB & WB RIGHT TURN OVERLAP PHASING, ACQUIRE 2' ROW & WIDEN 5' ON SOUTH SIDE OF IMPERIAL WEST OF PIONEER WITHIN PROPOSED ROW, MODIFY/REMOVE EXISTING MEDIUM ISLAND, MODIFY TRAFFIC SIGNAL, AND RELOCATE STREET LIGHTS	\$1,510
LOS ANGELES	LOCAL HIGHWAY	LA0G1066	0	STUDEBAKER ROAD AT ALONDRA ROAD INTERSECTION IMPROVEMENTS - PROVIDE ADDITIONAL SB LEFT TURN LANE ON STUDEBAKER & EB RIGHT TURN OVERLAP PHASING, INCREASE NB LEFT TURN STORAGE ON STUDEBAKER, MODIFY EXISTING MEDIUM ISLAND ON STUDEBAKER, MODIFY TRAFFIC SIGNAL, AND RELOCATE STREET LIGHTS	\$480
LOS ANGELES	LOCAL HIGHWAY	LAF1219	0	THE PROJECT WILL REPLACE BRIDGE NO. 53C1984 ON FIRESTONE BOULEVARD OVER THE SAN GABRIEL RIVER, THE REPLACEMENT BRIDGE WILL BE NON-CAPACITY ENHANCING AND PROVIDE 6-TRAFFIC LANES, A 10-FOOT MEDIAN, 8-FOOT BIKE LANES AND 8-FOOT SIDEWALKS, AND WILL IMPROVE TRAFFIC SAFETY BETWEEN NORWALK AND DOWNEY.	\$4,331
LOS ANGELES	LOCAL HIGHWAY	LA0D145B	0	TERRA SUBIDA WIDENING FROM AVENUE S TO AVENUE RAYBURN RD. - FROM 2 TO 4 LANES; WITH TRAFFIC SIGNALS, STREETLIGHTS, RAISED MEDIANS, DRAINAGE IMPROVEMENTS AND PEDESTRIAN IMPROVEMENTS. SPLIT FROM LA0D145.	\$6,900
LOS ANGELES	LOCAL HIGHWAY	LA0G1134	0	DEVELOPMENT OF ACTIVE TRANSPORTATION PROGRAM PLAN THAT INCLUDES SUBCOMPONENTS SUCH AS COMPLETE STREETS, PEDESTRIAN, BICYCLE, TRAILS, SAFE ROUTES TO SCHOOL AND WILL REPLACE THE EXISTING BICYCLE TRANSPORTATION PLAN (BTP)	\$595
LOS ANGELES	LOCAL HIGHWAY	LA981102	0	AVENUE S RAILROAD GRADE SEPARATION (OVERPASS/UNDERPASS) OF METROLINK RR TRACKS, WEST OF SIERRA HIGHWAY - 6 LANES. INCLUDES GRADE SEPARATION OF SIERRA HIGHWAY AND APPLICABLE RAMPING; NO NEW TRAVEL LANES ADDED.	\$56,800
LOS ANGELES	LOCAL HIGHWAY	LAF1104	0	RANCHO VISTA BLVD (RVB) GRADE SEPARATION AT SIERRA HWY/JPRR/METROLINK RR CROSSING AND APPLICABLE CONNECTOR RAMPS/ROADS AND AUXILIARY ROADS AND IMPROVEMENTS: PHASE 1-CONSTRUCT NEW 2 LANE ROAD - 4TH STREET EAST FROM 3RD STREET EAST TO TECHNOLOGY DRIVE, WIDENING TECHNOLOGY DRIVE (P-8) FROM DIVISION STREET TO SIERRA HWY (4-6 LANES), ALSO SIGNALIZED INTERSECTIONS, RIGHT/LEFT TURN POCKETS, BIKE AND PEDESTRIAN LANES (APPROX. 1.5 MI), PAVEMENT TRANSITIONS, TRAFFIC STRIPING, AND DRAINAGE IMPROVEMENTS.	\$5,665
LOS ANGELES	LOCAL HIGHWAY	LAF1104B	0	PHASE 2-CONSTRUCT A RAILROAD GRADE SEPARATION OF RANCHO VISTA BOULEVARD AT BOTH SIERRA HIGHWAY AND THE DOUBLE-TRACK AT-GRADE CROSSING OF THE SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY (SCRRA) METRO-LINK AND UNION PACIFIC RAILROAD (UPRR) TRACKS. THE PROJECT EXTENDS EASTERLY ON RANCHO VISTA BOULEVARD FROM FAIRWAY DRIVE TO 10TH STREET EAST AND SOUTHERLY ON SIERRA HIGHWAY FROM APPROXIMATELY 400 FEET NORTH OF EAST AVENUE 0-8 TO AVENUE P-8	\$58,400
LOS ANGELES	LOCAL HIGHWAY	LAF1300	0	NORTH COUNTY TRAFFIC FORUM ITS EXPANSION, MULTI-JURISDICTIONAL PROJECT WILL UPGRADE CENTRAL TOC SOFTWARE AND SIGNAL CONTROLLERS; CONNECT TO LA COUNTY IEN; AND ADD TRAFFIC SIGNALS/CORRIDORS TO EXISTING INTERCONNECT SYSTEM. (4 SIGNALS)	\$11,292
LOS ANGELES	LOCAL HIGHWAY	LAF3107	0	AVENUE S WIDENING PHASE II, AVENUE S WIDENING PHASE II PROJECT PROVIDES A 6 LANE ROADWAY, SIDEWALK, CURB AND GUTTER, CLASS 1 BIKEWAY, TRAFFIC SIGNALS, AND ENHANCEMENTS. THE PROJECT IS SITUATED IN THE HEART OF THE CITY OF PALMDALE IN THE NORTHERN LOS ANGELES COUNTY. THE PROJECT SPANS ALONG AVENUE S, A MAJOR ARTERIAL THAT HAS BEEN IDENTIFIED AS A SIGNIFICANT ARTERIAL BY METRO AS PART OF THE LOS ANGELES COUNTY WIDE SIGNIFICANT ARTERIAL NETWORK. (APOX. 1.5 MI)	\$11,023
LOS ANGELES	LOCAL HIGHWAY	LAF1721	0	RANCHO VISTA BOULEVARD WIDENING : WIDENS TWO SEGMENTS OF RANCHO VISTA BLVD (TOTAL 1.4 MILES) BETWEEN 23RD ST W AND 15TH ST W (0.9 MILE) AND BETWEEN ARNIE QUINONES PARK AND WEST AV N (0.5 MILES), TO ACCOMMODATE 3 CONTINUOUS LANES WITHOUT GAPS OR BOTTLENECKS, 10-FT SIDEWALK, AND 5-FT CLASS III BIKE ROUTE IN EACH DIRECTION.	\$7,500
LOS ANGELES	LOCAL HIGHWAY	LA0G1147	0	GARFIELD AVENUE IMPROVEMENTS FROM 70TH STREET TO HOWERY STREET - WIDEN STREET TO 4 FEET FOR 2 MILES TO ACCOMMODATE A THIRD LANE IN EACH DIRECTION REQUIRING PARTIAL TAKES FROM 2 PARCELS, ADD MEDIANS, NARROW EXISTING MEDIANS, ADD SECOND LEFT TURN LANE IN ALL DIRECTIONS AT TWO INTERSECTIONS, ROSECRANS AVE. AND ALONDRA BLVD., RESURFACE STREET, CONCRETE INTERSECTIONS, TRAFFIC SIGNAL IMPROVEMENTS, STREET LIGHTS, UNDERGROUND UTILITIES, "GREEN STREET" IMPROVEMENTS, AND STORMWATER AND WATERSHED BMPS.	\$4,150

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA990360	0	LA LOMA BRIDGE CONSTRUCTION (TEA21-#1208) THE LENGTH OF THE PROJECT IS 379 FT. RECONSTRUCT THE ONE LANE IN EACH DIRECTION. BRIDGE NO. 53C0759; LA LOMA RD, OVER ARROYO SECO CHANNEL, 0.8 MI S. Foothill Freeway.	\$14,981
LOS ANGELES	LOCAL HIGHWAY	LAF3790	0	THE PASADENA ITS INTEGRATES 2 COMPONENTS; TRAFFIC SIGNAL COMMUNICATION AND CONTRL, AND PUBLIC PARKING AVAILABILITY INFO. SAFETEA-LU PRJ #3790	\$2,754
LOS ANGELES	LOCAL HIGHWAY	LAF3301	0	METRO GOLD LINE AT-GRADE CROSSING MOBILITY ENHANCEMENTS. DEPLOYMENT OF ITS AT SIGNALIZED INTERSECTIONS ADJACENT TO METRO GOLD LINE AT-GRADE CROSSINGS TO PROVIDE ADAPTIVE TRAFFIC SIGNAL CONTROL TO IMPROVE MOBILITY & ENHANCE SAFETY. PROJECT INCLUDES 14 INTERSECTIONS.	\$1,695
LOS ANGELES	LOCAL HIGHWAY	LAF3302	0	INTELLIGENT TRANSPORTATION SYSTEM (ITS) PHASE III (SIGNAL SYNCHRONIZATION PROJECT 3+ SIGNALS). COMPLETE THE MAIN COMMUNICATION INFRASTRUCTURE SYSTEM OF THE ITS COMMUNICATION MASTER PLAN BY CLOSING ALL GAPS IN THE EXISTING FIBER COMMUNICATION NETWORK. AS STATED IN THE PROJECT DESCRIPTION, THIS PROJECT TARGETS CRITICAL EXISTING GAPS WITHIN THE CITY'S ITS FIBER MASTER PLAN.	\$5,294
LOS ANGELES	LOCAL HIGHWAY	LAF3603	0	EAST COLORADO BOULEVARD PEDESTRIAN IMPROVEMENTS (PHASE 2). INSTALL PED-SCALE STREET LIGHTS, DECORATIVE CROSSWALKS, BUS BENCHES & TRASH RECEPTACLES ON A REGIONALLY SIGNIFICANT STREET TO INCREASE LIVABILITY, SAFETY & ENHANCE PED MOVEMENT. EAST COLORADO BOULEVARD BETWEEN HILL AVENUE AND ALLEN AVENUE IN THE CITY OF PASADENA. (0.46 MILES)	\$754
LOS ANGELES	LOCAL HIGHWAY	LAF3702	0	FOLD-N-GO PASADENA - FOLDING BICYCLE DEMONSTRATION PROGRAM. PROVIDE INCENTIVE TO TRANSIT RIDERS TOWARD THE PURCHASE OF COLLAPSIBLE BIKES - APPROX. 1000 TO USE IN CONJUNCTION WITH BUS & RAIL SYSTEMS.	\$325
LOS ANGELES	LOCAL HIGHWAY	LAF3709	0	ZERO EMISSION VEHICLE CHARGING STATIONS. INSTALL 43 ELECTRIC VEHICLE CHARGING STATIONS FOR USE BY ELECTRIC VEHICLES USING AVAILABLE TECHNOLOGY. THE CHARGERS WILL BE INSTALLED AT EXISTING AND NEW LOCATIONS TO CREATE A CITY-WIDE CHARGING NETWORK. THE NETWORK WILL REDUCE VEHICLE MILES TRAVELLED BY PROVIDING CHARGING AT LIGHT RAIL STATIONS AND EMPLOYMENT DESTINATION POINTS.	\$717
LOS ANGELES	LOCAL HIGHWAY	LAF3710	0	PASADENA'S WAYFINDING SYSTEM. IMPLEMENT WAYFINDING SYSTEM INCLUDING TRANSIT INFORMATION AND CONNECTIVITY TO ADJACENT DESTINATIONS AT TRANSIT STOPS AND PARKING LOTS.	\$2,198
LOS ANGELES	LOCAL HIGHWAY	LAF5305	0	MOBILITY CORRIDORS - ROSE BOWL ACCESS SYSTEMS ALONG COLORADO BL, LINCOLN BL AND ORANGE GROVE BL IN THE CITY OF PASADENA. SIGNAL SYNCHRONIZATION OF 28 INTERSECTIONS - UPGRADED AND SIGNAL SYNC. PROJECT IMPROVEMENTS INCLUDE NEW 332-TYPE TRAFFIC SIGNAL CABINETS, ADVANCED TYPE 2070 TRAFFIC-SIGNAL CONTROLLERS, NEW VEHICULAR VIDEO-DETECTION SYSTEMS AND ADVANCED COMMUNICATION SYSTEMS (FIBER OPTIC CABLE AND COMMUNICATION DEVICES NECESSARY) TO ALLOW FOR CONNECTIVITY TO THE CITY'S TMC.	\$1623
LOS ANGELES	LOCAL HIGHWAY	LAF3717	0	PASADENA AREA RAPID TRANSIT SYSTEM TSP - DESIGNS AND INSTALLS TRANSIT SIGNAL PRIORITY EQUIPMENTS FOR 23 PASADENA AREA RAPID TRANSIT SYSTEM (ARTS) BUSES AND 42 INTERSECTIONS. ENHANCEMENTS INCLUDE INSTALLATION OF TRAFFIC SIGNAL CONTROLLERS AND CABINETS, AND CLOSED CIRCUIT TELEVISION CAMERAS (CCTV).	\$1,448
LOS ANGELES	LOCAL HIGHWAY	LAF7318	0	ADAPTIVE TRAFFIC CONTROL NETWORK - PHASE II - INSTALLS ADAPTIVE TRAFFIC CONTROL CAPABILITIES ALONG CALIFORNIA BL BETWEEN ST. JOHN AV AND LAKE AV, DEL MAR BL BETWEEN ST. JOHN AV TO OAK KNOLL AV, ARROYO PARKWAY BETWEEN UNION ST TO FILLMORE ST, AND FOOTHILL BL BETWEEN SIERRA MADRE BL TO MICHILINDA AV. ENHANCEMENTS INCLUDE CABINET AND CONTROLLER UPGRADES, ADAPTIVE TRAFFIC CONTROL HARDWARE & SOFTWARE INSTALLATION, AND COMMUNICATION HARDWARE TO CONNECT TO THE CITY'S FIBER OPTICS INFRASTRUCTURE.	\$2,072
LOS ANGELES	LOCAL HIGHWAY	LA061105	0	BRIDGE NO. 53C0057 - TELEGRAPH ROAD OVER SAN GABRIEL RIVER BRIDGE; 1. DEMOLISH EXISTING BRIDGE WITH FOUR LANES. 2. CONSTRUCT, TWO PARALLEL, 3-LANE STRUCTURES W/ CIP/PS BOX GIRDERS.	\$175,456
LOS ANGELES	LOCAL HIGHWAY	LA061106	0	BRIDGE NO. 53C0471 - WASHINGTON BOULEVARD OVER RIO HONDO RIVER BRIDGE - REPLACING EXISTING 6-LANE BRIDGE WITH AN 8-LANE BRIDGE INCREASING CAPACITY. UPTO ENVIRONMENTAL PHASE	\$198,864
LOS ANGELES	LOCAL HIGHWAY	LA06942	0	ROSEMEAD BOULEVARD AT WHITTIER BOULEVARD INTERSECTION IMPROVEMENTS - PROVIDE NORTHBOUND RIGHT TURN POCKET AND ADDITIONAL SOUTHBOUND LEFT TURN LANE ALONG ROSEMEAD BL. AND INCREASE EASTBOUND AND WESTBOUND LEFT TURN STORAGE ALONG WHITTIER BL.	\$600
LOS ANGELES	LOCAL HIGHWAY	LA06943	0	ROSEMEAD BOULEVARD AT WASHINGTON BOULEVARD INTERSECTION IMPROVEMENTS - MODIFY NORTHBOUND AND SOUTHBOUND RIGHT TURN POCKETS INTO SHARED THRU/RIGHT TURN LANE ALONG ROSEMEAD BL.	\$40
LOS ANGELES	LOCAL HIGHWAY	LA06944	0	ROSEMEAD BOULEVARD AT SLAUSON AVENUE INTERSECTION IMPROVEMENTS - PROVIDE ADDITIONAL NORTHBOUND AND SOUTHBOUND LANE ALONG ROSEMEAD BL. THRU INTERSECTION, INCREASE SOUTHBOUND LEFT TURN STORAGE ALONG ROSEMEAD BL., AND PROVIDE ADDITIONAL WESTBOUND LEFT TURN LANE ALONG SLAUSON AVE.	\$1,770

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA06945	0	INTERSECTION IMPROVEMENT - ROSEMEAD BOULEVARD AT BEVERLY BOULEVARD - PROVIDE SOUTHBOUND RIGHT TURN POCKET, DUAL RIGHT TURN LANES WESTBOUND WITH CLOSURE OF LINDELL AVE, ADDITIONAL NORTHBOUND LEFT TURN LANE, ADDITIONAL NON-CAPACITY ENHANCING SOUTHBOUND & NORTHBOUND THRU LANES, OVERLAP PHASING FOR SOUTHBOUND RIGHT TURN ONTO BEVERLY BL, AND RESTRICT PEAK HOUR PARKING ALONG WEST SIDE OF ROSEMEAD BL. RIGHT OF WAY IS REQUIRED, 22 FEET ON NORTH SIDE OF BEVERLY BL FROM LINDELL AVE TO ROSEMEAD BL.	\$4,040
LOS ANGELES	LOCAL HIGHWAY	LA06135	0	DESIGN AND CONSTRUCT 1/4.5 MILE OF NEW BIKEWAYS AND IMPROVE PEDESTRIAN SAFETY THROUGH CROSSING IMPROVEMENTS AT EIGHT MAJOR INTERSECTIONS. BIKE IMPROVEMENTS INCLUDE 3.8 MILES OF CLASS II BUFFERED BIKE LANES, 2.9 MILES OF CLASS III BIKE LANES, AND 7.8 MILES OF CLASS III BIKE ROUTES.	\$2,270
LOS ANGELES	LOCAL HIGHWAY	LA00390	0	AT I-110 NB AT JOHN S GIBSON BLVD NB RAMPS & NB SR-47/I-110 CONNECTOR. WIDEN SB 47 TO NB 110 CONNECTOR FROM 11 TO 2 LNS BEGIN AT SB 47 PM 072 (STATION 535+00) JUST W OF FRONT ST ON-RAMP. ADD THROUGH LN CONTINUES ON NB 110 & ENDS JUST N OF THE J S GIBSON OFF-RAMP. WIDEN NB 110/J S GIBSON ON-RAMP TO IMPROVE ACCESS TO FWY & INTERSECTION OF J S GIBSON/110 NB RAMPS W/ IMPROVED TURN RADIUS & RE-STRIPING	\$34,733
LOS ANGELES	LOCAL HIGHWAY	LA0F030	0	PROJECT WILL IMPROVE FLOW OF TRAFFIC FROM I-110 FWY ON/OFF-RAMPS AT C STREET BY CONSOLIDATING TWO CLOSELY SPACED INTERSECTIONS INTO ONE.	\$23,980
LOS ANGELES	LOCAL HIGHWAY	LA06864	0	POLA CARGO TRANSPORTATION IMPROVEMENTS - EMISSION REDUCTION (CTIER) PROGRAM - PHASE 1. WEST OF PIER A STREET AND SOUTH OF WATER STREET IN THE CITY OF WILMINGTON, WITHIN THE TRAPAC CONTAINER TERMINAL AT BERTHS 144-145. PROJECT CONSISTS OF 21 OF BACKLAND IMPROVEMENTS, INCLUDING GRADING, PAVING, STORM DRAIN, SUMP, RAIL, REFER RACKS, TELECOMMUNICATIONS, ELECTRICAL, LIGHTING AND FIRE PROTECTION SYSTEMS, UTILITY RELOCATIONS, FENCING, GATES AND STRIPING.	\$26,695
LOS ANGELES	LOCAL HIGHWAY	LA06865	0	POLA CARGO TRANSPORTATION IMPROVEMENTS - EMISSION REDUCTION (CTIER) PROGRAM - PHASE 2. BERTHS 142-143 BACKLAND WILL CONSTRUCT 72 ACRES OF BACKLAND IMPROVEMENTS, INCLUDING GRADING, PAVING, STORM DRAIN AND SUMP, RAIL, REFER RACKS, TELECOMMUNICATION SYSTEM, ELECTRICAL AND LIGHTING SYSTEM, FIRE PROTECTION SYSTEM, UTILITY RELOCATIONS, FENCING AND STRIPING.	\$143,000
LOS ANGELES	LOCAL HIGHWAY	LA06866	0	ALAMEDA CORRIDOR WEST TERMINUS INTERMODAL RAIL YARD WEST BASIN RAIL YARD (TCIF #32) EXTENSION. BERTHS 142-147 INTERMODAL CONTAINER TRANSFER FACILITY WILL CONSTRUCT A STUB-ENDED RAIL YARD WITH 8 WORKING TRACKS, A 123 FOOT GAUGE RAIL MOUNTED GANTRY CRANE INFRASTRUCTURE, ACCESS ROADWAY, GRADING AND PAVING, STORM DRAINAGE, ELECTRICAL AND LIGHTING, UTILITY WORK AND FENCING.	\$43,716
LOS ANGELES	LOCAL HIGHWAY	LA 960179	0	DESIGN AND CONSTRUCT A GRADE SEPARATION IN SOUTH WILMINGTON TO SEPARATE VEHICLE/TRUCK TRAFFIC FROM AN ACTIVE RAIL LINE AND PROVIDE DIRECT ACCESS TO PORT TERMINALS, A COMMUNITY CENTER AND OTHER BUSINESSES.	\$69,029
LOS ANGELES	LOCAL HIGHWAY	LAF3170	0	PORT TRUCK TRAFFIC REDUCTION PROGRAM: WEST BASIN RAIL YARD. INTERMODAL RAIL YARD CONNECTING PORT OF LA WITH ALAMEDA CORRIDOR TO ACCOMMODATE INCREASED LOADING OF TRAINS AT THE PORT, THEREBY REDUCING TRUCK TRIPS TO OFF-DOCK RAIL YARDS.(LAF5204)	\$110,511
LOS ANGELES	LOCAL HIGHWAY	LAF1506	0	BIKE COMPATIBLE RDWY SAFETY AND LINKAGE ON PALOS VERDES DR. THE PROJECT WILL HAVE A CLASS II BIKE LANE ON BOTH SIDES OF PALOS VERDES DRIVE SOUTH, WITH AN UNPAVED SHOULDER FOR EMERGENCY USE. (DISTANCE 1.3 MILES)	\$788
LOS ANGELES	LOCAL HIGHWAY	LA 06717	0	F48 - INTERSECTION IMPROVEMENTS ON PACIFIC COAST HWY AT PALOS VERDES BLVD. INCLUDES A RIGHT TURN ONLY LANE ON WESTBOUND PALOS VERDES BLVD AT PACIFIC COAST HWY. PROJECT NO. MR318.08, FA NO. MOUMR318.08.	\$320
LOS ANGELES	LOCAL HIGHWAY	LA 06721	0	N58 - AVIATION BLVD. INTERSECTION IMPROVEMENTS AT ARTESIA BLVD. PLANS, SPECIFICATIONS, ESTIMATES, OBTAINING RIGHT OF WAY, AND CONSTRUCTION OF A RIGHT TURN ONLY LANE ON NORTHBOUND AVIATION BLVD AT ARTESIA BLVD. PROJECT NO. MR312.20. FA NO. MOUMR312.20.	\$847
LOS ANGELES	LOCAL HIGHWAY	LA 06997	0	N18 - INTERSECTION IMPROVEMENTS ON INGLEWOOD AVE AT MANHATTAN BEACH BLVD. FEASIBILITY ANALYSIS, PLANS, SPECIFICATIONS, ESTIMATES, OBTAINING RIGHT OF WAY, AND CONSTRUCTION OF A RIGHT TURN ONLY LANE ON SOUTHBOUND INGLEWOOD AVE AT MANHATTAN BEACH BLVD.	\$5,175
LOS ANGELES	LOCAL HIGHWAY	LAF3502	0	REDONDO BEACH BICYCLE TRANSPORTATION PLAN IMPLEMENTATION. IMPLEMENT CLASS II AND III BIKE FACILITIES IDENTIFIED IN THE CITY OF REDONDO BEACH'S ADOPTED BICYCLE TRANSPORTATION PLAN. APPROXIMATELY 2.1 CENTERLINE MILES OF BIKE LANES AND 15.8 CENTERLINE MILES OF BIKE ROUTES THROUGHOUT THE CITY OF REDONDO BEACH.	\$19,499
LOS ANGELES	LOCAL HIGHWAY	LAF5301	0	GRANT AVENUE SIGNAL IMPROVEMENTS. THIS PROJECT IS LOCATED IN REDONDO BEACH IN THE SOUTH BAY SUBREGION ON GRANT AVENUE BETWEEN INGLEWOOD AV AND AVIATION BL. THE PROJECT WILL UPGRADE SIX EXISTING TRAFFIC SIGNALS. THE PROJECT INVOLVES SYNCHRONIZATION, BIKE DETECTION, SIGNAL REPLACEMENT, VIDEO DETECTION, ADAPTIVE SIGNAL COORDINATION, WIRELESS CONNECTION AND INTEGRATION INTO THE REDONDO BEACH TRAFFIC MANAGEMENT CENTER (TMC).	\$1,535

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA05129	0	VALLEY BLVD CAPACITY ENHANCEMENT PROJECT. PROJECT WILL IMPROVE A 1.7-MILE SECTION OF VALLEY BL FROM TEMPLE CITY BL TO CHARLOTTE AV BY WIDENING AND RECONFIGURING TO ACCOMMODATE AN ADD'L PEAK-PERIOD TRAVEL LANE IN EACH DIR, RELOCATE TRAFFIC SIGNALS AND PED LIGHTS, ADD RAISED CENTER-MEDIAN WITH PED LIGHTING, LANDSCAPING, SIDEWALK IMPROVEMENTS, A CLASS III BIKE LANE (17 MILES) AND WAYFINDING SIGNAGE.	\$1,420
LOS ANGELES	LOCAL HIGHWAY	LA07523	0	ROSEMEAD/SOUTH EL MONTE REGIONAL BICYCLE CONNECTOR PROJECT: (1) INSTALLS 7.8-MILE BIDIRECTIONAL CLASS 2 BIKE LANES ON GARVEY AV, ON WALNUT GROVE ST, AND ON RUSH ST. (2) INSTALLS BIKE PARKING AT THE ROSEMEAD CIVIC CENTER AND WAYFINDING SIGNAGE AT KEY DECISION POINTS.	\$1,320
LOS ANGELES	LOCAL HIGHWAY	LA03307	0	INTERSECTION IMPROVEMENTS ON BONITA AVE. AT CATARACT AVE. INSTALLATION OF NEW TRAFFIC SIGNAL, LIGHTING ON BONITA AVE AT CATARACT AVE AND THE SYNCHRONIZATION OF EXISTING SIGNALS ALONG BONITA AVE BETWEEN EUCLA AVE AND EASTERLY CITY LIMIT. NEW TRAFFIC SIGNAL ON BONITA AVENUE AT CATARACT AVENUE, AND SYNCHRONIZATION OF THE EXISTING SIGNALS ON BONITA AVENUE AT EUCLA AVENUE, SAN DIMAS AVENUE, IGLESIA STREET, WALNUT AVENUE, SAN DIMAS CANYON ROAD WITH THE NEW SIGNAL (5 CONSECUTIVE SIGNALS).	\$1,674
LOS ANGELES	LOCAL HIGHWAY	LA061012	0	CITYWIDE BIKE-WAY AND BICYCLE PARKING PROJECT: ESTABLISH CLASS II AND III BIKE LANES (TOTAL OF 15 MILES), INSTALL SIGNAGE, BICYCLE DETECTION LOOPS, AND BIKE RACKS.	\$182
LOS ANGELES	LOCAL HIGHWAY	LA02389	0	LAS TUNAS DRIVE STREETScape/PEDESTRIAN ENHANCEMENTS. CONSTRUCT LANDSCAPED MEDIANS, STREET FURNITURE, ENHANCED CROSSWALKS, AND RECONSTRUCT ADA CURB RAMPS.	\$1,184
LOS ANGELES	LOCAL HIGHWAY	LA01100	0	SAN GABRIEL BLVD. INTERSECTION IMPROVEMENTS AT BROADWAY AND LAS TUNAS. MODIFY & UPGRADE TRAFFIC SIGNALS FOR IMPROVED EFFICIENCY AND INSTALL ADA COMPLIANT RAMPS AS NEEDED. PROJECT WILL USE \$26 IN TOLL CREDITS FOR CON IN FY 14/15. TOLL CREDITS OF \$26 WILL BE USED TO MATCH FY 15 FEDERAL FUNDS FOR THE CON PHASE.	\$130
LOS ANGELES	LOCAL HIGHWAY	LA090359	0	GRADE SEP XINGS SAFETY IMPR: 35-MI FREIGHT RAIL CORR. THRGH SAN GAB. VALLEY - EAST, L.A. TO POMONA ALONG UPRR ALHAMBRA & L.A. SUBDIV - ITS 2318 SAFETEA #2178; 1436 #1934. PPNO 2318. NOGALES (LA) PROJECT INCLUDES WIDENING FROM 2 TRAVEL LANES TO 4 TRAVEL LANES OF E WALNUT DRIVE NO. EAST OF NOGALES FOR 2600 LINEAR FEET AND WIDENING FROM 2 TRAVEL LANES TO 4 TRAVEL LANES OF GALE AVE. WEST OF NOGALES FOR 1900 LINEAR FEET.	\$1,319,423
LOS ANGELES	LOCAL HIGHWAY	LA07119	0	HUNTINGTON DRIVE MULTIMODAL CAPACITY ENHANCEMENTS: (1) CONSTRUCT A SECOND LEFT-TURN LANE AT THE 2 INTERSECTIONS AT SAN MARINO AV AND AT SAN GABRIEL BL (EASTBOUND ON HUNTINGTON DR AND NORTHBOUND ON SAN MARINO AV AND SAN GABRIEL BL) TO INCREASE CAPACITY AND TRAFFIC FLOW. (2) MODIFIES SIGNAL TIMING TO SHORTEN THE LEFT-TURN MOVEMENT ON HUNTINGTON DR. (3) EXTENDS SIDEWALKS AND ENHANCE PEDESTRIAN FACILITIES.	\$1,445
LOS ANGELES	LOCAL HIGHWAY	LA08104	0	GOLDEN VALLEY ROAD - NEW HALL RANCH ROAD TO PLUM CANYON ROAD. 0 TO 4 LANES APPROXIMATELY 1.5 MILES.	\$11,000
LOS ANGELES	LOCAL HIGHWAY	LA00473	0	DOCKWEILER DR EXTENSION FROM LYONS AV TO EXISTING DOCKWEILER DR. CONSTRUCT A 4-LANE FACILITY (2 LANES IN EACH DIRECTION), OUTSIDE CURB & GUTTER, AND DRAINAGE IMPROVEMENTS (ABOUT 1.5 MILE)	\$11,126
LOS ANGELES	LOCAL HIGHWAY	LA00476	0	VIA PRINCESSA EXTENSION FROM MAGIC MOUNTAIN PKWY TO GOLDEN VALLEY RD. CONSTRUCT APPROXMTLY A 1-MILE FACILITY (3 LANES IN EACH DIRECTION), OUTSIDE CURB & GUTTER, & DRAINAGE IMPRVMT	\$22,602
LOS ANGELES	LOCAL HIGHWAY	LA00477	0	GOLDEN VALLEY ROAD WIDENING/GAP CLOSURE OVER STATE ROUTE 14 - CROSS VALLEY CONNECTOR. WIDEN TWO-LANE SR-14 OVERPASS TO SIX LANES. SR-14 SOUTHBOUND OFF-RAMP WILL BE WIDENED, TRAFFIC SIGNALS WILL BE INSTALLED AT SR-14 AND GOLDEN VALLEY ROAD, NEW 10-FOOT SIDEWALK AND CLASS I BIKE LANE WILL BE BUILT ON BOTH SIDES OF OVERPASS, PEDESTRIAN SIGNAL HEADS INSTALLED AND WAYFINDING SIGNS FOR PEDESTRIANS AND BICYCLISTS. (PED < 1/4 MILE & BIKE < 1 MILE)	\$8,705
LOS ANGELES	LOCAL HIGHWAY	LA06740	0	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE LYONS AVENUE FROM WILEY CANYON ROAD TO RAILROAD AVENUE TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 1.7 MILES	\$2,320
LOS ANGELES	LOCAL HIGHWAY	LA06741	0	RESTRIPE WILEY CANYON ROAD FROM LYONS AVENUE TO RAILROAD AVENUE FROM 4 TO 6 LANES; APPROXIMATELY 1.7 MILES	\$1,500
LOS ANGELES	LOCAL HIGHWAY	LA06742	0	RESTRIPE ORCHARD VILLAGE ROAD FROM MCBEAN PARKWAY TO LYONS AVENUE FROM 4 TO 6 LANES; APPROXIMATELY 1.3 MILES	\$1,870
LOS ANGELES	LOCAL HIGHWAY	LA06743	0	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE NEW HALL AVENUE FROM RAILROAD AVENUE TO CARL COURT TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 0.4 MILES	\$1,720
LOS ANGELES	LOCAL HIGHWAY	LA06744	0	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE RAILROAD AVENUE FROM NEW HALL AVENUE TO BOUQUET CANYON ROAD TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 3 MILES	\$2,320

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA06745	0	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE BOUQUET CANYON ROAD FROM SECO CANYON ROAD TO PLUM CANYON ROAD TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 2.2 MILES	\$930
LOS ANGELES	LOCAL HIGHWAY	LA06746	0	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE PLUM CANYON ROAD FROM BOUQUET CANYON ROAD TO CITY LIMIT TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 0.5 MILES	\$585
LOS ANGELES	LOCAL HIGHWAY	LA06747	0	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE WHITES CANYON ROAD FROM SOLEDAD CANYON ROAD TO CITY LIMIT TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 2 MILES	\$930
LOS ANGELES	LOCAL HIGHWAY	LA06748	0	WIDEN AND RESTRIPE GOLDEN VALLEY ROAD FROM SOLEDAD CANYON ROAD TO SIERRA HIGHWAY FROM 4 TO 6 LANES; APPROXIMATELY 2.5 MILES, AND INSTALL TRAFFIC SIGNAL.	\$7,710
LOS ANGELES	LOCAL HIGHWAY	LA06750	0	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE MAGIC MOUNTAIN PARKWAY FROM AUTO CENTER DRIVE TO RAILROAD AVENUE TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 1 MILE	\$1,410
LOS ANGELES	LOCAL HIGHWAY	LA06751	0	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE SIERRA HIGHWAY FROM VIA PRINCESSA TO CITY LIMIT TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 5.5 MILES	\$3,750
LOS ANGELES	LOCAL HIGHWAY	LA06752	0	WIDEN AND RESTRIPE SIERRA HIGHWAY FROM SOLEDAD CANYON ROAD TO CITY LIMIT FROM 4 TO 6 LANES TO ACCOMMODATE A CHANGE FROM APPROXIMATELY 2 MILES	\$5,775
LOS ANGELES	LOCAL HIGHWAY	LA06754	0	VISTA CANYON ROAD BRIDGE OVER THE SANTA CLARA RIVER AND ROADWAY FROM VISTA CANYON COMMUNITY (JAKES WAY/LOST CANYON) TO SOLEDAD CANYON ROAD. INCLUDES 750-FOOT LONG BRIDGE, 1 LANE IN EACH DIRECTION, CLASS I BIKE LANE. (BIKE LANE LESS THAN 1 MILE)	\$20,800
LOS ANGELES	LOCAL HIGHWAY	LA960170	0	MAGIC MOUNTAIN PARKWAY EXTENSION FROM THE INTERSECTION OF BOUQUET CANYON/RAILROAD AVENUE TO VIA PRINCESSA. CONSTRUCT A NEW ROAD AND BRIDGE WITH 3 LANES IN EACH DIRECTION	\$19,478
LOS ANGELES	LOCAL HIGHWAY	LA9708004	0	SANTA CLARITA PARKWAY FROM BOUQUET CYN RD/SOLEDAD CYN INSTALL NEW ROADWAY (0 TO 4 LANES) (2.5 MILE)	\$17,550
LOS ANGELES	LOCAL HIGHWAY	LA9910013	0	VIA PRINCESSA EXTENSION FROM GOLDEN VALLEY ROAD TO APPROXIMATELY 350M WEST OF RAINBOW GLEN DRIVE, EAST OF ISABELLA PKWY	\$46,935
LOS ANGELES	LOCAL HIGHWAY	LA9910014	0	VIA PRINCESSA FROM OAKRIDGE DRIVE TO MAGIC MTN PRKWAY. FROM 0 - 6 LANES; LESS THAN ONE MILE.	\$11,650
LOS ANGELES	LOCAL HIGHWAY	LA9910016	0	SANTA CLARITA PKWY FROM SOLEDAD CYN RD TO VIA PRINCESSA (1.6 MILES); FROM 0 TO 6 LANES.	\$4,000
LOS ANGELES	LOCAL HIGHWAY	LA9910017	0	SANTA CLARITA PKWY FROM VIA PRINCESSA TO STATE HWY 14 (1 MILE) FROM 0 TO 6 LANES.	\$3,100
LOS ANGELES	LOCAL HIGHWAY	LAF3105	0	MCBEAN PARKWAY WIDENING/GAP CLOSURE OVER SANTA CLARA RIVER. WIDEN MCBEAN PARKWAY BRIDGE TO 8 LANES AND CONSTRUCT CLASS I BIKE PATH BETWEEN MCBEAN PARKWAY AND SANTA CLARA RIVER TRAIL.(DISTANCE .25 MI)	\$6,864
LOS ANGELES	LOCAL HIGHWAY	LAF3300	0	ITS PHASE IV INTERCONNECT GAP CLOSURE AND SIGNAL SYNC. THIS PROJECT INVOLVES RE-SYNCHRONIZING TRAFFIC SIGNALS ON ARTERIALS, DEPLOYING AN ADAPTIVE SIGNAL SYSTEM, AND A REDUNDANT FIBER-OPTIC INTERCONNECT SYSTEM. (APPROX. 40+ SIGNALS)	\$3,902
LOS ANGELES	LOCAL HIGHWAY	LAF3535	0	CITYWIDE WAYFINDING PROGRAM FOR PEDESTRIANS AND BICYCLISTS. DIRECT USERS TO METROLINK STATIONS AND OTHER REGIONAL TRIP GENERATORS, DESIGN AND INSTALL WAYFINDING SIGNS ALONG THE CITY'S EXISTING NETWORK OF MULTI-USE PATHS, ON-STREET BIKEWAYS, PASEOS IN THE VALENCIA AND SAUGUS NEIGHBORHOODS, AND SIDEWALKS ALONG MOST MAJOR ROADWAYS.	\$271
LOS ANGELES	LOCAL HIGHWAY	LAF3800	0	NEWHALL GATEWAY ROUNDABOUT; CONSTRUCT A ROUNDABOUT AND INSTALL LANDSCAPING AND ENTRY MONUMENT AT THE INTERSECTION OF MAIN STREET AND NEWHALL AVENUE.	\$1003
LOS ANGELES	LOCAL HIGHWAY	LAF5303	0	DEPLOYS AN ADAPTIVE TRAFFIC SIGNAL SYSTEM ON 12 CORRIDORS WITH 101 TRAFFIC SIGNALS: MCBEAN PKWY, MAGIC MOUNTAIN PKWY, WILEY CANYON RD, ORCHARD VILLAGE RD, LYONS AV, RAILROAD AV, NEWHALL AV, BOUQUET CANYON RD, GOLDEN VALLEY RD, NEWHALL RANCH RD, SIERRA HWY, AND VIA PRINCESSA.	\$2,238
LOS ANGELES	LOCAL HIGHWAY	LAF7105	0	LYONS AV/DOCKWEILER DR EXTENSION: (1) EXTENDS THE TWO LANES IN EACH DIRECTION ON LYONS AV FROM RAILROAD AV. EAST FOR A DISTANCE OF APPROX 500 FT TO CONNECT WITH A FUTURE EXTENSION PLANNED FOR DOCKWEILER DR. (2) CONSTRUCTS 8-FT SIDEWALKS AND CLASS II BIKE LANES ON BOTH SIDES. (3) INCLUDES PED/BIKE FACILITIES AND LANDSCAPING.	\$9,332
LOS ANGELES	LOCAL HIGHWAY	LAF7301	0	INTELLIGENT TRANSPORTATION SYSTEMS (ITS) PHASE VI: (1) COORDINATES SIGNAL TIMING ALONG 19 CORRIDORS TO ENHANCE THE ADAPTIVE SYSTEMS PERFORMANCE. (2) INSTALLS ADDITIONAL SYSTEM DETECTION AT STRATEGIC LOCATIONS. (3) COMPLETES THE CITY'S FIBER OPTIC INTERCONNECTION SYSTEM ALONG AVENUE SCOTT, AVENUE STANFORD, AND COPPERHILL DR TO COMMUNICATE WITH CITY'S EMERGENCY OPERATIONS CENTER - PE ONLY	\$2,429

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0C8092	0	VALLEYVIEW AVE GRADE SPARATN AT BNSF RAILWAY SOUTH OF STAGE RD. CONSTRUCT A GRADE SPARATN FOR VALLEYVIEW AVE FROM EXSTNG BNSF TRACKS BY CONSTRUCTNG A HWY UNDERPASS PPNO 3117 (3022)..	\$75,177
LOS ANGELES	LOCAL HIGHWAY	LA0G1055	0	CONSTRUCT EASTERN MICHIGAN AVE NEIGHBORHOOD GREENWAY IN VICINITY OF EDISON LANGUAGE ACADEMY - CROSSWALK STRIPING AT CRITICAL INTERSECTIONS, CURB EXTENSIONS AND DUAL CURB RAMPS, AND WAYFINDING AND SHARED LANE MARKINGS. EDUCATE STUDENTS AND PARENTS. CREATE DROP-OFF AND PICK-UP PLAN.	\$411
LOS ANGELES	LOCAL HIGHWAY	LA0G1142	0	4TH ST BIKE/PED UPGRADES PROJECT WILL WIDEN THE EAST SIDEWALK OF 4TH ST. UP TO 8 FT BETWEEN BROADWAY AND COLORADO (0.15 MILE). THE PROJECT WILL ALSO ADD CLASS III BIKE LANES ON 4TH ST., BETWEEN BROADWAY AND OLYMPIC DR. INCLUDING BIKE SHARROW STRIPING ON THE 4TH ST. BRIDGE OVER THE I-10 FREEWAY (0.4 MILE).	\$750
LOS ANGELES	LOCAL HIGHWAY	LA990352	0	PALISADES BLUFF STABILIZATION CALIFORNIA INCLINE ADJACENT (TEA21-#453).. TOLL CREDITS OF \$897 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$7,776
LOS ANGELES	LOCAL HIGHWAY	LAF1532	0	SCHOOL-BASED BICYCLE TRAINING, SANTA MONICA. PROVIDE TRAINING FOR STUDENTS AT 2 MIDDLE SCHOOLS ON HOW TO SAFELY RIDE BICYCLE ON CITY STREETS TO ACCESS SCHOOL.	\$130
LOS ANGELES	LOCAL HIGHWAY	LAF1728	0	CITY OF SANTA MONICA ITS IMPROVEMENTS. SANTA MONICA REAL TIME BEACH PARKING SIGNS. THIS PROJECT WILL MAKE INFORMATION REGARDING BEACH PARKING AVAILABLE TO MOTORISTS DESTINED FOR SANTA MONICA BEACH PARKING LOTS. TOLL CREDIT BEING USED IN FY13/14 FOR \$57 IN CONS.....	\$1,619
LOS ANGELES	LOCAL HIGHWAY	LAF3505	0	BIKE NETWORK LINKAGES TO EXPOSITION LIGHT RAIL PROJECT. BIKE NETWORK ENHANCEMENTS TO SUPPORT EXPOSITION LINE. INCREASED SAFETY AND CONVENIENCE WITH SIGNAL DETECTION, HIGHLY VISIBLE LANE MARKINGS AND NEW BIKE RACKS. THE PROJECT AREA IS LOCATED THROUGHOUT THE CITY OF SANTA MONICA AND NO MORE THAN TWO MILES FROM THE PROPOSED EXPOSITION LIGHT RAIL LINE STATIONS.	\$3,429
LOS ANGELES	LOCAL HIGHWAY	LAF3703	0	A 'NO NET NEW TRIPS' RIDESHARE TOOLKIT. DEVELOP A TDM TOOLKIT WITH ONLINE MULTI-MODAL MOBILITY INFORMATION, BIKE ACCOMMODATIONS, 300 WALKING-ROLLING CARTS, 75 BIKE LOCKERS & INCENTIVE PROGRAMS FOR EMPLOYERS, SCHOOLS & NEIGHBORHOODS. WITHIN THE CITY OF SANTA MONICA IN DEMAND MANAGEMENT AREAS AS DEFINED IN THE LAND USE AND CIRCULATION ELEMENT (LUCE) ADOPTED JULY 2010.	\$849
LOS ANGELES	LOCAL HIGHWAY	LAF5524	0	IMPLEMENTATION OF A SANTA MONICA BIKE-SHARE PROGRAM, INCLUDING THE PURCHASE AND INSTALLATION OF 250 BIKES AND 25 DOCKING STATIONS TO BE LOCATED AT ACTIVITY NODES AND TRANSIT STATIONS (INCLUDING EXPO/LRT STATIONS). TWO VEHICLES WILL BE ACQUIRED AND OUTFITTED TO TRANSPORT AND REDISTRIBUTE BICYCLES BETWEEN STATIONS AS NEEDED. THE BIKE-SHARE DOCKING STATIONS WILL BE SOLAR POWERED WHERE APPROPRIATE AND INCLUDE A TECHNOLOGY PLATFORM FOR SYSTEM OPERATION THROUGH THE WEB AND SMART PHONE APPLICATIONS.	\$2,493
LOS ANGELES	LOCAL HIGHWAY	LAF5812	0	EXPO/LRT COLORADO AVENUE TRANSIT VILLAGE ENHANCEMENTS. THIS PROJECT IS LOCATED IN SANTA MONICA ALONG COLORADO AVENUE BETWEEN 4TH ST AND 19TH ST. IT WILL INSTALL PARTIAL PARKWAYS ON THE NORTH SIDE TO MATCH THE SOUTH SIDE, SIX ARTISTIC DESIGN FENCES AT T-JUNCTIONS, AND A TRACKWAY VISIBILITY TREATMENT ALONG THE CORRIDOR. FUNDS ARE REQUESTED FOR CONSTRUCTION AND INSTALLATION COSTS. THE ORIGINAL SCOPE OF THIS PROJECT WAS REDUCED BY ELIMINATING 50% OF PARKWAYS.	\$1,236
LOS ANGELES	LOCAL HIGHWAY	LAF17320	0	SANTA MONICA - SANTA MONICA SIGNAL SYNC IMPROVEMENTS : (1) ENHANCES EXISTING TRAFFIC MANAGEMENT SYSTEM WITH INSTALLATION OF UP TO SIXTY (60) VIDEO DETECTION CAMERAS (2-4 CAMERAS AT INTERSECTION) AT TWENTY ONE (21) CRITICAL INTERSECTIONS ALONG WILSHIRE BL, PICO BL, OCEAN AV, SANTA MONICA BL, MAIN ST, OCEAN PARK BL, MONTANA AV, AND 14TH ST. (2) THE PROJECT WILL ALSO INCLUDE SIGNAGE AND STRIPING TO MINIMIZE TURN MOVEMENT CONFLICTS BETWEEN MIXED FLOW AND BICYCLE LANES.	\$676
LOS ANGELES	LOCAL HIGHWAY	LAF7704	0	MULTI-MODAL WAYFINDING, CONGESTION REDUCTION/STATION ACCESS, IMPROVES VEHICLE, PEDESTRIAN, AND BICYCLE CIRCULATION BY PROVIDING 306 WAYFINDING SIGNS, 6 TRANSIT MAP CASES, AND 12 ELECTRONIC PARKING GUIDANCE SIGNS. IT WILL SERVE THE SURROUNDING AREA OF THE METRO EXPO LINE STATIONS, DOWNTOWN, AND CIVIC CENTER.	\$1,612
LOS ANGELES	LOCAL HIGHWAY	LA0C8095	0	CHERRY AVE. WIDENING PROJECT. BET 19TH ST AND PACIFIC COAST HIGHWAY BY WIDENING THE ARTERIAL FROM ONE TO TWO LANES IN EACH DIRECTION. (PPNO 3128). SAFETEA-LU #3203	\$6,721
LOS ANGELES	LOCAL HIGHWAY	LAF1178	0	FIRESTONE BLVD IS EXISTING 2 LANES IN EACH DIRECTION. AFTER THE PROJECT WILL BE 3 LANES IN EACH DIRECTION. THE LENGTH OF THE PROJECT IS .75 MILES. PRIMARILY IT WILL WIDEN FIRESTONE BLVD AND ATLANTIC AVENUE AND REALIGN THEIR INTERSECTION. IT WILL ALSO ADD 3RD NORTHBOUND THROUGH LANE ON ATLANTIC AVENUE FROM FIRESTONE BOULEVARD TO APPROXIMATELY 200' NORTH OF SALT LAKE AVENUE/PATATA STREET, AND COMPLETE ADJACENT IMPROVEMENTS AT RAILROAD CROSSINGS AT FIRESTONE BLVD AND ATLANTIC AVENUE.	\$33,389
LOS ANGELES	LOCAL HIGHWAY	LAF3124	0	FIRESTONE BOULEVARD CAPACITY IMPROVEMENTS, INCREASE THE NUMBER OF LANES FROM 4 TO 6 ON FIRESTONE BLVD WITHIN THE ROW, RAISED LS MEDIANS, SIDEWALKS, BUS SHELTERS & PULLOUTS, C&G, STREET LIGHTING, & UTILITY RELOCATION..	\$14,721

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF7309	0	TWEEDY BOULEVARD SIGNAL SYNCHRONIZATION PROJECT: (1) INTERCONNECTS 18 TRAFFIC SIGNALS USING FIBER OPTIC CABLE AND WIRELESS COMMUNICATIONS (2) SYNCHRONIZES SIGNAL TIMING TO IMPROVE TRAFFIC FLOW, AND REDUCES DELAYS ALONG THE 2.7-MILE ARTERIAL. (3) INSTALL A CLOSED CIRCUIT TELEVISION CAMERA (CCTV) AT THE INTERSECTION OF LONG BEACH BL TO SUPPORT THE ADVANCE TRANSPORTATION MANAGEMENT SYSTEMS (ATMS).	\$1,646
LOS ANGELES	LOCAL HIGHWAY	LA06101	0	PEDESTRIAN ENHANCEMENTS ON MISSION ST INCLUDING REPLACEMENT SIDEWALKS AND REPAIR, SIGNAGE, STREET FURNITURE, LIGHTING, IRRIGATION, TREES AND MORE.	\$75
LOS ANGELES	LOCAL HIGHWAY	LA06489	0	PASADENA AVE / MONTEREY RD PARTIAL GRADE SEPERATION - PRELIMINARY ENGINEERING - FEASABILITY, SAFTEA-LU DEMO # 489.	\$288
LOS ANGELES	LOCAL HIGHWAY	LAF5308	0	SOUTH PASADENA'S ATMS, CENTRAL TCS AND FOIC FOR FAIR OAKS AV. THIS PROJECT IS LOCATED IN SOUTH PASADENA ON FAIR OAKS AV BETWEEN COLUMBIA ST AND HUNTINGTON DR. IT WILL ESTABLISH A FIBER-OPTIC BACKBONE COMMUNICATION SYSTEM CONNECTION BETWEEN 12 SIGNALS ON FAIR OAKS AV AND CITY HALL AND INSTALL THE ATMS/CENTRAL MANAGEMENT/CONTROL SYSTEM AT ITS CITY HALL BUILDING. FUNDS ARE FOR DESIGN AND CONSTRUCTION COSTS.	\$580
LOS ANGELES	LOCAL HIGHWAY	LA0B422	0	FAIR OAKS AV & SR-10 IMPROVEMENT PROJECT (ROGAN FUNDS, HRS394) EXPAND EXIT OFF-RAMP OF 110 NB, ADD A HOOK RAMP FOR EXISTING ON-RAMP 110 SB.	\$9,418
LOS ANGELES	LOCAL HIGHWAY	LA061002	0	IMPLEMENTATION OF VARIOUS ITS COMPONENTS AT LOCATIONS NOT COVERED BY PREVIOUS 1995 METRO CFP UNDER SOUTH BAY SIGNAL SYNCHRONIZATION. THIS PROJECT WILL UPGRADE SIGNALS AND ITS COMPONENTS ALONG MAJOR ARTERIALS WITHIN THE CITY, CCTV MODULE AND CCTV CAMERAS, VIDEO DETECTION AND CONTROLLER UPGRADES AT VARIOUS LOCATIONS	\$1,364
LOS ANGELES	LOCAL HIGHWAY	LA061010	0	ADDITION OF DEDICATED RIGHT-TURN LANE FOR SOUTHBOUND CRENSHAW BOULEVARD AT DEL AMO BOULEVARD, 208TH STREET AND PROPOSED TRANSIT CENTER ENTRANCE WILL INCREASE INTERSECTION OPERATIONAL AND STORAGE CAPACITIES; EXTENSION OF 208TH STREET APPROXIMATELY 350 FEET WEST OF CRENSHAW BOULEVARD TO MIRROR THE EXISTING 208TH STREET ROADWAY EAST OF CRENSHAW BOULEVARD.	\$3,291
LOS ANGELES	LOCAL HIGHWAY	LA06724	0	INTERSECTION IMPROVEMENTS TO ADD NORTHBOUND, EASTBOUND AND WESTBOUND DEDICATED RIGHT TURN LANES; ADD SECOND EASTBOUND LEFT-TURN LANE; AND TRAFFIC SIGNAL UPGRADES THROUGH WIDENING AND RE-CHANNELIZATION.	\$19,600
LOS ANGELES	LOCAL HIGHWAY	LAF3312	0	CITY OF TORRANCE ITS & TRAFFIC IMPROVEMENTS. IMPLEMENT ITS COMPONENTS AT LOCATIONS NOT COVERED BY '95 METRO CFP SOUTH BAY SIGNAL SYNCH PROJECT, TO PROVIDE EFFECTIVE CITY WIDE AND MULTI-JURISDICTIONAL TRAFFIC MANAGEMENT: *CRENSHAW BLVD BETWEEN PCH AND THE MOST SOUTH CITY CONTROLLED SIGNALIZED INTERSECTION (APPROX 3 SIGNALS)	\$1,364
LOS ANGELES	LOCAL HIGHWAY	LAF3624	0	DOWNTOWN TORRANCE PEDESTRIAN IMPROVEMENT PROJECT TO INCREASE CONNECTIVITY, IMPROVE PEDESTRIAN SAFETY, AND REDUCE AUTOMOBILE DEPENDENCY. SCOPE INCLUDES CHOKERS/BULB-OUTS, LANDSCAPING, PAVERS AND/OR STAMPED PAVEMENT CROSSINGS, THE STREETS BORDERING THE PROJECT AREA SERVE THREE DIFFERENT TORRANCE TRANSIT BUS ROUTES (LINES 1, 3, AND 5). THESE ROUTES INTERSECT AT THREE POINTS IN THE DOWNTOWN AREA, MAKING THIS A PRIME LOCATION TO IMPROVE THE CONNECTIONS TO THE SOUTH BAY AND DOWNTOWN LOS ANGELES.	\$118
LOS ANGELES	LOCAL HIGHWAY	LA061133	0	CONSTRUCT A BRIDGE (LA CRETZ CROSSING) OVER THE LA RIVER IN THE NORTH AT WATER VILLAGE AREA. LA CRETZ CROSSING IS A NON-MOTORIZED MULTIMODAL BRIDGE PROJECT PROVIDING SAFE, YEAR-ROUND ACCESS FROM THE NORTH AT WATER COMMUNITY TO PEDESTRIAN HIKING AND EQUESTRIAN BRIDLE PATHS IN GRIFFITH PARK AND LA RIVER BIKE PATH. THE BRIDGE IS A CLASS 1 BIKEWAY AND THE TOTAL LENGTH OF THE BRIDGE IS 390 FEET.	\$9,038
LOS ANGELES	LOCAL HIGHWAY	LA1161	0	GROUP PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION ON LOCAL ROADS THROUGHOUT COUNTY. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127, 128, EXEMPT TABLES 2 & 3 CATEGORIES. PAVEMENT RESURFACING, REHABILITATION, RECONSTRUCTION, AC OVERLAYS, ROAD MAINTENANCE TO PREVENT AND ELIMINATE HAZARDS; NO LANE ADDITIONS. THERE ARE PROJECTS IN THE GROUPED PROJECT LISTING THAT CONTAIN PROJECTS WITH TOLL CREDITS.	\$408,140
LOS ANGELES	LOCAL HIGHWAY	LA1162	0	GROUP PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127, 128, EXEMPT TABLES 2 & 3 CATEGORIES. PROJECTS TO UPGRADE, CREATE, MAINTAIN, ENHANCE, OR ELIMINATE HAZARDS FOR PEDESTRIANS AND CYCLIST FACILITIES THROUGHOUT COUNTY.	\$149,035
LOS ANGELES	LOCAL HIGHWAY	LA1162N	0	GROUP PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127, 128, EXEMPT TABLES 2 & 3 CATEGORIES. PROJECTS TO UPGRADE, CREATE, MAINTAIN, ENHANCE, OR ELIMINATE HAZARDS FOR PEDESTRIANS AND CYCLIST FACILITIES THROUGHOUT COUNTY, NON REPORTABLE TCMS, PROJECT SPLIT FROM LA1162, BICYCLE TYPE PROJECTS DO NOT EXCEED 1 MILE AND PED PROJECTS DO NOT EXCEED 1/4 MILE.	\$24,660

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA1163	0	GROUP PROJECTS FOR SAFETY AND OPERATING IMPROVEMENTS ON THE LOCAL HIGHWAY SYSTEM THROUGHOUT THE COUNTY. PROJECTS ARE CONSISTENT WITH 40CFR PART 93.126,127,128, EXEMPT TABLES 2 & 3 CATEGORIES. RAILROAD/HIGHWAY CROSSING, SAFER FEDERAL-AID SYSTEM ROADS, SHOULDER IMPROVEMENTS, PROJECTS THAT CORRECT, IMPROVE, OR ELIMINATE A HAZARDOUS LOCATION OR FEATURE, TRAFFIC CONTROL DEVICES AND OPERATING ASSISTANCE, SIGNALIZATION PROJECTS (INDIVIDUAL INTERSECTIONS), PAVEMENT MARKING DEMONSTRATION PROJECTS, TRUCK CLIMBING LA GROUP PROJECTS FOR PLANTING, LANDSCAPING, TRANSPORTATION SYSTEM BETTERMENTS, BEAUTIFICATION AND SCENIC EASEMENTS THROUGHOUT THE COUNTY (NO LANE ADDITIONS). PROJECTS ARE CONSISTENT WITH 40CFR PART 93.126,127,128, EXEMPT TABLES 2 & 3 CATEGORIES.	\$206,485
LOS ANGELES	LOCAL HIGHWAY	LA1164	0	GROUP PROJECTS FOR PLANTING, LANDSCAPING, TRANSPORTATION SYSTEM BETTERMENTS, BEAUTIFICATION AND SCENIC EASEMENTS THROUGHOUT THE COUNTY (NO LANE ADDITIONS). PROJECTS ARE CONSISTENT WITH 40CFR PART 93.126,127,128, EXEMPT TABLES 2 & 3 CATEGORIES.	\$78,774
LOS ANGELES	LOCAL HIGHWAY	LA1165	0	GROUP PROJECTS FOR DIRECTIONAL AND INFORMATIONAL SIGNAGE ON LOCAL ROADS THROUGHOUT THE COUNTY. PROJECTS ARE CONSISTENT WITH 40CFR PART 93.126,127,128, EXEMPT TABLES 2 & 3 CATEGORIES. DIRECTIONAL AND INFORMATIONAL SIGNS, SIGN REMOVALS, AND/OR SYSTEMS TO IMPROVE OR UPGRADE SIGNAGE MECHANISMS.	\$126,998
LOS ANGELES	LOCAL HIGHWAY	LA1165N	0	GROUP PROJECTS FOR DIRECTIONAL AND INFORMATIONAL SIGNAGE ON LOCAL ROADS THROUGHOUT THE COUNTY. PROJECTS ARE CONSISTENT WITH 40CFR PART 93.126,127,128, EXEMPT TABLES 2 & 3 CATEGORIES. DIRECTIONAL AND INFORMATIONAL SIGNS, SIGN REMOVALS, AND/OR SYSTEMS TO IMPROVE OR UPGRADE SIGNAGE MECHANISMS, NON REPORTABLE TCMS, PROJECT SPLIT FROM LA1165.	\$16,108
LOS ANGELES	LOCAL HIGHWAY	LA00279	0	ATLANTIC BLVD. BRIDGE OVER THE LA RIVER 5/8 MILE N SLAUSON AVE. WIDEN 6 LANE BRIDGE TO ADD RIGHT TURN LANE (BRIDGE #53C0252)	\$20,838
LOS ANGELES	LOCAL HIGHWAY	LA E1610	0	RECONSTRUCT WHITTIER BLVD AND IMPROVE PARKWAY DRAINAGE FROM PHILADELPHIA STREET TO FIVE POINTS (WASHINGTON BOULEVARD) IN WHITTIER	\$1,530
LOS ANGELES	LOCAL HIGHWAY	LA0F073	0	PROJECTS WITHIN AND NEAR LOS ANGELES INTERNATIONAL AIRPORT TO ELIMINATE TRAFFIC BOTTLENECKS. (LOS ANGELES WORLD AIRPORTS) SEC. 336 FUNDING	\$5,067
LOS ANGELES	LOCAL HIGHWAY	LA06994	0	HATHORNE BLVD. CORRIDOR IMPROVEMENT PROJECT: THIS PROJECT WILL INSTALL NB RIGHT TURN LANES ON HAWTHORNE BLVD AT THE INTERSECTIONS OF LOMITA BLVD., AND 182ND STREET. IN ADDITION IT WILL ADD WB RIGHT TURN LANE ON HAWTHORNE BLVD AT THE INTERSECTION OF EMERALD ST. AND SPENCER ST.	\$3,479
LOS ANGELES	LOCAL HIGHWAY	LA06830	0	I-710 IMPROVEMENTS/SHOEMAKER BRIDGE - DOWNTOWN EXITS. THE PROJECT MAKES BICYCLE, PEDESTRIAN, AND STREETSCAPE IMPROVEMENTS ON MAJOR THOROUGHFARES.	\$85,000
LOS ANGELES	LOCAL HIGHWAY	LA061007	0	SBCOG WILL PREPARE THE FUNDING AGREEMENT BETWEEN METRO AND CITY OF TORRANCE. ANZA/VISTA MONTANA/PACIFIC COAST HWY INTERSECTION WIDENING IMPROVEMENTS TO ADD SOUTHBOUND THROUGH LANE AND SIGNAL UPGRADES TO PROVIDE PROTECTED NORTHBOUND/SOUTHBOUND LEFT-TURN PHASING. MODIFY STRIPING TO ACCOMMODATE A LONGER NORTHBOUND LEFT-TURN LANE. PROJECT TO INCLUDE ACQUISITION OF RIGHT-OF-WAY TO IMPLEMENT IMPROVEMENTS.	\$2,900
LOS ANGELES	LOCAL HIGHWAY	LA996347	0	BRIDGE NO. 53C1972, FIRESTONE BLVD, OVER LOS ANGELES RIVER, 152 M W/O LONG BEACH FREEWAY. REHABILITATE 5-LANE BRIDGE & WIDEN TO 6-LANE BRIDGE, ADD SHOULDERS, AND UPGRADE BRIDGE RAILINGS. FED PROJ: HP2IL-5257016)	\$19,381
LOS ANGELES	LOCAL HIGHWAY	LA061022	0	PACIFIC COAST HIGHWAY AT BIG ROCK DR. INTERSECTION IMPROVEMENTS AND AT LA COSTA AREA PEDESTRIAN IMPROVEMENTS. THE PROJECT WILL INVOLVE THE INSTALLATION OF TRAFFIC SIGNALS, ADDITION OF PROTECTED SIGNAL PHASES AND FLASHING BEACONS.	\$950
LOS ANGELES	LOCAL HIGHWAY	LA06895	0	WIDEN 10TH ST WEST FROM 6 LANES TO 8 LANES 600' S/O RANCHO VISTA BLVD (RVB) TO AVE O-4; ADDITIONAL RIGHT TURN LANES FROM 10TH WEST UNTO NB SR138/14 ON RAMP AND AV MALL ENTRANCE; TRAFFIC SIGNAL UPGRADES AND MODIFICATIONS AT THE INTERSECTIONS OF 10TH ST WEST AND RVB, AV MALL ENTRANCE, DESTINATION O-8, AND SR 138/14 SB OFF-RAMP; ADD NB AND SB RIGHT TURN LANES ON 10TH ST WEST AT RVB; MODIFY EXISTING SR 138/14 ON AND OFF-RAMPS AT 10TH ST WEST; AND OTHER REQUIRED IMPROVEMENTS.	\$90,000
LOS ANGELES	LOCAL HIGHWAY	LA06931	0	SR138 (SR-14) AVENUE M INTERCHANGE. PROJECT WILL WIDEN AVENUE M AND THE AVENUE M OVERCROSSING FROM ONE TO THREE LANES IN EACH DIRECTION, INTERCHANGE GEOMETRIC ENHANCEMENTS, TRAFFIC SIGNALS AT ON AND OFF RAMPS, LANDSCAPING, INTERSECTION MODIFICATIONS ON AVENUE M AT 10TH STREET WEST AND 20TH STREET WEST, AND PEDESTRIAN IMPROVEMENTS, INCLUDING NEW SIDEWALK AND PEDESTRIAN CURB RAMPS.	\$20,000
LOS ANGELES	LOCAL HIGHWAY	LA06929	0	SR138 (SR-14) AVENUE K OFF-RAMP IMPROVEMENTS: 1 NB OFF RAMP INTERSECTION AT AVENUE K & 15TH ST W A R-TURN POCKET (UNDER STUDY) 2 INTERSECTION MODIFICATIONS AT AVE K & 10TH STREET W (TO SUPPORT R-TURN POCKET UNDER STUDY) 3 AVE K GAP CLOSURE FROM 10TH ST W TO 12TH ST W WIDEN TO 3 LANES IN THE WB DIRECTION (CURRENTLY 2 WB LANES WEST OF 10TH ST. W AND 3 WB LANES WEST OF 12TH ST. W). 4 CLASS I BIKEPATH ALONG AMARGOSA CREEK BTW AVENUE K AND AVENUE J-8 (APOX 0.001 MI). 5. FREEWAY LANDSCAPE IMPROVEMENTS.	\$15,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA06928	0	SR138 (SR-14) AVENUE J INTERCHANGE. PROJECT WILL INCLUDE A NEW NORTHBOUND OFF RAMP AND SOUTHBOUND ON RAMP FOR SR138. NEW TRAFFIC SIGNALS AT THE ON AND OFF RAMP, AND INTERCHANGE GEOMETRIC CHANGES. IMPROVEMENTS ON AVENUE J INCLUDE TRAFFIC SIGNAL MODIFICATIONS ON AVENUE J AT 15TH STREET WEST, 20TH STREET WEST, VALLEY CENTRAL WAY, 25TH STREET WEST AND 30TH STREET WEST; PEDESTRIAN AND BIKEWAY IMPROVEMENTS AND A TRAFFIC SIGNAL AT AVENUE J AND 17TH STREET WEST.	\$10,000
LOS ANGELES	LOCAL HIGHWAY	LA06927	0	SR138 (SR-14) AVENUE G INTERCHANGE. PROJECT WILL WIDEN AVENUE G AND THE AVENUE G OVERCROSSING FROM ONE TO THREE LANES IN EACH DIRECTION, AND INCLUDE GEOMETRIC CHANGES TO THE SR-138(SR-14) ON/OFF RAMP, INTERSECTIONS CONTROLS, LANDSCAPING, DRAINAGE IMPROVEMENTS, AND PEDESTRIAN IMPROVEMENTS.	\$15,000
LOS ANGELES	LOCAL HIGHWAY	LAF3518	0	DAISY CORRIDOR AND 6TH STREET BIKE BOULEVARD. CONSTRUCT TWO (2) BIKEWAY BOULEVARDS ALONG TWO CORRIDORS KNOWN AS THE DAISY CORRIDOR AND 6TH STREET IN LONG BEACH. THE PROPOSED BIKE BOULEVARD ALONG THE DAISY CORRIDOR IS A NORTH-SOUTH ROUTE BETWEEN BROADWAY, BIKE LANE (CLASS II) IS LESS THAN 1 MILE.	\$2,655
LOS ANGELES	LOCAL HIGHWAY	LA000800	0	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM PROJECTS ARE CONSISTENT WITH 40 CFP PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTION BRIDGES (NO ADDITIONAL TRAVEL LANES)	\$363,153
LOS ANGELES	LOCAL HIGHWAY	LA06739	0	AGOURA ROAD WIDENING. WIDEN AND REALIGN ROADWAY FROM WESTERLY CITY LIMITS TO CORNELL DRIVE (APPROX 2 MILES). SOME AREAS ARE TWO LANES AND WILL BE WIDENED TO FOUR LANES. THE OTHER PORTIONS OF THE STREET ALREADY HAVE FOUR LANES. CONSTRUCT/MODIFY SIDEWALKS AND BIKE LANES (2 MILES); ADD LANDSCAPED MEDIANS	\$17,210
LOS ANGELES	LOCAL HIGHWAY	LAF3612	0	COLORADO PEDESTRIAN PROMENADE: LRT STATION TO PIER/BEACH A. PEDESTRIAN PROMENADE ON COLORADO AVENUE TO CONNECT THE EXPO LIGHT RAIL TERMINUS STATION AT 4TH STREET WITH DOWNTOWN SANTA MONICA, THE CIVIC CENTER AREA, THE PIER AND THE BEACH. THE PROJECT IS LOCATED ON COLORADO AVENUE BETWEEN 4TH STREET AND THE SANTA MONICA PIER IN THE CITY OF SANTA MONICA, AND INCLUDES THE STREET, THE SIDEWALKS AND BOTH INTERSECTIONS. THE TOTAL PROJECT AREA IS APPROXIMATELY 1,240 LINEAR FEET.	\$15,066
LOS ANGELES	LOCAL HIGHWAY	LAE2517	0	WIDEN MAINE AVE. IN BALDWIN PARK ADD 1 RIGHT TURN AND 1 LEFT TURN ONLY LANE (SAFETEA-LU DEMO ID #2517). NOT A CAPACITY ENHANCEMENT PROJECT...	\$683
LOS ANGELES	LOCAL HIGHWAY	LAE1401	0	RECONSTRUCT LONG BEACH BLVD WITH MEDIANS AND IMPROVED DRAINAGE PHASE II FROM IMPERIAL HWY TO TWEEDY BLVD. PHASE III LIMITS ARE LYNWOOD AVE. TO IMPERIAL HWY.	\$4,047
LOS ANGELES	LOCAL HIGHWAY	LAF1534	0	BIKE TECHNOLOGY DEMONSTRATION. PROJECT WILL CONSIST OF DESIGN, INSTALLATION AND EVALUATION OF SEVERAL BICYCLE TECHNOLOGIES, INCLUDING BICYCLE ACTIVATED DETECTION AT INTERSECTIONS, BIKE BOXES, AND BIKE PARKING.	\$399
LOS ANGELES	LOCAL HIGHWAY	LA0F062	0	DESIGN AND CONST. OF REAL-TIME PARKING INF./GUIDANCE SYSTEM. PHASE II COVERS DOWNTOWN SANTA MONICA AREA, BOUNDED BY PICO BLVD., OCEAN AVE., WILSHIRE BLVD. AND LINCOLN BLVD.	\$700
LOS ANGELES	LOCAL HIGHWAY	LA06755	0	NEWHALL RANCH ROAD BRIDGE WIDENING OVER THE SAN FRANCISCO CREEK 6 TO 8 LANES. FROM MCBEAN PKWY TO AVENUE TIBBITTS. BRIDGE NO. 53C2164	\$12,981
LOS ANGELES	LOCAL HIGHWAY	LAF3503	0	LONG BEACH SOUTH WATERFRONT BIKE PATH GAP CLOSURE. THE SOUTH WATERFRONT BIKE PATH CONNECTION PROPOSES A MAIN GAP-CLOSURE TO LONG BEACH'S PRIMARY BIKEWAY NETWORK. THIS CLASS I PATH INCLUDES A MID-BLOCK CROSSING AND WAYFINDING SIGNS. THE PROPOSED SOUTH WATERFRONT BIKE PATH STARTS AT THE NORTH END OF THE QUEENSWAY BRIDGE AT THE EXISTING TERMINUS OF THE CLASS I PATH, BIKE PATH DISTANCE .50 MILES.	\$885
LOS ANGELES	LOCAL HIGHWAY	LAF3501	0	DETECTION OF BICYCLES AT SIGNAL CONTROLLED INTERSECTIONS. BICYCLE DETECTION SYSTEMS AT INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS ALONG BIKE CORRIDORS. PROJECT CORRIDOR LENGTH IS 15.5 MILES.	\$2,495
LOS ANGELES	LOCAL HIGHWAY	LAE3085	0	WIDEN AND RECONSTRUCT WASHINGTON BOULEVARD FROM WESTERN CITY BOUNDARY AT VERNON (350' WEST OF INDIANA STREET) TO I-5 FREEWAY AT TELEGRAPH RD. WIDEN FROM 2 LANES TO 3 LANES IN EACH DIRECTION, INCREASE TURN RADIUS AND MEDIANS, UPGRADE TRAFFIC SIGNALS AND STREET LIGHTING AND IMPROVE SIDEWALKS.	\$32,000
LOS ANGELES	STATE HIGHWAY	LA06116	1	ROUTE 001: PACIFIC COAST HIGHWAY AND PARALLEL ARTERIALS FROM I-105 TO I-110: SIGNAL SYNCHRONIZATION (EA 30990 PPN0 4800)	\$18,000
LOS ANGELES	STATE HIGHWAY	LA06112	1	PACIFIC COAST HIGHWAY (SR 1) BETWEEN CALLE MAYOR AND JANET LANE. THE PURPOSE OF THIS PROJECT IS TO CONSTRUCT GUARDRAIL, FENCING AND LANDSCAPING THAT COMBINED ENHANCE SAFETY BY REDUCING TRAVEL DELAYS, PRIMARILY CAUSED BY MOTOR VEHICLE COLLISIONS, DRIVER DISTRACTION AND ILLEGAL ROADWAY CROSSING BY HIGH SCHOOL STUDENTS AND OTHER PEDESTRIANS.	\$1,154

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	STATE HIGHWAY	LA06720	1	F46 - PACIFIC COAST HIGHWAY ARTERIAL IMPROVEMENTS FROM ANITA ST. TO PALOS VERDES BLVD. STUDY, DESIGN, OBTAIN RIGHT OF WAY AND CONSTRUCT ROADWAY IMPROVEMENTS, STRIPING/SIGNAL ENHANCEMENTS FOR TURN LANES AND OTHER INTERSECTION IMPROVEMENTS. PROJECT NO. MR31206; FA NO. MOUJMR31206.	\$1,400
LOS ANGELES	STATE HIGHWAY	LA06714	1	F47 - INTERSECTION IMPROVEMENTS ON PACIFIC COAST HWY AT TORRANCE BLVD. DEVELOP PLANS, SPECIFICATIONS AND ESTIMATES FOR A NORTHBOUND RIGHT TURN LANE. PROJECT NO. MR31207; FA NO. MOUJMR31207.	\$585
LOS ANGELES	STATE HIGHWAY	LA06846	1	ON ROUTE 1, FROM ARTESIA BOULEVARD TO ANITA/HERONDO STREETS, WIDEN AND UPGRADE THE INTERSECTIONS BY CONSTRUCTING DEDICATED RIGHT AND LEFT-HAND TURN POCKETS, RESTRIPING, AND RE-SIGNALIZATION ALONG PCH BETWEEN ANITA ST. AND ARTESIA BLVD	\$304
LOS ANGELES	STATE HIGHWAY	LA068080	1	ROUTE 1: MANHATTAN BEACH: ON ROUTE 1 BETWEEN 33RD STREET & ROSECRANS AV; ADD ONE THROUGH LN TO NORTH BOUND SEPULVEDA BLVD. TO WIDEN EXISTING STRUCTURE FROM 6 TO 7 THROUGH LANES PPN0 2947. PROJECT USING \$1,440 OF FEDERAL FUNDS (80%) AND \$360 AGENCY MATCH (20%. PROP. C) IN ENG PHASE.	\$126,774
LOS ANGELES	STATE HIGHWAY	LA06909	1	PACIFIC COAST HIGHWAY INTERSECTION IMPROVEMENTS. THE PROJECT WILL IMPROVE KEY INTERSECTIONS ALONG THE PCH/SR-1 IN THE CITY OF MALIBU TO IMPROVE OPERATIONS AND TRAFFIC FLOW. THE IMPROVEMENTS INCLUDE SIGNAL INSTALLATION, DEDICATED TURN LANES, PROTECTED TURN SIGNALS, FLASHING BEACONS, CROSSWALKS, STRIPING AND CHANNELIZATION.	\$3,300
LOS ANGELES	STATE HIGHWAY	LA06910	1	PACIFIC COAST HIGHWAY REGIONAL TRAFFIC MESSAGE SYSTEMS. THE PROJECT WILL ENABLE THE CITY OF MALIBU AND OTHER AGENCIES TO NOTIFY TRAVELERS OF CRITICAL REGIONAL TRAFFIC AND SAFETY INFORMATION AND FACILITATE TRAFFIC FLOW THROUGHOUT THE REGION. 6 PERMANENT AND 2 MOBILE CHANGEABLE MESSAGE SIGNS WILL BE INSTALLED AT STRATEGIC LOCATIONS ALONG PCH/SR-1 CORRIDOR IN THE CITY OF MALIBU.	\$300
LOS ANGELES	STATE HIGHWAY	LA06956	1	PACIFIC COAST HIGHWAY RAISED MEDIAN CHANNELIZATION FROM WEBB WAY TO CORRAL CANYON ROAD. INSTALL RAISED MEDIANS ON PACIFIC COAST HIGHWAY FOR A DISTANCE OF APPROXIMATELY 4 MILES.	\$3,950
LOS ANGELES	STATE HIGHWAY	LA06905	1	THE PACIFIC COAST HIGHWAY AND KANAN DUME ROAD INTERSECTION AND ARRESTER BED IMPROVEMENTS. THE PROJECT WILL IMPROVE AND CHANNELIZE THE INTERSECTION OF PCH/SR-1 AND THE EXISTING ARRESTER BED THAT EXTENDS ALONG KANAN DUME ROAD (A FEDERAL AIDE ROUTE) NORTH OF THE PCH/SR-1 INTERSECTION. THE IMPROVEMENTS INCLUDE INSTALLING PCH/SR-1 TRAFFIC SIGNAL DETECTORS IN THE ARRESTER BED, EXTENDING THE NUMBER 1 LEFT TURN LANE, REALIGNING, EXTENDING AND UPGRADE THE EXISTING ARRESTER BED.	\$900
LOS ANGELES	STATE HIGHWAY	LA06818	1	ALONG PACIFIC COAST HIGHWAY (SR-1) FROM THE INTERSECTION OF BUSCH DRIVE WESTWARD TO THE CITY/MALIBU LIMITS TO IMPROVE THE EXISTING BIKE ROUTE, INSTALL SAFETY IMPROVEMENTS AND UPGRADE BIKE ROUTE. WORK INCLUDES SIGNAGE, STRIPING, INTERSECTION IMPROVEMENTS, MINOR GRADING AND OVERLAY WORK TO WIDEN THE SHOULDER IN SOME SECTIONS. (EA-21#707)	\$605
LOS ANGELES	STATE HIGHWAY	LA06692	2	ROUTE 002: FROM 0.5 MILES SOUTH OF BRANDEN STREET TO I-5/SR-2 INTERCHANGE - MODIFY TERMINUS, SOUNDWALLS, LANDSCAPING, INSTALLING DETECTOR LOOPS AND RAMP METERS, RESTRIPING (WITH NO LANE ADDITION) AND IMPROVING ARTERIAL STREETS (RESTRIPING-NO INCREASE IN CAPACITY, AND REMOVING & WIDENING SIDEWALK. (EA 206550 = 20551 + 20552 (20552=2055A+2055C), PPN0 26889 = 26889 + 2689A (2689A=2689A+4787) (TOLL CREDITS = LOCAL MATCH)	\$9,329
LOS ANGELES	STATE HIGHWAY	LA06870	2	NON-CAPACITY RECREATIONAL VISITOR CENTER INFRASTRUCTURE IMPROVEMENTS ALONG THE ANGELES CREST SCENIC BYWAY (STATE HIGHWAY 2) AT JARVIS VISTA (STATE HWY 2, MILEPOST 63.50), BIG PINE NATIONAL HISTORIC SITE (STATE HWY 2, MILEPOST 79.90), AND INSPIRATION POINT VISTA (STATE HWY 2, MILEPOST 77.95-78.10).	\$128
LOS ANGELES	STATE HIGHWAY	LA0073	5	ROUTE 5: LA MIRADA, NORWALK & SANTA FE SPRINGS-ORANGE CO LINE TO RTE 605 JUNCTION. WIDEN FOR HOV & MIXED FLOW LNS, RECONSTRUCT VALLEYVIEW (EA 215940 = 21591, 21592+31320=2159U, 21593, 21594, 21595, 31320 PPN0 2808 = 4153, 2808, 4154, 4155, 4156, 4841). TCRP#42.2&42.1 (USE TOLL CREDITS AS LOCAL MATCH)	\$43,940,910
LOS ANGELES	STATE HIGHWAY	LA00738	5	ROUTE 5: IN NORWALK: FROM ORANGE COUNTY LINE TO ROUTE 605: CARMENITA INTERCHANGE IMPROVEMENT (EA 2159C0, PPN0 2808A) (TCRP 42.3, & 43)	\$6,844,356
LOS ANGELES	STATE HIGHWAY	LA02577	5	ROUTE 5: STUDY NORWALK, SANTA FE SPRINGS, DOWNEY, MONTEBELLO, & COMMERCE: ON I-5, CONDUCT PLANG, ENV. STUDIES FOR WIDENING W/HOV & MIXED FLOW LNS FROM I-605 TO I-710.(EA2159E, 2159F; PPN0 2808C, 2808D)PAEX ONLY	\$4,730
LOS ANGELES	STATE HIGHWAY	LA000358	5	ROUTE 005: --- FROM ROUTE 134 TO ROUTE 170 HOV LANES (8 TO 10 LANES) (CFP 346)(2001 CFP 8355). (EA# 12180, 12181,12182-12183-1218W/12184, 13350 PPN0 0142F151E, 3985,3986,3987) SAFETEA LU # 570. CONSTRUCT MODIFIED IC @ I-5 EMPIRE AVE, AUX LNS NB & SB BETWEEN BURBANK BLVD & EMPIRE AVE; AND MODIFY EXISTING STRUCTURES. ADD AUXILIARY LANE BETWEEN ALAMEDA AND OLIVE FROM PM 28.43 TO PM 29.78	\$14,909,544

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	STATE HIGHWAY	LA000357	5	ROUTE 005: --- FROM ROUTE 170 TO ROUTE 118 ONE HOV LANE IN EACH DIRECTION (10 TO 12 LANES) INCLUDING THE RECONSTRUCTION OF THE I-5/SR-170 MIXED FLOW CONNECTOR AND THE CONSTRUCTION OF THE I-5/SR-170 HOV TO HOV CONNECTOR (CFP 345) (2001 CFP 8339; CFP2197). (EA# 121901, PPNO 0158K) (ICRP#412)	\$223,388
LOS ANGELES	STATE HIGHWAY	LA00192	5	ROUTE 005: GARVEE DEBT SERVICE PAYMENTS: RT 5 FROM RT 118 TO RT 14 FROM 10 TO 12 LANES HOV LANES. EA# 122001, PPNO 0162P.	\$28,895
LOS ANGELES	STATE HIGHWAY	LA00440	5	ROUTE 005: PHASE 2 FROM SR-14 TO PARKER ROAD, CONSTRUCT HOV/HOT, TRUCK & AUX LANES (EA 2332E PPNO 3189B), SAFETEA-LU#465.	\$234,385
LOS ANGELES	STATE HIGHWAY	LA00465	5	ROUTE 005: PHASE 1 OF 3-- IN SANTA CLARITA FROM ROUTE 14 TO PICO CANYON/LYONS AVENUE IN THE SOUTHBOUND DIRECTION AND FROM ROUTE 14 TO GAVIN CANYON ROAD IN THE NORTHBOUND DIRECTION. CONST TRUCK CLIMBING LANES. (EA 2332A, PPNO 3189). (SAFETEA-LU#465 FUNDED PAID FOR THIS PHASE INCLUDED IN LA06440).	\$131,000
LOS ANGELES	STATE HIGHWAY	LA06819	10	LACRD - I-10 AND I-110 EXPRESS LANES, TOLL SYSTEM OPERATIONS, MAINTENANCE, MARKETING AND DATA COLLECTION (RTP ID ITR0807B & 10M08D01; LA0615Q, LA0615I, LA0615Z, 10M08D02)	\$2,499
LOS ANGELES	STATE HIGHWAY	LA06137	10	LACRD - HOT LANES ON I-10 FROM ALAMEDA ST./UNION STATION TO I-605, AND ON I-110 FROM 182ND ST./ARTESIA TRANSIT CENTER TO ADAMS BLVD. (IT AND TOLL TECHNOLOGY/RTP # 1HLO8D01; 1HLO8D03; 10M08D00) CONVERSION OF HOV LANES TO HOT LANES ON I-10 FROM ALAMEDA ST./UNION STATION TO I-605. (RTP ID 1HLO8D01 & 1HLO8D03 & 1TR08D07B)	\$66,679
LOS ANGELES	STATE HIGHWAY	LA0F098	10	ROUTE 010: L.A. COUNTY I-10 AND I-605 (C) CONSTRUCT ONE/TWO LANE BRIDGE STRUCTURE, BRANCHING OFF SB OF RTE 605 TO EB OF RTE 10 AT-GRADE CONNECTOR RAMP (EA 24540, PPNO 3529; CONSTRUCT ONE-LANE CONNECTOR FROM SB I-605 TO WB I-10.	\$78,760
LOS ANGELES	STATE HIGHWAY	LA0G139	10	LACRD - EXPAND CAPACITY OF THE I-10 HOT LANE (RESTRIPING AND BUFFER CHANGES), RESTRIPE TO ADD A SECOND LANE (WB - SANTA ANITA TO I-710; EB - I-710 TO BALDWIN AVE FOR HOT LANES ON THE I-10. (RTP# 1HLO8D01)	\$3,200
LOS ANGELES	STATE HIGHWAY	LA000548	10	ROUTE 10: FROM PUENTE TO CITRUS HOV LANES FROM 8 TO 10 LANES & SOUNDWALLS (C-ISTEA 77720, 95 STIP-1IP) (EA# 117080; 1172, 1170U, PPNO# 0309N, 0309S) - USE TOLL CREDITS AS LOCAL MATCH.	\$195,580
LOS ANGELES	STATE HIGHWAY	LA0B875	10	ROUTE 10: HOV LANES AND PAVEMENT REHAB FROM CITRUS TO ROUTE 57 - (EA# 1934+3120 - 1193U, PPNO# 0310B+4812-0310B), USE TOLL CREDIT AS LOCAL MATCH	\$241,160
LOS ANGELES	STATE HIGHWAY	LA06896	14	WDN OFF-RAMPS TO 3 LANES: 2 LEFT, 1 RIGHT ONTO PALMDALE BLVD; WDN NB SR-14 FOR AUXILIARY LANE; MODIFY NB LOOP ON-RAMP FOR RIGHT TURN POCKET; MODIFY 2 RAMP INTERSECTIONS TO STOP LEFT TURN MOVEMENT TO MERGE FREELY ONTO PALMDALE BLVD; PROVIDE EB RIGHT TURN LANE FROM PALMDALE BLVD TO DIV. ST; MODIFY PALMDALE BLVD FOR DOUBLE LEFT TURNS FROM RAMPS; MODIFY PALMDALE BLVD FOR 3 WB THROUGH LANES THROUGH SB RAMP INTERSECTION; MODIFY SB OFF RAMP ALLOWING WIDENING FROM AVE Q - PALMDALE BLVD - UNDER LA06897	\$175,000
LOS ANGELES	STATE HIGHWAY	LA06898	14	IMPROVEMENT OF SR 14 ON AND OFF RAMPS AT AVE N; INSTALL TRAFFIC SIGNALS/SIGNAL INTERCONNECT AND INTERSECTION WIDENING AT SR 14/AVE N ON AND OFF RAMP LOCATIONS; IMPROVE SR 14/AVE N BRIDGE STRUCTURE; IMPROVE AVE N BETWEEN SR 14 & 10TH W; CONSTRUCT ADDITIONAL MAINLINE IMPROVEMENTS ON SR 14 NEAR AVE N ON AND OFF RAMP APPROACHES.	\$100,000
LOS ANGELES	STATE HIGHWAY	LA06930	14	LA06930 - AVENUE L / SR38 (SR-14) INTERCHANGE OVERPASS IMPROVEMENTS & AVENUE L BIKE LANES FROM SIERRA HWY TO 15TH ST. W (1.6 MI.). IMPROVEMENTS INCLUDE NON-CAPACITY INCREASING IMPROVEMENTS FOR VEHICLE, BICYCLE AND PEDESTRIAN SAFETY AND FLOW INCLUDING RESTRIPING, REALIGNMENTS, OTHER INTERSECTION CONTROL MODIFICATIONS ON AVENUE L AT THE SR-14 RAMP AND THE 15TH STREET WEST AND 10TH STREET WEST INTERSECTIONS.	\$5,000
LOS ANGELES	STATE HIGHWAY	LA0D391	47	VINCENT THOMAS BRIDGE STUDY - DEVELOP AND ANALYZE ALTERNATIVES TO INCREASE NEEDED CAPACITY. SAFETEA-LU HPP # 297 NON-CAPACITY	\$1,400
LOS ANGELES	STATE HIGHWAY	LA0D45	47	SR-47 EXPRESSWAY REPLACEMENT OF SCHUYLER HEIM BRIDGE (SEGMENT 1) TO INCLUDE 2 THRU LANES AND 1 AUX LANE NB; AND 3 THRU LANES AND 1 AUX LANE SB; ACTA COMPLETING PE, ROW, AND DESIGN SUPPORT DURING CONSTRUCTION; SAFETEA-LU #712 & #3797: BRIDGE REPLACEMENT - NO ADDITIONAL LANES ADDED. CONSTRUCT EXPRESSWAY (SEGMENT 2-ACTA ONLY) AND 2-LANE FLYOVER (SEGMENT 3-ACTA ONLY).	\$416,800
LOS ANGELES	STATE HIGHWAY	LA06600	47	ROUTE 047: REPLACEMENT OF SCHUYLER HEIM BRIDGE TO INCLUDE 2 THRU LANES AND 1 AUX LANE NB; AND 3 THRU LANES AND 1 AUX LANE SB EA 13820, PPNO 0444E).	\$278,993
LOS ANGELES	STATE HIGHWAY	LA0D399	60	ROUTE 60: CONSTRUCTION OF NEW PARTIAL DIAMOND INTERCHANGE FOR STATE ROUTE 60 (SR-60) AT LEMON AVE (SAFETEA-LU # 587).	\$21,838
LOS ANGELES	STATE HIGHWAY	LA0D393	60	GRAND AVENUE /SR 57/60 INTERCHANGE MODIFICATION: RESTRIPE THE EXISTING GRAND AVE, ADD WB ON-RAMP AND ADD WB AUX LANE, ADD SECOND SB LEFT TURN LN AT EB RAMP (09 CFP 3137)	\$122,406

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	STATE HIGHWAY	LA07200	60	WB SR-60/SB SR-57 GRAND AVENUE OFF RAMP INTERCHANGE - ADD WB SR-60 AUXILIARY LANE FROM SB SR-57 TO GRAND AVENUE OFF-RAMP TO IMPROVE TRUCK MOBILITY AND REDUCE CONGESTION.	\$21,303
LOS ANGELES	STATE HIGHWAY	LA00450	60	RECONSTRUCT SR 60/GRAND AV INTERCHANGE - WIDEN GRAND AV; SB ADD 1 THRU LN (2 EXSTNG); NB ADD 1 THRU LN (3 EXSTNG) REPLACE GRAND AV DC, ADD EB LOOP ON-RAMP, CONSTRUCT ADDITIONAL EB THRU LN FROM GRAND AVE TRAP LN TO SR57 ADD LN, ADD TWO BYPASS RAMP CONNECTORS, ADD AUX LNS EB AND WB FROM EAST TO WEST JUNCTION OF THE CONFLUENCE.	\$257,900
LOS ANGELES	STATE HIGHWAY	LA008951	71	ROUTE 71: ROUTE 10 TO SAN BERNARDINO COUNTY LINE - EXPRESSWAY TO FREEWAY CONVERSION - ADD 1 HOV LANE AND 1 MIXED FLOW LANE. (2001 CFP 8349, TRCP #50) (EA# 210600, PPNO 2741) (TRCP #50)	\$13,392
LOS ANGELES	STATE HIGHWAY	LA00317	71	STATE ROUTE 71 EXPANSION FROM SR 60 TO I-10 POMONA CA (ADD PA&ED ONLY).	\$978
LOS ANGELES	STATE HIGHWAY	LA00208	101	PROJECT WILL REPLACE EXISTING 2 LANE BRIDGE WITH 4 LANE BRIDGE AND 1 TURN LANE @ LOST HILLS RD/US 101 INTERCHANGE. THIS WILL BRING BRIDGE TO CURRENT LANE CONFIGURATION OF LOST HILLS RD ON EITHER SIDE OF BRIDGE. INTERCHANGE WILL ELIMINATE CROSS-TRAFFIC MOVEMENT TO ACCESS NB US 101. THERE WILL BE NO ADDITIONAL LANES ON US 101. REPLACEMENT BRIDGE WILL BE WIDER, 4 LNS RATHER THAN 2 AND WILL SPAN APPROX. 280 FT, ACCOMMODATING WIDTH OF ROAD ON EITHER SIDE OF BRIDGE STRUCTURE.	\$27,000
LOS ANGELES	STATE HIGHWAY	LA00598	101	DESIGN AND CONSTRUCTION OF A PARK AND RIDE FACILITY (3107 THOUSAND OAKS BLVD) WITH 375 PARKING SPACES AT THE PROPOSED COMMUNITY RECREATIONAL FACILITY WILL CONSTRUCT OF A ACCESS ROAD, RETAINING WALLS TO THE PARK AND RIDE FACILITY, BUS STOP SHELTER FOR WAITING PASSENGERS, NECESSARY DRAINAGE, UTILITY AND LANDSCAPING AND IRRIGATION IMPROVEMENTS.	\$4,224
LOS ANGELES	STATE HIGHWAY	LA00606	101	THIS PROJECT WOULD REDESIGN THE INTERSECTION AT THE PARKWAY CALABASAS ON/OFF RAMP FOR THE US101. PRESENTLY, TRAFFIC QUEUES OBSTRUCT THROUGH TRAFFIC ALONG CALABASAS ROAD, AND THERE ARE NO PEDESTRIAN IMPROVEMENTS. THIS PROJECT WOULD WIDEN CALABASAS ROAD FROM MUREAU ROAD TO THE PARKWAY CALABASAS OFFRAMP AND PROVIDE BIKE LANES AND SIDEWALKS.	\$2,700
LOS ANGELES	STATE HIGHWAY	LA960142	101	RTE 101/LINDERO CANYON ROAD INTERCHANGE IMPROVEMENT PROJECT. LINDERO CYN RD BTW VIA COLINAS AND AGOURA RD WIDENED FROM 2 TO 3 LANES IN EACH DIRECTION. RAMP G-6 WIDENED TO 2 LANES TO PROVIDE FOR 2 FREE RT LANES FOR EASTBOUND VIA COLINAS TRAFFIC AT LINDERO CYN RD. THE EXISTING NORTHBOUND AUX LANE WILL BE EXTENDED SOUTHERLY FROM ITS TERMINUS AT RAMP G-6 TO RAMP G-3. INCLUDES BIKE PATH CONSTRUCTION (.49 MILES).	\$25,758
LOS ANGELES	STATE HIGHWAY	LA001024	101	(US 101 @ KANAN) KANAN CORRIDOR, BETWEEN AGOURA ROAD AND HILLRISE DRIVE. PROJECT TO INCLUDE DESIGN AND CONSTRUCTION OF ADDITIONAL LOOP RAMP LANES, WIDENING OF ROADWAY, AND ADJUSTMENT OF DRY AND WET UTILITIES.	\$750
LOS ANGELES	STATE HIGHWAY	LA001177	110	ENHANCEMENT OF ADVANCED TRANSPORTATION MANAGEMENT SYSTEM (ATMS), INCLUDING ENHANCED INCIDENT RESPONSE IMPROVE AND ENHANCE DETECTION DATA COLLECTION AND IMPROVE INFORMATION SHARING.	\$360
LOS ANGELES	STATE HIGHWAY	LA00086	110	THE PROJECT WOULD CONSTRUCT AN ELEVATED OFF-RAMP ON THE NORTHBOUND (NB) I-10 BETWEEN 30TH STREET AND FIGUEROA STREET OVERCROSSING (OC). THIS STRUCTURE WOULD BYPASS THE BOTTLENECK INTERSECTIONS AT FLOWER AND ADAMS STREETS AS WELL AS THE ADAMS AT GRADE SECTION, WHICH CONNECTS THE HIGH OCCUPANCY TOLL LANES (HOT LANES) TRAFFIC TO FIGUEROA STREET.	\$7,841
LOS ANGELES	STATE HIGHWAY	LA001163	110	EXPANSION OF THE DODGER STADIUM EXPRESS OPERATING FROM DODGER STADIUM TO THE HARBOR GATEWAY TRANSIT CENTER WITH 5 STOPS AND 15.8 MILES ONE-WAY. SERVICE ONLY TO OPERATE DURING BASEBALL SEASON (MARCH - SEPTEMBER) VIA I-10 EXPRESS LANES.	\$2,923
LOS ANGELES	STATE HIGHWAY	LA006872	110	ROUTE 110: IN LA COUNTY, FROM 405/110 INTERCHANGE TO TORRANCE BLVD OFF-RAMP - INTERCHANGE IMPROVEMENT AND CONSTRUCT AUXILIARY LANE (EA 29370 PPNO 4552 NON CAPACITY, NO LANE ADDITION)	\$7,276
LOS ANGELES	STATE HIGHWAY	LA00138	110	LA CRD - HOT LANES ON THE I-10 FROM ALAMEDA ST./JUNION STATION TO I-605, AND ON I-10 FROM 182 ST./ARTESIA TRANSIT CENTER TO ADAMS BLVD. CONVERSION OF HOV LANES TO HOT LANES.(INFRASTRUCTURE/PAVEMENT)(HLO8001, HLO8003)	\$3,881
LOS ANGELES	STATE HIGHWAY	LA00141	110	LA CRD - HOT LANES ON THE I-10 FROM ALAMEDA ST./JUNION STATION TO I-605, AND ON I-10 FROM 182 ST./ARTESIA TRANSIT CENTER TO ADAMS BLVD. INCLUDES OPERATIONAL IMPROVEMENTS AT I-10 OFF-RAMP AT ADAMS BLVD (RE-STRIPE OFF-RAMP TO ADD A RIGHT TURN LANE AND WIDEN ADAMS BLVD BRIDGE FOR AN ADDITIONAL THROUGH LANE TO FIGUEROA WAY). CONVERSION OF HOV LANES TO HOT LANES. (INFRASTRUCTURE/PAVEMENT) (HLO8001, HLO8003)	\$46,900
LOS ANGELES	STATE HIGHWAY	LA008099	126	ROUTE 126: SR-126/COMMERCE CTR DR NEW I.C. CONSTRUCT A PARTIAL CLOVERLEAF, GRADE SEPARATED I.C AND WIDEN ST 126 FROM .76 KM EAST OF IC TO .85 KM WEST 4-6 LANES. (2001 CFP 8099) (PPNO 318)	\$56,834

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	STATE HIGHWAY	LA06949	138	COMPLETE PAVED TO DETERMINE THE ALTERNATIVES FOR THE APPROXIMATE 36.8-MILE EAST-WEST SR-138 HIGHWAY FACILITY BETWEEN I-5 AND SR-14 IN NORTHERN LOS ANGELES COUNTY. THE PAVED WILL STUDY AND DETERMINE THE ALTERNATIVES (I.E. FREEWAY AND/OR EXPRESSWAY), CONSTRAINTS (RIGHT-OF-WAY REQUIREMENTS), POTENTIAL IMPACTS/IMPROVEMENTS AND CONDUCT TECHNICAL STUDIES.	\$25,000
LOS ANGELES	STATE HIGHWAY	LA06665	138	ROUTE 138: COMPLETE PAVED FOR AN APPROXIMATE 63-MILE WEST-EAST FREEWAY/EXPRESSWAY AND POSSIBLE TOLL FACILITY BETWEEN SR-14 IN LA COUNTY AND SR-18 IN SB COUNTY. HIGH DESERT CORRIDOR PAVED COMBINES THE LA COUNTY MEASURE R PROJECT FROM SR-14 TO I-5 AND SB COUNTY FEDERAL EARMARKS PROVIDED TO CITY OF VICTORVILLE FOR US-395 TO SR-18. BOTH PROJECTS AND FUNDS ARE COMBINED TO COMPLETE THE PAVED FROM SR-14 TO SR-18. [EA 2600U, 11672, PPNO 3912, 03933F]	\$46,007
LOS ANGELES	STATE HIGHWAY	LA06894	138	WIDEN & MODIFY EXIST. STRIPING TO 3 LANES IN EACH DIRECTION ON SR 138 FROM 5TH E - 10TH E; INTERSECTION MODIFICATIONS/UPGRADES AT PALMDALE BLVD/6TH E & PALMDALE BLVD/SIERRA HIGHWAY; RELOCATION OF EXIST. RAILROAD SIGNAL MAST-ARMS & RAIL EQUIPMENT; S/O PALMDALE BLVD. WIDEN SIERRA HWY FROM 4 TO 6 LANES TO AVE R (INCLUDE S/B SIERRA HWY RIGHT TURN LANE @ AVE R); N/O PALMDALE BLVD., WIDEN SIERRA HWY FROM 4 TO 6 LANES TO AVE Q; EXTEND CLASS I BIKE LANE, 800' ON WEST SIDE OF SIERRA HWY TO AVE R.	\$100,000
LOS ANGELES	STATE HIGHWAY	LA06951	138	PALMDALE BLVD (SR138 / 47TH STREET) STREET IMPROVEMENTS. PROJECT INCLUDES A TRAFFIC SIGNAL AT 15TH ST E AND NEW CURB/GUTTER/SIDEWALK BETWEEN 11TH ST E AND 22ND ST EAST AND FROM AVENUE R-8 AND AVENUE S.	\$1,000
LOS ANGELES	STATE HIGHWAY	LA00451	138	ROUTE 138: ROUTE 138 FROM AVE. T TO ROUTE 18-WIDEN 2 TO 4 THRU LANES WITH MEDIAN TURN LANE. EA# 127211272212723,12724(=29350),12725,12728 (= 28580 + 28590 + 28600 + 28620 + 28610 + 28630), PPNO# 3325,3326,3327,33289(=4560),3329,3331(= 4351) + 4352 + 5353 + 4354 + 4357) (USE TOLL CREDITS AS LOCAL MATCH)	\$169,362
LOS ANGELES	STATE HIGHWAY	LA06897	138	SR138/14: WIDENING FROM RANCHO VISTA BLVD(RVB) TO PMDL BLVD. IMPROVE SR 138 (SR14) N/B OFF-RAMP ONTO RVB/AVE P. IMPR TRAFFIC SIGNAL AND CONSTRUCT RDWY IMPVMTS AT THE FOLLOWING INTERSECTION: SR138 (SR14) N/B OFF-RAMP AT RVB/AVEP. IMPROVE THE FOLLOWING INTERSECTION: S/B RANCHO VISTA BLVD/AVENUE P ON-RAMP SR138 (SR-14). IMPROVE SR138 AT TECHNOLOGY DR BRIDGE STRUCTURE. WIDEN SB SR138 (SR-14) BEG S/O RVB / AVE P AND EXT TO PMDL BLVD. ADD'L MAINLINE LANE IMPVMTS BETWEEN RVB /AVE P AND PMDL BLVD.	\$150,000
LOS ANGELES	STATE HIGHWAY	LA06411	210	I-210 SOUNDWALLS BETWEEN PENNSYLVANIA AVE. TO LOWELL AVE.	\$5,000
LOS ANGELES	STATE HIGHWAY	LA061062	210	INSTALL SOUNDWALLS ALONG THE INTERSTATE 210 FREEWAY IN THE UNINCORPORATED AREA OF LA CRESCENTA. SOUNDWALLS ARE PROPOSED ON BOTH THE EASTBOUND AND WESTBOUND DIRECTIONS OF THE FREEWAY.	\$3,344
LOS ANGELES	STATE HIGHWAY	LA06121	210	LA CANADA FLINTRIDGE, CA1-210 - DESIGN OF TWO SOUNDWALL SEGMENTS. DESIGN/CONSTRUCTION/PROJECT MGMT. OF TWO SOUNDWALL SEGMENTS: SOUNDWALL NO. S341 (SOUTH OF I-210 - FOOTHILL BOULEVARD EASTBOUND ON RAMP TO BERKSHIRE PLACE - EASTBOUND OFF RAMP; AND PORTION OF SOUNDWALL NO. S338 (NORTH SIDE OF I-210 FREEWAY - FOOTHILL BOULEVARD - WESTBOUND OFF RAMP TO BERKSHIRE PLACE WESTBOUND ON RAMP.	\$4,882
LOS ANGELES	STATE HIGHWAY	LA E0219	210	ROUTE 210: CONSTRUCT SOUND WALLS ALONG PORTIONS OF THE I-210 FREEWAY BETWEEN ARROYO BLVD AND ORANGE GROVE (SAFETEA-LU #219 HIGH PRIORITY PROJECTS).	\$1,800
LOS ANGELES	STATE HIGHWAY	LA06782	405	THE PROJECT WILL IMPROVE THE PAVEMENT, SIGNING, STRIPING, AND GEOMETRICS TO PROVIDE NEW TRAFFIC CHANNELIZATION ON THE NORTHBOUND SIDE OF THE SECTION OF INGLEWOOD AVENUE BETWEEN 156TH STREET AND THE I-405 SOUTHBOUND ON-RAMP.	\$500
LOS ANGELES	STATE HIGHWAY	LA06124	405	RECONFIGURING THE I-405 FREEWAY INTERCHANGES, AT CHERRY AVENUE, TO INCORPORATE BOTH NORTHBOUND AND SOUTHBOUND ON/OFF RAMP AND TO CONFORM WITH CALTRANS DESIGN CRITERIA. (NO ADDITIONAL CAPACITY, ONLY AN INTERCHANGE RECONFIGURATION) ONLY FOR PSR PHASE.	\$238
LOS ANGELES	STATE HIGHWAY	LA06874	405	ROUTE 405: CRENSHAW BLVD ON / OFF RAMP: CONSTRUCT A NEW SB I-405 ON-RAMP AND FREEWAY & LOCAL STREETS WIDENING [EA 29360 PPNO 4551]	\$1,700
LOS ANGELES	STATE HIGHWAY	LA061008	405	PROJECT OVERSIGHT FOR I-405 AT 182ND STREET/CRENSHAW BLVD OPERATIONAL IMPROVEMENTS. CALTRANS IS THE LEAD FOR THIS PROJECT; HOWEVER, CITY OF TORRANCE WILL OVERSEE THE PORTION OF PROJECT PERTAINING TO THE CRENSHAW/182ND STREET IMPROVEMENTS.	\$300
LOS ANGELES	STATE HIGHWAY	LA00332	405	ROUTE 405: IN LOS ANGELES: FROM LA TIJERA BLVD TO JEFFERSON BLVD; ADD AUXILIARY LANE PPNO: 3348 EA: 24130	\$77,422
LOS ANGELES	STATE HIGHWAY	LA06408	405	ROUTE 405: ADD A 10-MILE HOV LANE ON THE NORTHBOUND 405 BETWEEN I-10 AND U.S. 101 IN LA FROM RTE 10 TO RTE 101 WIDEN FOR HOV LANE & MODIFY RAMP, & HOV INGRESS/EGRESS AT SANTA MONICA BLV (EA 12030, PPNO 0851G, SAFETLU SECTION 1302.#18, 1934.#20)	\$1,141,300
LOS ANGELES	STATE HIGHWAY	LA00193	405	ROUTE 405: GARVEE DEBT PAYMENTS RTE. 405 - WATERFORD AV. TO RTE 10 - AUX LINE, LOS ANGELES - WATERFORD AV. TO RTE 10 - CNSTRCTS/B AUX LINE & S/B HOV LANE (2001 CFP 8354) (EA 195900, PPNO 2333).	\$34,470

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	STATE HIGHWAY	LA00194	405	ROUTE 405: GARVEE DEBT SERVICE PAYMENTS: IN LOS ANGELES ON ROUTE 405/101 CONNECTOR GAP CLOSURE (2001 CFP 7248, 2001 CFP 8347) (EA # 20120K, PPNO 22336). (BOTH RIP & IIP)	\$30,787
LOS ANGELES	STATE HIGHWAY	LA06119	605	IMPROVEMENTS TO THE I-605/SR-91 INTERCHANGE CONSIST OF ADDING AN ADDITIONAL GENERAL PURPOSE LANE, ADDING AUXILIARY LANES, AND ON/OFF RAMP IMPROVEMENTS. (PA&ED ONLY)	\$2,000
LOS ANGELES	STATE HIGHWAY	LA06118	605	IMPROVEMENTS TO THE I-605/I-5 INTERCHANGE CONSIST OF ADDING AN ADDITIONAL GENERAL PURPOSE LANE AND CONTINUING THE HOV LANE THROUGH THE I-605/I-5 FROM FLORENCE AVE TO PARAMOUNT BLVD. (PA&ED ONLY)	\$2,000
LOS ANGELES	STATE HIGHWAY	LA06115	605	IMPROVEMENTS TO I-605/SR-60 TO REDUCE CONGESTION AND IMPROVE FREEWAY OPERATIONS AND SAFETY, WHILE MINIMIZING ADJACENT RIGHT-OF-WAY, ENVIRONMENTAL AND ECONOMIC IMPACTS. (PA&ED ONLY)	\$2,698
LOS ANGELES	STATE HIGHWAY	LA00441	605	RECONFIGURATION OF VALLEY BLVD ON-AND-OFF-RAMPS TO THE 605 FREEWAY TO IMPROVE MOBILITY, CIRCULATION, AND RELIEVE THE CURRENT CONGESTION AT VALLEY BLVD. INCLUDES; RIGHT TURN FROM VALLEY ONTO EXISTING SB ON-RAMP; CONSTRUCT DUAL WB TO SB LANES TO SB ON-RAMP AND RECONSTRUCT ENTIRE SB ON-RAMP; IMPROVEMENTS AT VALLEY/TEMPLE/NB 605 OFF-RAMP INTERSECTION, WIDEN EB VALLEY TO 3 LANES IN ADVANCE OF SB RAMPS.	\$25,000
LOS ANGELES	STATE HIGHWAY	LA05074	605	ROUTE 605: CONSTRUCT I-605 INTERCHANGE CAPACITY IMPROVEMENTS IN IRVINDALE	\$1,920
LOS ANGELES	STATE HIGHWAY	LA00052	70	BRIDGE NO. 53C0065, OCEAN BLVD, OVER ENTRANCE CHANNEL, UP RR, 1.0 MILE STATE ROUTE 47: REPLACE EXISTING 5 LANE GERALD DESMOND BRIDGE (GDB) WITH NEW 6 LANE BRIDGE.	\$1,288,101
LOS ANGELES	STATE HIGHWAY	LA06138	70	IMPROVEMENTS TO I-70 SOUNDWALLS. THE PURPOSE OF THIS PROJECT IS TO MITIGATE NOISE LEVELS AND PROVIDE AESTHETIC TREATMENTS ON THE 70 SOUNDWALLS.	\$3,000
LOS ANGELES	STATE HIGHWAY	LA08952	70	ROUTE 70: RECONSTRUCT I-70 INTERCHANGES AT I-5, AT I-405, AT SR 91, AND AT I-105. AS PART OF OF THE I-70 CORRIDOR PROGRAM PROPOSING 4 TRUCK LANES (PORTS-RAIL YARDS), 10 GENERAL LANES (PORT-SR-60)(STE A ID # 37)(SAFTEA-LU 3773). (SEE ADDITIONAL DESCRIPTION IN THE GENERAL COMMENTS SECTION)	\$56,500
LOS ANGELES	STATE HIGHWAY	LA996143	70	ROUTE 70: RTE 710 PCH TO DOWNTOWN L.B. - PAVEMENT RECON, MEDIAN, LANDSCAPING IMPROVE (EA 2203J, 23640, PPNO: 2945,3248)	\$7,496
LOS ANGELES	STATE HIGHWAY	18790	70	ROUTE 70: STUDY TO PERFORM ALTERNATIVE ANALYSIS, ENGINEERING AND ENVIRONMENTAL STUDIES TO CLOSE 710 FREEWAY GAP. (EA # 187901, PPNO# 2215)	\$70,454
LOS ANGELES	STATE HIGHWAY	LA06873	999	ROUTES 110 AND 405: FREEWAYS RAMP/ARTERIAL SIGNALIZED INTERSECTIONS. (EA 29380 PPNO 4553)	\$5,000
LOS ANGELES	STATE HIGHWAY	LA990921	999	ROUTE 999: ON VARIOUS HIGHWAYS, GROUPED PROJECTS FOR NOISE ATTENUATION (SOUNDWALLS) (ONLY EA00234 ON RTE 710 REMAINING. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES.	\$236,700
LOS ANGELES	STATE HIGHWAY	LALS03	999	ROUTE 999: GROUPED PROJECTS FOR SHOULDER IMPROVEMENTS - SHOULDER SIDE PRESERVATION PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - FENCING; SAFETY SHOULDER REST AREAS	\$4,416
LOS ANGELES	STATE HIGHWAY	LALS04	999	ROUTE 999: N.L.A. GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - SHOPP PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	\$256,930
LOS ANGELES	STATE HIGHWAY	LALS06	999	ROUTE 999: GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MOBILITY PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL-AID SYSTEM ROADS, SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES AND OPERATING ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, INTERSECTION SIGNALIZATION PROJECTS AT INDIVIDUAL INTERSECTIONS, PAVEMENT MARKING DEMONSTRATION, TRUCK CLIMBING LANES OUTSIDE THE URBANIZED AREA	\$89,175
LOS ANGELES	STATE HIGHWAY	LALS07	999	ROUTE 999: GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MANDATES PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL-AID SYSTEM ROADS, SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES AND OPERATING ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, INTERSECTION SIGNALIZATION PROJECTS AT INDIVIDUAL INTERSECTIONS, PAVEMENT MARKING DEMONSTRATION, TRUCK CLIMBING LANES OUTSIDE THE URBANIZED AREA	\$333,033
LOS ANGELES	STATE HIGHWAY	LALS08	999	ROUTE 999: GROUPED PROJECTS FOR EMERGENCY REPAIR. - SHOPP EMERGENCY RESPONSE PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - REPAIR DAMAGE CAUSED BY NATURAL DISASTERS, CIVIL UNREST, OR TERRORIST ACTS. THIS APPLIES TO DAMAGES THAT DO NOT QUALIFY FOR FEDERAL EMERGENCY RELIEF FUNDS OR TO DAMAGES THAT QUALIFY FOR FEDERAL EMERGENCY RELIEF FUNDS BUT EXTEND BEYOND THE FEDERALLY DECLARED DISASTER PERIOD.	\$30,263

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	STATE HIGHWAY	LALS09	999	ROUTE 999: GROUPED PROJECTS FOR SAFETY IMPROVEMENTS, SHOULDER IMPROVEMENTS, PAVEMENT RESURFACING AND/OR REHABILITATION-MINOR PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RR/HWY CROSSING, SAFER NON-FED AID SYS RDS, SHLDER IMPROV, TRAFFIC CONTROL DEVICES & OPERATING ASSISTANCE OTHER THAN SIGNALIZ/PAVEMENT RESURFACING AND/OR REHABILITATION.	\$12,737
LOS ANGELES	STATE HIGHWAY	LA061099	999	HIGH DESERT CORRIDOR, AN APPROXIMATELY 63-MILE EAST-WEST MULTI-PURPOSE CORRIDOR FROM AVENUE P-8/SR-14 IN LA COUNTY TO BEAR VALLEY ROAD/SR-18 IN SAN BERNARDINO COUNTY. THIS MULTI-PURPOSE CORRIDOR INCLUDES TSM/TDM, FREEWAY, EXPRESSWAY, TOLLWAY, HIGH-SPEED RAIL, GREEN ENERGY TRANSMISSION/PRODUCTION, AND BIKEWAY ELEMENTS.	\$5,000,000
LOS ANGELES	TRANSIT	LA0B310	0	REPLACEMENT CNG & ELECTRIC BUSES. PURCHASING 30 42FT. BUSES IN FY2015 AND 30 42FT. BUSES IN FY2016-FY2017.	\$92,358
LOS ANGELES	TRANSIT	LA0F048	0	PREVENTIVE MAINTENANCE - OPERATING	\$8,500
LOS ANGELES	TRANSIT	LA0G149	0	LACRD - I-10 HOT LANE OPERATIONS - NEW TRANSIT SERVICES. (RTP# 10M08D02).	\$4,000
LOS ANGELES	TRANSIT	LA963526	0	BUS STOP ENHANCEMENT/IMPROVEMENT	\$2,647
LOS ANGELES	TRANSIT	LA0D437	0	REPLACE UP TO SEVEN (7) 1997 MODEL YEAR DIESEL BUSES WITH UP TO SEVEN (7) ALTERNATE FUEL 40 FT BUSES. ADDING TDC(TOLL CREDITS) OF \$1,190K. . TOLL CREDITS - TRANSIT (TDC) OF \$1,190 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$5,950
LOS ANGELES	TRANSIT	LA0G1040	0	PURCHASE OF FOUR PARATRANSIT VANS TO REPLACE FOUR 2012 YEAR VANS. THESE ARE FOR CITY DR SERVICE	\$200
LOS ANGELES	TRANSIT	LA0G1041	0	CONVERSION OF FOUR 2005-2010 SERIES NEW FLYER BUSES FROM EXISTING FLEET FROM GASOLINE ELECTRIC HYBRID VEHICLES TO FULLY ELECTRIC VEHICLES. THIS IS PART OF A PILOT PROJECT TO TEST THE EFFICACY OF THE ELECTRIC TECHNOLOGY AS A VIABLE ALTERNATIVE FUEL PATH FOR THE 2017-2023 GARDENA BUS REPLACEMENT PROGRAM. \$360 OF TDC(TOLL CREDITS) FOR CON IN FY14/15. TOLL CREDITS OF \$360 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$1,800
LOS ANGELES	TRANSIT	LA0G1143	0	CAPITALIZATION OF FTA EQUIPMENT AND FACILITY MAINTENANCE. TOLL CREDITS (TDC) OF \$497K FOR FY15/16, \$500K EACH FISCAL YEAR IN FY16/17, FY17/18, & FY18/19 TO MATCH FTA 5307 FUNDS.	\$9,984
LOS ANGELES	TRANSIT	LA0G1144	0	REPLACE 12 (TWELVE) 2005 MODEL YEAR 40 FT. GASOLINE HYBRID ELECTRIC BUSES WITH UP TO 12 (TWELVE) 40 FT. ZERO EMISSION BUSES	\$10,763
LOS ANGELES	TRANSIT	LA0G1145	0	REPLACE 14 (FOURTEEN) 2009 MODEL YEAR 40 FT. GASOLINE HYBRID ELECTRIC BUSES WITH UP TO 14 (FOURTEEN) 40FT. ZERO EMISSION BUSES	\$12,557
LOS ANGELES	TRANSIT	LA0G1164	0	LINE IX-EXPAND TRANSIT BUS SERVICE ON I-10 FREEWAY- EXPANSION OF LINE IX TRANSIT SERVICE TO PROVIDE MID-DAY SERVICE. THIS PROJECT IS FUNDED BY THE METRO'S EXPRESSLANES TOLL REVENUE REINVESTMENT PROGRAM.	\$1,138
LOS ANGELES	TRANSIT	LA0G1175	0	COMPUTER AUTOMATED DISPATCHING/AUTOMATED VEHICLE LOCATION (CAD/AV) SOLUTION WITH REAL TIME PASSENGER INFORMATION NETWORK. TOLL CREDIT (TDC) OF \$400 WILL BE UTILIZED IN FY15/16 TO MATCH FTA 5307 FUNDS.	\$3,000
LOS ANGELES	TRANSIT	LA0G394	0	PURCHASE AND INSTALLATION OF TRANSPORTATION MANAGEMENT SOFTWARE/SYSTEM. UTILIZING TDC(TOLL CREDITS) OF \$60K FOR CON FOR FY14/15..	\$300
LOS ANGELES	TRANSIT	LA0G554	0	TOLL CREDITS OF \$60 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$4,594
LOS ANGELES	TRANSIT	LA0G1176	0	CAPITALIZATION OF FTA EQUIPMENT AND FACILITY MAINTENANCE. TOLL CREDITS (TDC) OF \$918K PROGRAMMED IN FY13/14... TOLL CREDITS OF \$918 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$612
LOS ANGELES	TRANSIT	LA970501	0	PURCHASE OF 15 CNG ALTERNATIVE FULE VEHICLES (MV-1) FOR EXISTING ACCESS SERVICES.	\$399,458
LOS ANGELES	TRANSIT	LA0G062	0	ANNUAL EXPENDITURES INCLUDING SERVICE PROVIDER CONTRACTS & CAPITAL EXPENSES FOR COMPLEMENTARY ADA PARATRANSIT IN LOS ANGELES COUNTY	\$23,762
LOS ANGELES	TRANSIT	LA0G078	0	VEHICLE REPLACEMENTS - TRANSIT & COMMUTER - SIX (6) IN FY13/14, TWELVE (12) IN FY14/15, THIRTEEN (13) IN FY15/16, THIRTEEN (13) IN FY16/17....	\$3,312
LOS ANGELES	TRANSIT	LA0G082	0	PARTS & EQUIPMENT PURCHASE. INCLUDES: REFURBISH ENGINE - REBUILD/REPOWER.	\$3,800
LOS ANGELES	TRANSIT	LA0G1100	0	REGIONAL PARTNERSHIP: SUCH AS BUS STOP AMENITIES - PURCHASE AND INSTALLATION OF NEW SHELTERS, BENCHES AND TRASH RECEPTACLES AT BUS STOPS AND TRANSFER CENTERS. CONSTRUCTION COMPONENTS OF REGIONAL BUS STOPS...	\$20
LOS ANGELES	TRANSIT			PLANNING - STRATEGIC PLANNING, BRT PLANNING, ELECTRIC BUS PLANNING. TRANSIT (TDC) OF \$4 WILL BE USED TO MATCH FY16 FTA 5307 FUNDS FOR THE PE PHASE.	

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	TRANSIT	LA06588	0	MAJOR BUS COMPONENTS. PROJECT USING TDC(TOLL CREDITS) FOR MATCH FOR 5307 FUNDS: \$30 IN FY14/15. TOLL CREDITS OF \$30 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$1,170
LOS ANGELES	TRANSIT	LA06589	0	MAJOR FACILITY/SHOP EQUIPMENT. UTILIZING TDC TO MATCH FTA 5307 FOR CONSTRUCTION: \$19 OF TDC IN FY14/15 AND \$20 OF TDC IN FY15/16 FOR CON. TOLL CREDITS - TRANSIT (TDC) OF \$19 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE, TOLL CREDITS - TRANSIT (TDC) OF \$20 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	\$735
LOS ANGELES	TRANSIT	LA06590	0	COMMUNICATION SYSTEM UPGRADE. UTILIZING TDC TO MATCH FTA 5307 FOR CONSTRUCTION: \$10 OF TDC IN FY14/15 AND \$20 OF TDC IN FY15/16 FOR CON. TOLL CREDITS - TRANSIT (TDC) OF \$10 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE, TOLL CREDITS - TRANSIT (TDC) OF \$20 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	\$552
LOS ANGELES	TRANSIT	LA06591	0	SOFTWARE MODIFICATIONS. PROJECT USING TOLL CREDITS FOR MATCH FOR 5307 FUNDS: \$10 IN FY15	\$550
LOS ANGELES	TRANSIT	LA06592	0	SAFETY & SECURITY EMERGENCY PREPAREDNESS PLANNING..	\$345
LOS ANGELES	TRANSIT	LA06200	0	PREVENTIVE MAINTENANCE (LANCASTER/PALMDALE UZA). ADDED TDC AS FOLLOWS: \$880 IN FY 14/15, \$860 IN FY 15/16, \$930 IN FY 16/17, AND \$954 IN FY 17/18 TO MATCH FTA 5307 FOR CON.	\$4,157
LOS ANGELES	TRANSIT	LA50300	0	OPERATING ASSISTANCE - TRANSIT OPERATIONS AND DIAL-A-RIDE SERVICE	\$3,240
LOS ANGELES	TRANSIT	LA06871	0	CABRILLO MOLE FERRY TERMINAL REHABILITATION PROJECT. LOCATED IN SANTA CATALINA ISLAND. PROJECT IS FOR REHABILITATION OF THE FERRY STRUCTURE AND TO ADD NEW SHELTERS FOR PASSENGERS. NONE CAPACITY TYPE PROJECT.	\$3,005
LOS ANGELES	TRANSIT	LAF7406	0	AVALON CLEAN FUEL FLEET REPLACEMENT PROJECT; PROCURES (3) 22 FT CLEAN FUEL BUSES TO REPLACE (3) EXISTING 30 FT TROLLEY-STYLE GASOLINE BUSES.	\$1,275
LOS ANGELES	TRANSIT	LAF3434	0	AZUSA INTERMODAL TRANSIT CENTER. CONSTRUCT REGIONAL AZUSA INTERMODAL TRANSIT CENTER TO ACCOMMODATE EXISTING AND FUTURE PARKING DEMAND AND SUPPORT EFFECTIVE TRANSIT USE. PARK 'N RIDE, THE STRUCTURE WOULD BE LOCATED ON THE SOUTHEAST QUADRANT OF ALAMEDA AVE./ SANTA FE -- 5TH PARKING SPACES. THIS PROJECT IS SPLIT FROM LA0831.	\$7,490
LOS ANGELES	TRANSIT	LA06178	0	EXPANSION OF THE CITY'S CIRCULATOR SHUTTLE TO CONNECT TO BUSINESS AND MEDICAL COMMUTERS FROM THE BALDWIN PARK TRANSIT CENTER AND METROLINK STATION TO THE CITY'S MAIN BUSINESS CENTERS; PURCHASE OF 2 CNG BUSES.	\$742
LOS ANGELES	TRANSIT	LAF1654	0	BALDWIN PARK METROLINK PEDESTRIAN OVERCROSSING. CONSTRUCT A PEDESTRIAN OVERCROSSING OVER BOGART AVE AND THE METROLINK LINE TO LINK THE STATION WITH VITAL BUS TRANSFER POINTS AND TO PROVIDE ACCESS TO PARKING OVERFLOW AREAS. (APPROXIMATELY 50' BRIDGE)	\$1810
LOS ANGELES	TRANSIT	LAF3712	0	METROLINK PARKING RESOURCE MANAGEMENT DEMONSTRATION PROJECT. DEMONSTRATION PROJECT PROVIDES COMMUTERS OF METROLINK AND TRANSIT SERVICES WITH A PROACTIVE SYSTEM TO ASSIST IN LOCATING AVAILABLE PARKING WITHIN CITY'S METROLINK STATION VICINITY.	\$266
LOS ANGELES	TRANSIT	LAF7414	0	CLEAN FUEL BUSES FOR THE BALDWIN PARK TRANSIT SERVICE; PROCURES (5) 32 FT CLEAN FUEL BUSES TO REPLACE (5) EXISTING 32 FT DIESEL-POWERED BUSES.	\$1,798
LOS ANGELES	TRANSIT	LA06119	0	PASSENGER BENCHES AND SMALL SHELTERS - PURCHASE AND INSTALL 60 PASSENGER BENCHES AND SMALL SHELTERS THROUGHOUT THE CITY.E2009-BUSP-066. E2010-BUSP-016 FOR \$500,000.	\$1,207
LOS ANGELES	TRANSIT	LAF7408	0	BURBANK TRANSIT VEHICLE REPLACEMENT; PROCURES (6) 35 FT CLEAN FUEL VEHICLES TO REPLACE (6) SMALLER 30 FT BUSES.	\$2,679
LOS ANGELES	TRANSIT	LA000789	0	BURBANK-GLENDALE-PASADENA AIRPORT INTERMODAL GROUND ACCESS LINK FEASIBILITY STUDY; CONDUCT PE, DESIGN OF A LINK BETWEEN THE AIRPORT AND OTHER TRANSPORTATION SERVICES. (CONSTRUCTION IN LA000789A).	\$2,222
LOS ANGELES	TRANSIT	LA000789A	0	BURBANK-GLENDALE-PASADENA AIRPORT INTERMODAL GROUND ACCESS LINK; CONSTRUCTION OF A LINK BETWEEN THE AIRPORT AND OTHER TRANSPORTATION SERVICES, INCLUDING CONSTRUCTION OF A NEW METROLINK STATION AT HOLLYWOOD WAY/SAN FERNANDO ROAD ON THE ANTELOPE VALLEY LINE AND A LINK BETWEEN THE AIRPORT AND OTHER TRANSPORTATION SERVICES. (CONSTRUCTION OF LA000789)	\$4,033
LOS ANGELES	TRANSIT	LA06396	0	CONSTRUCTION OF EMPIRE AREA TRANSIT CENTER NEAR BURBANK AIRPORT - UPGRADE EXIST - REG'L TRANSIT & LAYOVER FACILITY ADJACENT TO THE BURBANK-GLENDALE-PASADENA AIRPORT. WILL FACILITATE TRANSFER OF PASSENGERS TO & FROM MANY GROUND TRANS. SAFTEA-LU 396, E-2009-BUSP-063.	\$1,858
LOS ANGELES	TRANSIT	LA061091	0	OLD TOWN CALABASAS PARK AND RIDE FACILITY, 72 SPACES. PLANNING, DESIGN AND CONSTRUCTION.	\$7,400

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	TRANSIT	LAF7413	0	BUS REPLACEMENT: PROCURES (2) 32 FT CLEAN FUEL CUTAWAY VEHICLES TO REPLACE (2) SMALLER, HIGH-MILEAGE BUSES IN THE CITY'S SHUTTLE SYSTEM.	\$275
LOS ANGELES	TRANSIT	LAF408	0	CITY OF CERRITOS TRANSIT AMENITIES. IMPLEMENTATION OF THE CITY-WIDE STREET FURNITURE PLAN. THE NEW AMENITIES WILL INCREASE TRANSIT USE BECAUSE THEY WILL SERVE AS A MARKETING TOOL FOR PUBLIC TRANSIT. THE NEW AMENITIES WILL BE VERY VISIBLE AND WILL INCREASE PEDESTRIAN AND POTENTIAL TRANSIT USERS. THIS PLAN IDENTIFIES ALL SHARED BUS STOPS LACKING TRANSIT AMENITIES.	\$320
LOS ANGELES	TRANSIT	LA0C37	0	BUS STOP IMPROVEMENTS: CONSTRUCTION OF PASSENGER SHELTERS AND INFORMATION KIOSKS	\$686
LOS ANGELES	TRANSIT	LA0G1087	0	PURCHASE OF ONE TRANSIT VEHICLE FOR THE NEW 26TH STREET SHUTTLE SERVICE. THIS BUS SERVICE OPERATES FOUR AM AND FOUR PM TRIPS BETWEEN THE METROLINK 26TH STREET STATION ON THE ORANGE COUNTY LINE TO EMPLOYMENT LOCATIONS IN THE CITY OF COMMERCE. TOLL CREDITS - TRANSIT (TDC) OF \$36 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$74
LOS ANGELES	TRANSIT	LA0G687	0	REHABILITATION OF 26TH STREET METROLINK STATION. WORK WOULD INCLUDE PAINTING, PAVING, UPGRADED LIGHTING, AND MISCELLANEOUS WORK. PROJECT WILL USE TRANSIT DEVELOPMENT CREDITS (TDC) IN THE AMOUNT \$57 FOR CON IN FY14/15. TOLL CREDITS OF \$57 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$286
LOS ANGELES	TRANSIT	LA0G966	0	THE CITY OF COMMERCE WILL PURCHASE MAINTENANCE EQUIPMENT FOR THE TRANSPORTATION DEPARTMENT INCLUDING A FLUID HANDLING SYSTEM, AIR AND LUBRICATOR DISPENSER SYSTEM, PRESSURE WASHER AND ASSOCIATED CLEANING EQUIPMENT, OIL AND FLUIDS STORAGE TANKS AND ASSOCIATED EQUIPMENT, BRAKE CLEANER MACHINE, WELDER, PLASMA CUTTER, AND TOOLS FOR NEW FLYER BUSES. PROJECT USING \$35 IN TDC IN FY 14/15.	\$75
LOS ANGELES	TRANSIT	LA0G967	0	THE CITY OF COMMERCE WILL PURCHASE ONE (1) CNG-POWERED SERVICE VEHICLE, WHICH WILL BE USED TO SERVICE 11 TRANSIT AND 5 PARATRANSIT VEHICLES. PROJECT USING \$30 TDC IN FY 14/15. THE VEHICLE WOULD REPLACE AN EXISTING SERVICE VEHICLE THAT IS OVER TWENTY YEARS OLD.	\$150
LOS ANGELES	TRANSIT	LA0G971	0	THE CITY OF COMMERCE WILL REHABILITATE TWO NEOPLAN BUSES. ACTIVITIES WILL INCLUDE REPLACEMENT OF WHEEL CHAIR LIFT, INSTALLATION OF BUS WARP, PAINT AND BODY WORK AS NECESSARY, UPGRADE OF ELECTRICAL HARNESS, AND OTHER ITEMS. PROJECT IS USING \$20 IN TDC FOR CON IN FY 14/15.	\$100
LOS ANGELES	TRANSIT	LA0G973	0	THE CITY OF COMMERCE WILL INSTALL AUTOMATIC PASSENGER COUNTERS (APC) AND ASSOCIATED SOFTWARE ON TWELVE (12) TRANSIT BUSES. PROJECT USING \$30 IN TDC.	\$150
LOS ANGELES	TRANSIT	LA0G983	0	THE CITY WILL PURCHASE SPARE PARTS FOR FTA-FUNDED TRANSIT EQUIPMENT. PROJECT USING \$77 TDC IN FY 14/15.	\$385
LOS ANGELES	TRANSIT	LA0G802	0	CULVER CITY BUS STOP IMPROVEMENT PROGRAM. REPLACE AND ADD BUS SHELTER FURNITURE AND CONSTRUCT NEEDED SIDEWALK AND ROADWAY IMPROVEMENTS AT CULVER CITY BUS STOPS. PROJECT WILL USE TOLL CREDITS IN FY 14/15 IN THE AMOUNT OF \$120 AND FY 15/16 IN AMOUNT OF \$480.	\$3,000
LOS ANGELES	TRANSIT	LA0G432	0	REPLACEMENT OF 6 - 30 CNG BUSES FROM THE 2003 FLEET WITH 6 - 40 CNG BUSES.	\$3,606
LOS ANGELES	TRANSIT	LA0G955	0	CNG STATION COMPRESSOR REPLACEMENT PROJECT. PURCHASE AND INSTALLATION OF TWO (2) NEW REPLACEMENT COMPRESSORS FOR THE DEDICATED COMPRESSED NATURAL GAS (CNG) REFUELING STATION AT THE CULVER CITY TRANSPORTATION FACILITY.	\$900
LOS ANGELES	TRANSIT	LA52100	0	CULVER CITY BUS OPERATION ASSISTANCE	\$67,474
LOS ANGELES	TRANSIT	LAF3729	0	REAL-TIME BUS ARRIVAL INFORMATION SYSTEM. DEVELOP & INSTALL ON 60 BUS STOP REAL-TIME BUS ARRIVAL INFORMATION SYSTEM USING INTELLIGENT TRANSPORTATION SYSTEM (ITS) TECHNOLOGY TO DISSEMINATE NEXT BUS INFO TO TRAVELERS. THE PROJECT'S PHYSICAL COMPONENT IS LOCATED AT BUS STOPS AND TRANSIT CENTER WITHIN THE CITY OF CULVER CITY. THE NON-PHYSICAL COMPONENT OF THE PROJECT IS LOCATED ON A WEB SERVER.	\$2,522
LOS ANGELES	TRANSIT	LAF7420	0	EL MONTE CLEAN FUEL BUS REPLACEMENT: REPLACES (6) EXISTING 32-FT BUSES WITH (6) 32-FT CLEAN FUEL BUSES FOR ITS EL MONTE TRANSIT SERVICE.	\$2,267
LOS ANGELES	TRANSIT	LA52603	0	THIS PROJECT PROVIDES FOR THE USE OF FTA 5307 FUNDS FOR REVENUE SERVICE BUS TIRE LEASE. THIS PROJECT ALSO ADDS TDC (TOLL CREDITS) OF \$22 FOR FY 14/15. TOLL CREDITS OF \$22 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$12
LOS ANGELES	TRANSIT	LA973010	0	BUS SERVICE EQUIPMENT. CHANGING AVAILABLE FUNDING FOR FY15 AND ADDING FY16 INCLUDING TOLL CREDITS (TDC) DUE TO NEED FOR ADDITIONAL BUS EQUIPMENT TO SUPPORT HYBRID DRIVE SYSTEMS. TOLL CREDITS (TDC) OF \$54 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE, TOLL CREDITS (TDC) OF \$59 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	\$567
LOS ANGELES	TRANSIT	LAF404	0	PURCHASE OF SIX ALTERNATIVE FUEL REPLACEMENT BUSES. PROJECT WILL PURCHASE SIX ALTERNATIVE FUEL 40 FOOT TRANSIT BUSES TO REPLACE SIX 1997 MODEL YEAR DIESEL BUSES, INCLUDING ON-BOARD RADIOS.	\$5,100

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	TRANSIT	LAF3306	0	THIS PROJECT WILL ALLOW GMBL TO IMPLEMENT TRANSIT SIGNAL PRIORITY ALONG ITS LINE 2 TO REDUCE TRANSIT TRAVEL TIMES AND ENHANCE ON TIME PERFORMANCE. SCOPE INCLUDES INSTALLATION OF TRAFFIC SIGNAL PRIORITY EQUIPMENT ALONG THE FOLLOWING STREETS IN THE CITY OF GARDENA: VERMONT AVE FROM EL SEGUNDO BLVD TO 182ND ST; WESTERN AVE FROM EL SEGUNDO BLVD TO CASSIDY ST; 182ND ST FROM NORMANDIE AVE TO THE HARBOR GATEWAY TRANSIT CENTER. THIS WILL INCLUDE UP TO 27 LOCATIONS.	\$1,688
LOS ANGELES	TRANSIT	LAF3405	0	THREE ALTERNATIVE FUEL BUSES FOR SERVICE EXPANSION; PURCHASE THREE ALTERNATIVE FUEL 40-FOOT TRANSIT BUSES FOR SERVICE EXPANSION.	\$2,691
LOS ANGELES	TRANSIT	LAF7405	0	PURCHASE OF ALTERNATIVE FUEL REPLACEMENT BUSES: REPLACES (5) EXISTING 40-FT GAS/ELECTRIC BUSES WITH (5) 40-FT CLEAN FUEL BUSES FOR ITS GARDENA MUNICIPAL BUS LINES (GMBL).	\$4,485
LOS ANGELES	TRANSIT	LA0C8221	0	COMPRESSED NATURAL GAS FUELING AND MAINTENANCE FACILITY; NEW PUMPING STATION WILL ALLOW FOR FLEET EXPANSION, AND REDUCE OPERATING COST.	\$10,900
LOS ANGELES	TRANSIT	LAED212	0	FEASIBILITY STUDY - OF DOWNTOWN STREETCAR PROJECT	\$1,002
LOS ANGELES	TRANSIT	LAF441	0	PURCHASE OF 2-40' REPLACEMENT CNG BUSES FOR THE GLENDALE BEELINE.	\$899
LOS ANGELES	TRANSIT	LAF3430	0	PURCHASE OF EIGHT (8) 40-FOOT LOW FLOOR CNG REPLACEMENT BUSES FOR THE GLENDALE BEELINE TRANSIT SYSTEM.	\$4,000
LOS ANGELES	TRANSIT	LAF3432	0	BEELINE CNG FUELING AND MAINTENANCE FACILITY. THE CONSTRUCTION OF CITY-OWNED MAINTENANCE, OPERATIONS, AND ADMINISTRATIVE FACILITY FOR THE GLENDALE BEELINE TRANSIT SYSTEM AND GLENDALE DIAL-A-RIDE.	\$1,974
LOS ANGELES	TRANSIT	LAF5407	0	PURCHASE OF 6 CNG BUSES (REPLACEMENT) FOR GLENDALE BEELINE SERVICES. THE CITY OF GLENDALE WILL PURCHASE SIX (6) 40-FOOT NEW FLYER LOW FLOOR CNG BUSES TO REPLACE SIX (6) 35-FOOT BUSES FOR ITS BEELINE TRANSIT SYSTEM. THE NEW BUSES HAVE A SEATING CAPACITY OF 40 PASSENGERS PER BUS, WHICH ARE 10 MORE PASSENGERS PER BUS THAN THE OLDER MODELS.	\$3,240
LOS ANGELES	TRANSIT	LAF7430	0	PURCHASE OF CLEAN FUEL BUSES FOR GLENDALE BEELINE: PROCURES (5) 40-FT CLEAN FUEL BUSES TO REPLACE (3) EXISTING 35-FT AND (2) 40-FT OLDER BUSES.	\$2,497
LOS ANGELES	TRANSIT	LAF7407	0	CITY OF LA CANADA-FINTRIDGE BUS REPLACEMENT PROJECT: PROCURES (1) 35-FT CLEAN FUEL VEHICLE FOR ITS SHUTTLE SERVICE TO REPLACE A SMALLER 29-FT VEHICLE.	\$430
LOS ANGELES	TRANSIT	LA0D349	0	PURCHASE EXPANSION BUSES WITH ALTERNATE FUEL (HYBRID/ELECTRIC)	\$600
LOS ANGELES	TRANSIT	LA0D349A	0	REPLACEMENT BUSES - 25FT VANS/BUSES - PURCHASE QTY OF 3 GASOLINE-18 PASSENGER CAPACITY EACH. REPLACEMENT BUSES - 26FT VANS/BUSES - PURCHASE QTY OF 2 GASOLINE-19 PASSENGER CAPACITY EACH.	\$532
LOS ANGELES	TRANSIT	LA0G1039	0	REPLACEMENT BUSES - 25FT VANS/BUSES - PURCHASE QUANTITY OF 3 GASOLINE- 22 PASSENGER CAPACITY EACH. \$40,000 IN FY14/15 TOLL CREDITS APPLIED TO THE PROJECT.	\$200
LOS ANGELES	TRANSIT	LA0G427	0	PURCHASE OF 4 PARATRANSIT REPLACEMENT TRANSIT VEHICLES (GASOLINE).	\$652
LOS ANGELES	TRANSIT	LA0G429	0	PURCHASE AND INSTALLATION OF BIKE RACKS FOR TRANSIT VEHICLES.	\$64
LOS ANGELES	TRANSIT	LA0G601	0	PROJECT INCLUDES PREVENTATIVE MAINTENANCE OF THE LA MIRADA TRANSIT (LMT) FLEET. PREVENTATIVE MAINTENANCE MAY INCLUDE PURCHASES SUCH AS TIRES, LUBRICANTS, OIL AND FUEL FILTERS, AIR CONDITIONING UNIT PARTS, AND GENERAL VEHICLE AND COMPONENT HARDWARE. THE PROJECT ALSO INCLUDES THE PORTION OF THE MECHANICS SALARY RELATED TO PREVENTATIVE MAINTENANCE OF LMT VEHICLES. MOVE PRIOR FUNDS INTO FY11/12. USING TOLL CREDITS IN FY14/15 \$50 AND FY15/16 \$50 IN CONS.	\$750
LOS ANGELES	TRANSIT	LA0G217	0	CNG GARAGE RETROFIT - INCLUDES MAINTENANCE OF COMPRESSED NATURAL GAS VEHICLES AND EQUIPMENT.	\$400
LOS ANGELES	TRANSIT	LAED332	0	LONG BEACH PARK AND RIDE FACILITY AT 3RD STREET AND PACIFIC AVE SOUTH OF THE MTA BLUE LINE PACIFIC STATION. 300 TO 500 SPACE AND INCLUDE RESIDENTIAL AND COMMERCIAL DEVELOPMENT	\$1,002
LOS ANGELES	TRANSIT	LAF7313	0	LONG BEACHS METRO BLUE LINE SIGNAL PRIORITIZATION : (1) ENHANCES TRANSIT SIGNAL PRIORITIES AT 33 SIGNALIZED INTERSECTIONS ALONG METRO BLUE LINE (MBL) ROUTE. (2) IMPROVES LRT RAILROAD CROSSING AT SPRING ST AND METRO BLUE LINE AND (3) UPGRADES BUS SIGNAL PRIORITY CONTROLLERS AT 52 SIGNALIZED INTERSECTIONS ALONG ATLANTIC AVE BETWEEN SR-91 AND OCEAN BLVD. SAFETY TYPE OF PROJECT.	\$1,568
LOS ANGELES	TRANSIT	LA0D362	0	COMPREHENSIVE OPERATIONAL ANALYSIS TRANSIT PLANNING	\$750

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	TRANSIT	LA06017	0	BUS STOP IMPROVEMENTS/ AMENITIES INCLUDES: THE PURCHASE OF BENCHES, SHELTERS, SIGNAGE, TRASH RECEPTACLES, LANDSCAPING, LIGHTING AND OTHER BUS STOP RELATED AMENITIES. ADDED TRANSIT DEVELOPMENT CREDITS IN FY14/15 IN CONS. FOR \$99, FY15/16 IN CONS. FOR \$64, FY14/15 FTA FUNDS INCLUDES 1% AT PROJECT OF \$356. THE 20% MATCH IS INDICATED IN FY14/15 PC40, \$89.	\$10,847
LOS ANGELES	TRANSIT	LA06024	0	ON-GOING FLEET REPLACEMENT (30, 40 AND ARTICULATED, ADA COMPLIANT, ALTERNATIVE FUEL), ADDED TRANSIT DEVELOPMENT CREDITS IN \$666 IN FY 14/15 FOR CONS AND \$2,096 IN FY15/16 CONS. FOR 5307 FUNDS.	\$82,498
LOS ANGELES	TRANSIT	LA06190	0	THIS PROJECT INCLUDES: REGULAR MAINTENANCE, FACILITY IMPROVEMENTS, INFORMATION SYSTEM EQUIPMENT, SAFETY/SECURITY EQUIPMENT, REPAIRS, COSMETIC RESTORATION AND REPLACING COMPONENTS TO LONG BEACH TRANSIT'S AQUATIC FLEET. TOLL CREDITS OF TRANSIT (TDC) OF \$8 WILL BE USED TO MATCH FY16 FUNDS FOR THE CON PHASE. TOLL CREDITS - TRANSIT (TDC) OF \$8 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	\$42
LOS ANGELES	TRANSIT	LA06221	0	THE ON-GOING BUS CAPITAL PROJECT INCLUDES: BUS COMPONENTS, PROJECT ADMINISTRATION, FACILITY/ MAINTENANCE IMPROVEMENTS, INFORMATION SYSTEMS EQUIPMENT, SAFETY/ SECURITY EQUIPMENT, SHOP/OFFICE EQUIPMENT, SUPPORT VEHICLES AND TIRES. ADDED TRANSIT DEVELOPMENT CREDITS IN FY14/15 IN CONS. FOR \$908 IN FY 15/16 IN CONS. FOR \$1,823 TO MATCH 5307 FUNDS.	\$54,334
LOS ANGELES	TRANSIT	LA06222	0	CAPITALIZATION OF PREVENTATIVE MAINTENANCE (EQUIPMENT MAINTENANCE EXPENSES), ADDED TOLL CREDITS IN FY14/15, \$1,065 IN CONS AND IN FY 15/16, \$800 TO MATCH 5307 FUNDS.	\$49,784
LOS ANGELES	TRANSIT	LA06435	0	ON-GOING CAPITALIZATION OF TRAINING AND EDUCATION. IN ADDITION IN CONS., ADDED \$14 IN FY 14/15 AND \$6 IN FY15/16 FOR TRANSIT DEVELOPMENT CREDITS TO MATCH THE 5307 FUNDS.	\$245
LOS ANGELES	TRANSIT	LAF5402	0	LBT FLEET DIVERSIFICATION AND CNG BUS ACQUISITION PROJECT: WILL REPLACE FOUR (4) OF ITS EXISTING 40-FOOT NEW FLYER DIESEL BUSES WITH FOUR (4) 40-FOOT ALTERNATIVE FUEL BUSES (CNG).	\$2,026
LOS ANGELES	TRANSIT	LAF7402	0	LBT CLEAN FUEL BUS REPLACEMENT PROJECT: LONG BEACH TRANSIT (LBT) WILL REPLACE (5) OF ITS EXISTING 40-FT GAS/ELECTRIC BUSES WITH (5) CLEAN FUEL BUSES.	\$2,628
LOS ANGELES	TRANSIT	LAF1414	0	THIRD STREET & LA VERNE AVENUE PARKING LOT, CONSTRUCT A PARKING LOT AT THIRD STREET AND LA VERNE AVENUE TO PROVIDE 87 SPACES INCLUDING 4 ADA COMPLIANT SPACES FOR A PARK AND RIDE LOT FOR METRO GOLD LINE AND OTHER TRANSIT USERS.	\$2,200
LOS ANGELES	TRANSIT	LAF1427	0	HAHN'S TROLLEY AND SHUTTLE TRANSIT VEHICLES; PURCHASE THREE 25 FEET-LONG ALTERNATIVELY-FUELED CUTAWAY BUSES (TWO PRIMARY SERVICE VEHICLES AND ONE SPARE VEHICLE) FOR REPLACEMENT THAT COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND ARE EQUIPPED WITH WHEELCHAIR LIFTS.	\$375
LOS ANGELES	TRANSIT	LAF1511	0	EASTSIDE LIGHT RAIL BIKE INTERFACE PROJECT. PROJECT INCLUDES DESIGN AND CONSTRUCTION OF BIKE ROUTES WITH APPROPRIATE SIGNAGE AND STRIPING TO ACCESS METRO GOLD LINE STATIONS. TOLL CREDITS - LOCAL AND STATE HWY OF \$20 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	\$1,861
LOS ANGELES	TRANSIT	LAF5412	0	ARROW HIGHWAY BUS STOP IMPROVEMENT PLAN; IMPLEMENTATION OF A MULTI-JURISDICTIONAL AMENITY ENHANCEMENT TO 10 BUS STOPS ALONG AN 8.5 MILE STRETCH OF ARROW HIGHWAY, BETWEEN THE I-605 FREEWAY AND VALLEY CENTER DR.	\$457
LOS ANGELES	TRANSIT	LAF5413	0	THIS PROJECT INVOLVES PROCUREMENT OF SEVEN (7) 35- FOOT CNG LOW-FLOOR BUSES TO REPLACE SEVEN (7) 30-FOOT PROPANE-POWERED EL DORADO EZ RIDER II BUSES. THESE BUSES WILL BE USED TO RELIEVE OVERCROWDING ON THE EL SOL SHUTTLE SERVICE BY INCREASING CAPACITY FROM 29 SEATED PASSENGERS TO 35 PER BUS.	\$3,211
LOS ANGELES	TRANSIT	LAF5414	0	THE PROJECT INVOLVES PURCHASE OF (2) 35-FOOT CNG BUSES TO REPLACE TWO (2) 30-FOOT PROPANE-POWERED EL DORADO EZ RIDER II BUSES. THESE BUSES WILL BE USED TO RELIEVE OVERCROWDING ON THE AVOCADO HEIGHTS/BASSETT/WEST VALINDA SHUTTLE AND THE EAST VALINDA SHUTTLE SERVICES. THE NEW VEHICLES WILL MEET ALL ADA REQUIREMENTS WHILE INCREASING CAPACITY FROM 29 SEATED PASSENGERS TO 35 PER BUS.	\$823
LOS ANGELES	TRANSIT	LAF7410	0	FLORENCE-FIRESTONE/WALNUT PARK TRANSIT VEHICLES; PROCURES (2) 35-FT CLEAN FUEL VEHICLES TO REPLACE (2) 25-FT GASOLINE-POWERED CUTAWAY BUSES.	\$888
LOS ANGELES	TRANSIT	LAF7412	0	LOS ANGELES COUNTY/USC MEDICAL CENTER TRANSIT VEHICLE; PROCURES (1) 30-FT CLEAN FUEL VEHICLE FOR ITS NEW LOS ANGELES COUNTY/USC MEDICAL CENTER FIXED-ROUTE SHUTTLE SERVICE.	\$371

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	TRANSIT	LA07700	0	WILLOWBROOK INTERACTIVE INFORMATION KIOSKS : PROVIDES INFORMATION TO PUBLIC TRANSIT USERS BY INSTALLING 3 INTERACTIVE KIOSKS DISPLAYING TRANSIT, NEIGHBORHOOD, AND CULTURAL INFORMATION. THE PROJECT WILL SERVE THE WILLOWBROOK AREA AT MARTIN LUTHER KING, JR. HOSPITAL, KENNETH HAHN PLAZA, AND THE METRO WILLOWBROOK/ROSA PARKS BLUE AND GREEN LINE STATION.	\$286
LOS ANGELES	TRANSIT	LA07701	0	EAST LOS ANGELES DEMONSTRATION BICYCLE SHARING PROGRAM : INSTALLS 15 BIKE STATIONS WITH 150 BIKES AT VARIOUS TRANSIT STOPS AND ACTIVITY NODES TO IMPROVE BICYCLE ACCESS AND PUBLIC TRANSIT SERVICE. THIS PILOT BIKE SHARING PROJECT WILL SERVE EAST LOS ANGELES AT EAST LOS ANGELES CIVIC CENTER, CALIFORNIA STATE UNIVERSITY, LOS ANGELES, EAST LOS ANGELES COLLEGE AND THE ATLANTIC GOLD LINE STATION.	\$15,525
LOS ANGELES	TRANSIT	LA0C10	0	MID-CITY/EXPOSITION CORRIDOR LIGHT RAIL TRANSIT PROJECT PHASE I TO VENCE-ROBERTSON STATION. (INCLUDING E200-BUSP-095, LA CIENEGA INTERMODAL CENTER)	\$970,975
LOS ANGELES	TRANSIT	LA0C814	0	LA CNTY RIDESHARE SERVICES; PROVIDE COMMUTE INFO, EMPLOYER ASSISTANCE AND INCENTIVE PROGRAMS THROUGH CORE & EMPLOYER RIDESHARE SERVICES & MTA INCENTIVE PROGRAMS. PPN0 9003	\$65,860
LOS ANGELES	TRANSIT	LA0C8413	0	METRO RAPID BUS STATIONS-PHASE II: INCLUDES COMMUNICATIONS & EQUIPMENT - EQUIPMENT AND BUS SHELTERS ONLY.	\$10,000
LOS ANGELES	TRANSIT	LA0D197	0	MID-CITY/EXPOSITION CORRIDOR LRT OPERATING ASSISTANCE	\$109,467
LOS ANGELES	TRANSIT	LA0D198	0	CRENSHAW/LAX TRANSIT CORRIDOR - THE CRENSHAW/LAX TRANSIT CORRIDOR PROJECT IS AN 8.5-MILE LIGHT RAIL TRANSIT (LRT) LINE EXTENDING FROM THE INTERSECTION OF CRENSHAW AND EXPOSITION BOULEVARDS ALLOWING FOR TRANSFER TO THE EXPOSITION LIGHT RAIL TRANSIT LINE TO A CONNECTION WITH THE METRO GREEN LINE AT THE AVIATION/LAX STATION	\$2,058,000
LOS ANGELES	TRANSIT	LA0D282	0	LANDSCAPE, STREETScape & PASSENGER AMENITY IMPROVEMENTS AT & ADJACENT LOS ANGELES CITY COLLEGE TO IMPROVE PEDESTRIAN MOBILITY & ACCESSIBILITY TO EXISTG MULTIMODAL CONN. (SAFETEA-LU # 223, 2007 CFP #F1641)	\$9,564
LOS ANGELES	TRANSIT	LA0D337	0	TRANSIT ENHANCEMENT ACTIVITIES: 1% FORMULA FUNDS - LOS ANGELES COUNTY	\$40,154
LOS ANGELES	TRANSIT	LA0D356	0	PROVIDE HARDSCAPE, LANDSCAPE AND STREETScape IMPROVEMENTS AT EAST LOS ANGELES COLLEGE TO PROVIDE A OFF-STREET TRANSIT CENTER TO IMPROVE PEDESTRIAN MOBILITY AND MULTI-MODAL	\$3,856
LOS ANGELES	TRANSIT	LA0D357	0	PROVIDE HARDSCAPE, LANDSCAPE AND STREETScape IMPROVEMENTS AT LOS ANGELES TRADE TECHNICAL COLLEGE TO IMPROVE PEDESTRIAN MOBILITY AND MULTI-MODAL TRANSIT CONNECTIONS. SAFETEA-LU # 307, 2007 CFP #F1645.	\$5,925
LOS ANGELES	TRANSIT	LA0D471	0	NEW FREEDOM PROGRAM ADMINISTRATION, OPERATIONS AND CAPITAL FOR UZA 2 AND UZA 123.	\$34,809
LOS ANGELES	TRANSIT	LA0F021	0	EXPOSITION LIGHT RAIL TRANSIT SYSTEM PHASE II - FROM CULVER CITY TO SANTA MONICA	\$1,317,500
LOS ANGELES	TRANSIT	LA0F075	0	LIGHT RAIL TRANSIT FLEET - UP TO 133 NEW CARS SYSTEMWIDE. THESE EXPANSION RAIL CARS WILL BE ASSIGNED TO EXPO II, GOLD LINE FOOTHILL AND VEHICLE REPLACEMENTS.	\$593,425
LOS ANGELES	TRANSIT	LA0G010	0	REGIONAL CONNECTOR - LIGHT RAIL IN TUNNEL ALLOWING THROUGH MOVEMENTS OF TRAINS, BLUE, GOLD, EXPO LINES. FROM ALAMEDA / 1ST STREET TO 7TH STREET/METRO CENTER	\$1,427,132
LOS ANGELES	TRANSIT	LA0G1048	0	ACTION SIDING AND SECOND PLATFORM. LENGTHEN AN EXISTING SIDING WEST OF CP QUARTZ BY APPROX. 4,000 FEET INCLUDING A CROSSOVER, AND ADD A SECOND STATION PLATFORM AT VINCENT GRADE/ ACTION STATION. THE PROJECT WILL PROVIDE BENEFITS TO FREIGHT AND COMMUTER RAIL WITH IMPROVED OVERALL CAPACITY, TRACK OPERATIONS, AND SAFETY ALONG A VITAL SEGMENT OF THE ANTELOPE VALLEY LINE.	\$17,400
LOS ANGELES	TRANSIT	LA0G1049	0	BURBANK BOB HOPE AIRPORT STATION PEDESTRIAN GRADE SEPARATION AND REGIONAL INTERMODAL TRANSPORTATION CENTER CONNECTION. DESIGN AND CONSTRUCT A PEDESTRIAN BRIDGE THAT CONNECTS THE BURBANK BOB HOPE AIRPORT REGIONAL INTERMODAL TRANSPORTATION CENTER AND THE BOB HOPE AIRPORT METROLINK STATION TO PROVIDE A GRADE SEPARATED CROSSING OF EMPIRE AVE. AND THE RAILROAD TRACKS FOR PEDESTRIANS TRAVELING BETWEEN AIRPORT TERMINAL AND THE STATION.	\$17,575
LOS ANGELES	TRANSIT	LA0G1051	0	EXTEND SEVERAL OF THE STUB-END TRACKS IN UNION STATION TO CONNECT WITH EXISTING MAINLINE TRACKS. THE PROJECT WILL SERVE THE EXISTING METROLINK, AMTRAK, AND NEW HIGH SPEED TRAIN PROJECT IN THIS CORRIDOR. IT WILL INCLUDE THE PREPARATION OF AN UPDATED ENVIRONMENTAL REPORT AND CLEARANCE. PREPARATION OF THE P/E DOCUMENTATION, PREPARATION OF FINAL PLANS, SPECIFICATIONS AND ESTIMATES, AND THE CONSTRUCTION OF THE PROJECT.	\$195,200
LOS ANGELES	TRANSIT	LA0G1052	0	METRO PURPLE LINE WESTSIDE SUBWAY EXTENSION SECTION 2 - WILSHIRE/LA CIENEGA TO CENTURY CITY	\$2,477,112

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	TRANSIT	LA061067	0	THE PROJECT IS A NOISE AND VIBRATION STUDY TO MEASURE EXISTING, AND PREDICT FUTURE NOISE AND VIBRATION LEVELS IN THE NEIGHBORHOODS NEAR THE BNSF RAILWAY LINE.	\$100
LOS ANGELES	TRANSIT	LA061092	0	LONE HILL AVENUE TO CONTROL POINT (CP) WHITE DOUBLE TRACK WITH THE PROPOSED 3.9 MILE PROJECT SEGMENT AN EXISTING SIDING WILL BE LENGTHENED TO PROVIDE 8.1 MILES OF CONTINUOUS DOUBLE TRACK BETWEEN LONE HILL AVE AND CP CENTRAL. THE PROJECT IS CURRENTLY IN THE PAID PHASE.	\$3,000
LOS ANGELES	TRANSIT	LA061093	0	BRANFORD STREET CROSSING IMPROVEMENTS: IMPROVEMENTS TO A CROSSING IN THE SAN FERNANDO VALLEY. THE ENHANCEMENTS INCLUDE: INSTALLATION OF PEDESTRIAN CROSSING GATES, ADDITIONAL WARNING GATES, ROADWAY WIDENING, AND ADVANCED TIMING PREEMPTION.	\$2,850
LOS ANGELES	TRANSIT	LA061094	0	THE WEST SANTA ANA TRANSIT CORRIDOR PROJECT (STUDY ONLY)	\$2,359
LOS ANGELES	TRANSIT	LA061117	0	PROCUREMENT OF VESSELS FOR LOS ANGELES COUNTY'S MARINA DEL REY "WATERBUS" SERVICE. PURCHASE OF THREE (3) VESSELS TO SUPPORT GROWING DEMAND FOR "WATERBUS" PASSENGER FERRY SERVICE IN LOS ANGELES COUNTY'S MARINA DEL REY COMMUNITY.	\$395
LOS ANGELES	TRANSIT	LA061149	0	IMPROVEMENTS AT FOUR SITES ALONG CESAR CHAVEZ AVENUE. THE PERIMETER OF THE LOS ANGELES UNION STATION AT ALAMEDA AND VIGNES STREETS. LAND WILL BE ACQUIRED FOR A BUS PAVILION, BIKE FACILITIES, AND ENHANCED LANDSCAPING AT ONE SITE. STREET FURNITURE WILL BE REPLACED AND UPDATED AT THE THREE OTHER SITES. A CONTINENTAL CROSSWALK WILL BE INSTALLED ON ALL FOUR SEGMENTS OF THE INTERSECTION AT CESAR CHAVEZ AVENUE AND VIGNES STREET	\$2,086
LOS ANGELES	TRANSIT	LA061161	0	CRENSHAW/LAX ACCOMMODATIONS NEAR 96TH STREET/AVIATION BOULEVARD NOT TO PRECLUDE FUTURE METRO RAIL CONNECTIONS. TOLL CREDITS OF \$544 WILL BE UTILIZED IN FY17/18 TO MATCH CMAQ FOR ROW. TOLL CREDITS OF \$3710 WILL BE UTILIZED IN FY17/18 TO MATCH CMAQ FOR CON.	\$28,200
LOS ANGELES	TRANSIT	LA061162	0	AIRPORT METRO CONNECTOR (PAED). TOLL CREDITS - LOCAL AND STATE HWY OF \$648 WILL BE USED TO MATCH FY18 FEDERAL FUNDS FOR THE PE PHASE	\$5,000
LOS ANGELES	TRANSIT	LA061167	0	DESIGN AND CONSTRUCTION OF STREETSCAPE, PEDESTRIAN AND BICYCLE ACCESS IMPROVEMENTS IN THE LITTLE TOKYO AND ARTS DISTRICT NEIGHBORHOOD OF DOWNTOWN LOS ANGELES WITHIN A ONE-MILE RADIUS OF THE 157 CENTRAL STATION OF THE REGIONAL CONNECTOR LIGHT RAIL LINE.	\$16,800
LOS ANGELES	TRANSIT	LA061169	0	BRIGHTON TO ROXFORD DOUBLE TRACK: THIS PROJECT INCLUDES 10.4 MILES OF NEW DOUBLE TRACK ON METROLINK'S ANTELOPE VALLEY LINE BETWEEN BURBANK AND SYLMAR. THE RESULT OF THIS PROJECT WILL ELIMINATE THE CURRENT BOTTLENECK AND IMPROVE TRAVEL TIMES FOR RIDERS. THE HIGH SPEED RAIL INITIAL OPERATING SEGMENT IS PLANNED TO BE ON THE WEST SIDE OF THIS RIGHT-OF-WAY RAIL CORRIDOR. CURRENTLY, THE PROJECT IS IN THE PAED/PS&E PHASE ESTIMATED AT \$14 MILLION. REMAINING SOURCES OF FUNDS ARE PENDING DOCUMENTATION.	\$3,000
LOS ANGELES	TRANSIT	LA061174	0	STATION NEEDS ASSESSMENT: THIS IS A STUDY OF ALL STATIONS ON THE METROLINK SYSTEM IN LOS ANGELES COUNTY. THE OUTPUT OF THIS STUDY WILL BE A PRIORITIZED LIST OF ISSUES AND THE ASSOCIATED COSTS TOWARDS ENHANCING THE PASSENGER EXPERIENCE AT THE STATIONS.	\$500
LOS ANGELES	TRANSIT	LA061184	0	DESIGN AND CONSTRUCT A HIGH-CAPACITY BIKE PARKING FACILITY TO ACCOMMODATE AT LEAST 300 PARKED BICYCLES IN A SECURE ENVIRONMENT.	\$1,200
LOS ANGELES	TRANSIT	LA061207	0	INNOVATIVE PLATFORM TRACK INTRUSION DETECTION SYSTEM (PTIDS) TECHNOLOGY: A DEMONSTRATION ON LOS ANGELES METRO RAIL SYSTEM	\$2,153
LOS ANGELES	TRANSIT	LA06150	0	LAGRD - I-10 AND I-110 EXPRESS LANES FORMATION OF NEW VANPOOLS AND ENHANCED TRANSIT SERVICE INCLUDING SECURITY, MARKETING AND MAINTENANCE (RTP ID ITR08D78 & I0M08D01; LA06150, LA06151, LA06152, I0M08D02). (SPLIT WITH LA06151)	\$4,201
LOS ANGELES	TRANSIT	LA06159	0	LAGRD - DIVISION 13 (FORMERLY NAMED UNION DIVISION) NEW BUS OPERATIONS AND MAINTENANCE FACILITY (RTP ID I0M08D01 & ITR08D07A & IHL08D03 FOR HOT LACRD PROJ). PROJECT AND SCOPE ARE FROM AMENDMENT 2008 AMENDMENT #53.	\$104,200
LOS ANGELES	TRANSIT	LA06194	0	ACQUIRE ALTERNATE FOUR (4) FUEL BUSES FOR THE CITY OF ARTESIA TO BE USED FOR NEW FIXED ROUTE SERVICE EARMARK ID #E2008-BUSP-0694	\$1029
LOS ANGELES	TRANSIT	LA06269	0	TRANSIT CENTER AND PASSENGER AMENITIES AT LA SOUTHWEST COLLEGE EARMARK ID #E2008-BUSP-0678 AND E2009-BUSP-101	\$1,381
LOS ANGELES	TRANSIT	LA06270	0	EXPANSION AND IMPROVEMENT TO EXISTING TRANSIT CENTER IN THE CITY OF PALMDALE. E2009-BUSP-137.	\$360
LOS ANGELES	TRANSIT	LA06447	0	METRO PURPLE LINE WESTSIDE SUBWAY EXTENSION SECTION 1 - WILSHIRE/WESTERN TO LA CIENEGA	\$214,241,136
LOS ANGELES	TRANSIT	LA06626	0	EASTSIDE TRANSIT CORRIDOR PHASE 2 - METRO GOLD LINE EASTSIDE EXTENSION FROM ITS EXISTING TERMINUS AT ATLANTIC STATION IN EAST LOS ANGELES FARTHER EAST	\$2,490,000
LOS ANGELES	TRANSIT	LA06632	0	SOUTH BAY GREEN LINE EXTENSION-FOLLOWS HARBOR SUBDIVISION FROM METRO GREEN LINE TO THE PROPOSED REDONDO BEACH TRANSIT CENTER. FROM MARINE AVENUE STATION TO REDONDO BEACH TRANSIT CENTER (GALLERIA)	\$555,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	TRANSIT	LA06635	0	DESIGN AND CONSTRUCTION OF PEDESTRIAN AND TRANSIT ENHANCEMENTS ALONG THE PUBLIC RIGHT-OF-WAY OF THE METRO GOLD LINE EASTSIDE EXTENSION TO SURROUNDING NEIGHBORHOOD. TRANSIT ENHANCEMENTS ARE WITHIN 3 MILES OF EASTSIDE GOLDLINE EXTENSION STATION.	\$25,000
LOS ANGELES	TRANSIT	LA06639	0	PACIFIC SURFLINER CORRIDOR VAN NUYS NORTH PLATFORM IMPROVEMENTS. THE PROJECT WILL REPLACE THE SOUTH SIDE PLATFORM WITH A CENTER PLATFORM TO SERVE BOTH MAIN LINE TRACKS. UPGRADE ONE MILE OF MAIN LINE TRACK AND UPGRADE CROSSEOVERS TO HIGHER SPEED AUTOMATIC. THE PROJECT ALSO INCLUDES UTILITY RELOCATION.	\$35,500
LOS ANGELES	TRANSIT	LA06640	0	PACIFIC SURFLINER CORRIDOR - RAYMER/BERNSON DOUBLE TRACK IMPROVEMENTS - UPGRADE THE RAIL CORRIDOR FROM A SINGLE TRACK TO A DOUBLE TRACK, INSTALL CONCRETE TIES ON BOTH TRACKS, INSTALL FOUR NEW SPECIAL TRACKWORK TURNOUTS, NINE AT-GRADE CROSSINGS AND TWO BRIDGES, A NEW SECOND PLATFORM & NEW FENCING AT NORTHRIDGE AND A NEW PEDESTRIAN UNDERPASS. OTHER ENHANCEMENTS INCLUDE SIGNAL RELOCATION, UTILITY RELOCATION AND DRAINAGE IMPROVEMENTS.	\$95,855
LOS ANGELES	TRANSIT	LA06642	0	METRO PURPLE LINE WESTSIDE SUBWAY EXTENSION SECTION 3 - CENTURY CITY TO WESTWOOD/VA HOSPITAL	\$120,685
LOS ANGELES	TRANSIT	LA06758	0	SOUTHERN CALIFORNIA 5th ONE-CALL/ONE-CLICK TRANSPORTATION RESOURCE CENTER EXPANSION	\$2,500
LOS ANGELES	TRANSIT	LA06841	0	SAN FERNANDO VALLEY BRT TRANSIT EXTENSION CANOGA - OPERATING ASSISTANCE	\$18,750
LOS ANGELES	TRANSIT	LA06844	0	CONSTRUCTION OF AN UNDERGROUND PEDESTRIAN PASSAGE (ABOUT 150 FT.) UNDER LANKERSHIM BOULEVARD) FROM THE PLATFORMS OF THE EXISTING ORANGE LINE BRT STATION, WEST OF LANKERSHIM BOULEVARD TO THE EAST MEZZANINE LEVEL OF THE EXISTING NORTH HOLLYWOOD RED LINE SUBWAY STATION AT LANKERSHIM BOULEVARD.	\$22,000
LOS ANGELES	TRANSIT	LA06984	0	FEASIBILITY STUDY ON THE METROLINK SAN BERNARDINO LINE TO DEVELOP AN INFRASTRUCTURE IMPROVEMENT STRATEGIC PLAN TOWARDS INCREASED CAPACITY ON THE LINE. THE PROJECT IS IN THE L.A. AND SAN BERNARDINO COUNTIES.	\$1,000
LOS ANGELES	TRANSIT	LA29202U3	0	SAN FERNANDO VALLEY NORTH/SOUTH BRT EXTENSION PHASE I: METRO RAPID SERVICE ALONG RESEDA BLVD. AND SEPULVEDA BLVD. SAFETEA-LU # 183. THE FUNDS ARE FOR TYPICAL PASSENGER AMENITIES.	\$11,702
LOS ANGELES	TRANSIT	LA29202W	0	WILSHIRE BLVD BRT PHASE I: 12.5-MI. CORRIDOR WITH 7.7-MI. PEAK PERIOD BUS LANE ON WILSHIRE WITHIN THE CITY AND COUNTY OF LA FROM VALENCIA ST. TO CITY OF SANTA MONICA. INCLUDES STREET WIDENING, CURB LANE REPAIR/RECONSTRUCTING, IMPROVED TRAFFIC SIGNAL TIMING & BUS SIGNAL PRIORITY. PHASE II: INCLUDES ENHANCED SHELTERS & LANDSCAPING; STREET REPAIR/RECONSTRUCTION; CONCRETE BUS PADS AND P&R FACILITIES.	\$55,525
LOS ANGELES	TRANSIT	LA963543	0	PREVENTIVE MAINTENANCE (CAPITAL & OPERATING MAINTENANCE ITEMS ONLY)	\$4,154,861
LOS ANGELES	TRANSIT	LA963546	0	BUS & RAIL CAPITAL, INCLUDES FACILITY UPGRADE, EQUIP, SPARE PARTS, NON-REV VEHICLES, MAINTENANCE SUPPORT, ITS, ETC. INCLUDES \$5.3 MIL FOR LACRD IMPROVEMENTS. INCLUDES RTP ID ITR08D08 & ITR08D07A & ITR08D07B)	\$992,884
LOS ANGELES	TRANSIT	LA974165	0	MACARTHUR PARK STATION IMPROVEMENTS INCLUDE DESIGN AND CONSTRUCTION OF A PLAZA TO ACCOMMODATE PUBLIC ACCESS (PEDESTRIAN ENTRANCES, WALKWAYS, BICYCLE FACILITIES) PPN0# 347	\$1931
LOS ANGELES	TRANSIT	LA990764	0	JOB ACCESS & REVERSE COMMUTER PROGRAM ADMINISTRATION, OPERATIONS AND CAPITAL FOR UZA 2 AND UZA 123.	\$152,534
LOS ANGELES	TRANSIT	LAES732	0	SECTION 5307 % TRANSIT ENHANCEMENTS ACTIVITIES	\$3,037
LOS ANGELES	TRANSIT	LA0C53	0	HOLLYWOOD INTERMODAL TRANSPORTATION AND PUBLIC PARKING CENTER ON HAWTHORNE AVE. BETWEEN HIGHLAND AVENUE AND NORTH ORANGE DRIVE (EXIST 500 SP PARK STRUCTURE) ICR#49.2	\$41,000
LOS ANGELES	TRANSIT	LA0D109	0	PURCHASE LAND FOR VEHICLE MAINTENANCE TRANSIT FACILITY	\$2,062
LOS ANGELES	TRANSIT	LA0D343	0	VEHICLE MAINTENANCE FACILITY	\$9,627
LOS ANGELES	TRANSIT	LA0G1081	0	PURCHASE 25 REPLACEMENT ALT-FUEL 30' DASH BUSES	\$12,060
LOS ANGELES	TRANSIT	LA0G1128	0	EXPO LINE BUNNY STATION FIRST/LAST MILE IMPROVEMENTS. THIS PROJECT WILL ESTABLISH PEDESTRIAN/BIKE-FRIENDLY ROUTES TO THE EXPO/BUNNY STATION THROUGH TRAFFIC CALMING, SAFETY IMPROVEMENTS, WAYFINDING, AND PLACE MAKING. PROJECT ELEMENTS INCLUDE SHADE TREES, ACCESS RAMPS, NEW SIDEWALKS, MEDIAN REFUGE, BICYCLE PARKLET, CURB EXTENSIONS, PEDESTRIAN LIGHTING, BIKE RACKS, AND STREET FURNITURE.	\$3,450
LOS ANGELES	TRANSIT	LA0G1158	0	SECURITY LIGHTING FOR BUS STOPS	\$325
LOS ANGELES	TRANSIT	LA0G1165	0	COMMUTER EXPRESS SERVICE EXPANSION TO ALLEVIATE CONGESTION ON HARBOR FREEWAY; PURCHASE ONE NEW COMMUTER EXPRESS BUS AND EXTENSION OF SEVERAL AM & PM TRIPS ON EXPRESS ROUTE 438.	\$910

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	TRANSIT	LA06425	0	CONSTRUCTION OF VEHICLE MAINTENANCE FACILITY	\$12,818
LOS ANGELES	TRANSIT	LA06669	0	CNG FUELING FACILITY	\$3,336
LOS ANGELES	TRANSIT	LA06670	0	GLASSSELL PARK TRANSIT PAVILION. LOS ANGELES PAVILION WILL INCLUDE MULTIPLE PERMANENT CANOPIES CONSISTING OF FIBER GLASS WITH METAL FRAMES THAT PROVIDE PASSENGERS COVERAGE FROM THE WEATHER. AMENITIES INCLUDE WANDERING PATHS, VEGETATION AND PERMANENT BENCHES FOR WAITING BETWEEN LINE TRANSFERS OF THE 5 LOCAL AND REGIONAL TRANSIT LINES WHICH USE THE PAVILION AS A STOP.	\$238
LOS ANGELES	TRANSIT	LA06671	0	HISTORIC FLIPINOTOWN BUS SECURITY LIGHTS, LOS ANGELES	\$79
LOS ANGELES	TRANSIT	LA06672	0	PURCHASE FIVE REPLACEMENT 32' CNG BUSES	\$1,980
LOS ANGELES	TRANSIT	LA06901	0	HISTORIC LOS ANGELES STREETCAR	\$125,000
LOS ANGELES	TRANSIT	LA06941	0	PURCHASE 24 REPLACEMENT ALTERNATIVE FUEL 30' FOOT BUSES.	\$10,932
LOS ANGELES	TRANSIT	LAF609	0	MAIN STREET BUS STOP AND PEDESTRIAN IMPROVEMENTS. DESIGN AND CONSTRUCT BUS STOP AND PEDESTRIAN IMPROVEMENTS THAT WILL INCREASE THE USAGE AND CAPACITY OF PEDESTRIAN FACILITIES ALONG A 0.4 MILE STRETCH OF MAIN STREET.	\$823
LOS ANGELES	TRANSIT	LAF630	0	WASHINGTON BLVD TRANSIT ENHANCEMENTS. WASHINGTON BL TRANSIT ENHANCEMENT IS A STREETSCAPE DESIGN PROJECT THAT ENCOURAGES INCREASED USE OF PUBLIC TRANSIT WHILE SUPPORTING LAND USES THAT ARE COMPATIBLE W/TOD	\$2,384
LOS ANGELES	TRANSIT	LAF663	0	SUNSET JUNCTION TRANSIT PHASE 1. THIS PROJECT WILL IMPROVE AN UNUSED ROADWAY SECTION ON SANTA MONICA BL. AND ON SUNSET BL BETWEEN SANBORN AVE AND EDGECLIFFE DR. IMPROVEMENTS AS PART OF THIS PROJECT ARE: SIDEWALK IMPROVEMENTS, APPROXIMATELY 15 BIKE RACKS, DECORATIVE CROSSWALKS, PED LIGHTS, AND OTHER STREET FURNITURE TO INCREASE ACCESSIBILITY, TRANSFERS & TRANSIT USE.	\$1671
LOS ANGELES	TRANSIT	LAF3409	0	STOCKER/MLK CRENSHAW ACCESS TO EXPO LRT STATION. THIS PROJECT WILL DESIGN/CONSTRUCT CAPITAL IMPROVEMENTS AT THE BUS HUB INTERSECTIONS OF STOCKER ST/CRENSHAW BL AND MARTIN LUTHER KING, JR. BL/CRENSHAW BL IN THE CITY OF LOS ANGELES. PROJECT ELEMENTS TO INCLUDE SIDEWALK IMPROVEMENTS, STREET FURNITURE, SAFETY LIGHTING, AND WAYFINDING SIGNAGE.	\$2,172
LOS ANGELES	TRANSIT	LAF3419	0	SUNSET JUNCTION PHASE 2. CREATE A MULTI-MODAL TRANSIT PLAZA TO INTEGRATE PUBLIC TRANSPORTATION, PEDESTRIAN & BICYCLE IMPROVEMENTS THAT WOULD RESULT IN REGIONAL & LOCAL BENEFITS (CFP3844). TRIANGLE PROPERTY ON SUNSET BLVD BWT MANZANITA AND SANTA MONICA.	\$5,869
LOS ANGELES	TRANSIT	LAF5427	0	DASH CLEAN FUEL - FIVE (5) HIGHER CAPACITY VEHICLES. PURCHASE FIVE (5) 35- FOOT CNG CLEAN -FUEL BUSES TO REPLACE FIVE (5) 30-FOOT PROPANE VEHICLES TO EASE OVERCROWDING.	\$2,283
LOS ANGELES	TRANSIT	LAF7423	0	DOWNTOWN BUS MAINTENANCE FACILITY. CONSTRUCTS A MAINTENANCE FACILITY AND FUELING STATION ON AN APPROXIMATELY 2.75-ACRE PROPERTY IN ORDER TO SERVICE CLEAN-FUEL DASH BUSES. NEW FACILITY WILL PROVIDE SIX SERVICE BAYS, A BUS-WASHING BAY, AN ADMINISTRATIVE BUILDING, AND PARKING FOR 60 DASH VEHICLES. THE FACILITY WILL ALSO PROVIDES LAYOVER SPACE FOR COMMUTER EXPRESS BUSES.	\$5,795
LOS ANGELES	TRANSIT	LAF7424	0	PURCHASE OF DASH REPLACEMENT CLEAN FUEL VEHICLES. PROCURES 9 NEW BUSES (SIX 30-FT CLEAN FUEL BUSES AND THREE 35-FT CLEAN FUEL BUSES) TO REPLACE TO REPLACE NINE (9) EXISTING 30-FT BUSES.	\$3,709
LOS ANGELES	TRANSIT	LAF7707	0	LAST MILE FOLDING BIKE INCENTIVE PROGRAM : PROVIDES FINANCIAL INCENTIVES TO TRANSIT RIDERS TOWARDS THE PURCHASE OF 1800 COLLAPSIBLE OR ELECTRIC BIKES TO USE IN CONJUNCTION WITH BUS AND RAIL SYSTEMS.	\$887
LOS ANGELES	TRANSIT	LAF5409	0	MALIBU BUS STOP IMPROVEMENTS ALONG PACIFIC COAST HIGHWAY FOR 11 BUS STOPS (SERVING METRO LOCAL LINE 534) LOCATED ALONG PACIFIC COAST HWY BETWEEN TRANCAS CANYON RD AND TUNA CANYON RD. IMPROVEMENTS INCLUDE THE RELOCATION OF BUS STOPS, STRIPING WORK, INSTALLATION OF BUS BENCHES AND LANDING PADS, PAVING AROUND THE BENCHES AND LANDING PADS, SIDEWALKS, ADA RAMPS AND THE INSTALLATION OF APPROPRIATE SIGNAGE, LIGHTING, AND PASSENGER PICKUP FLASHER SIGNALS.	\$364
LOS ANGELES	TRANSIT	LA06558	0	GOLD LINE FOOTHILL LRT EXTENSION - PASADENA TO AZUSA	\$847,000
LOS ANGELES	TRANSIT	LA06701	0	THE METRO GOLD LINE FOOTHILL EXTENSION TRANSIT ORIENTED DEVELOPMENT STUDY WILL ILLUSTRATE POSSIBLE TRANSIT ORIENTED DEVELOPMENTS INTENSITIES AROUND FUTURE METRO GOLD LINE FOOTHILL EXTENSION STATIONS.	\$278
LOS ANGELES	TRANSIT	LA29212XY	0	METRO RAIL GOLD LINE FOOTHILL EXTENSION - AZUSA TO CLAREMONT (LA COUNTY LINE) 12 MILE, 5 STATION LRT EXTENSION. SAFETEA-LU # 285 LEAD AGENCY WILL CHANGE TO METRO GOLD LINE	\$35,530

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	TRANSIT	LA06039	0	TRANSIT VILLAGE - PROVIDE A TRANS. FACILITY FOR SIERRA MADRE VILLA GOLD LINE STA. P-N-R FOR COMMUTERS. A FOOTHILL TRANSIT STORE INCLUDING THREE (3) BUS BAYS, AT LEAST FOUR (4) SHELTERS WITH BENCHES, LIGHTING FOR SAFETY AND SECURITY, TRASH RECEPTACLES, DRINKING FOUNTAINS, AND INFORMATION KIOSKS. ADDITIONAL TRAFFIC SIGNALS AND SOME STREET WIDENING WILL TAKE PLACE TO IMPROVE BUS TRAFFIC FLOW.	\$3,026
LOS ANGELES	TRANSIT	LA061023	0	THE UNIVERSAL FARE SYSTEM (UFS) PROJECT UPGRADE WILL INCLUDE THE PURCHASE AND INSTALLATION OF UFS EQUIPMENT FOR THE MONTEBELLO BUS LINES FLEET. THE EQUIPMENT WILL UTILIZE SMART CARD TECHNOLOGY AND WILL BE COMPATIBLE WITH LOS ANGELES COUNTY'S UFS PROGRAM. UTILIZING \$406 OF TDC(TOLL CREDITS) FOR FY 14/15 FOR P&E/PS&E. TOLL CREDITS OF \$406 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE PE PHASE	\$2,028
LOS ANGELES	TRANSIT	LA06644	0	INSTALLATION OF AN AUTOMATIC PASSENGER COUNTER (APC) SYSTEM ON MBL FLEET.	\$300
LOS ANGELES	TRANSIT	LA06645	0	BUS STOP IMPROVEMENT PROJECT: REPLACE MBL BUS STOP SHELTERS AND AMENITIES WITHIN THE CITY OF MONTEBELLO. UTILIZING \$500 OF TDC(TOLL CREDITS) IN FY14/15. TOLL CREDITS OF \$500 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$2,500
LOS ANGELES	TRANSIT	LA06647	0	PURCHASE OF A MAINTENANCE SOFTWARE TO MAINTAIN TRANSIT FACILITIES & VEHICLE RECORDS, AND TO REPLACE CURRENT INVENTORY CONTROL SOFTWARE.	\$527
LOS ANGELES	TRANSIT	LA06649	0	BUS CHASSI WASH REPLACEMENT: REPLACE CURRENT CHASSI WASH WITH NEW EQUIPMENT...	\$175
LOS ANGELES	TRANSIT	LA06650	0	REPLACE BUS WASH PROJECT: REPLACEMENT OF TRANSIT FACILITY'S BUS WASH EQUIPMENT.	\$500
LOS ANGELES	TRANSIT	LA06656	0	REPOWER FIVE HYBRID BUSES REHABILITATION PROJECT: REPLACEMENT OF HYBRID POWER PLANTS WITH CNG-FUEL POWER PLANTS AND REPLACEMENT OF HVAC SYSTEM OF 5 HYBRID BUSES THAT HAVE MET THEIR MIDLIFE STATUS. USING \$300 OF TDC(TOLL CREDITS) AS MATCHING FOR FTA 5307 IN FY14/15.	\$1,500
LOS ANGELES	TRANSIT	LA06821	0	PURCHASE OF SEVEN (7) ALTERNATIVE FUEL TRANSIT BUSES TO REPLACE DIESEL BUSES.	\$4,025
LOS ANGELES	TRANSIT	LA06822	0	REPLACEMENT OF THREE (3) GASOLINE FUEL TRANSIT SUPPORT VEHICLES WITH ALTERNATIVE FUEL VEHICLES.	\$140
LOS ANGELES	TRANSIT	LA06851	0	MONTEBELLO BUS LINES PICO RIVERA TRANSIT CENTER ENHANCEMENTS: DEMOLISH FACILITY ON EXISTING SPACE AND CONSTRUCTION OF NEW FACILITY. THE NEW FACILITY WILL INCLUDE AMENITIES FOR BUS OPERATORS, PEDESTRIANS, AND BICYCLE FACILITIES FOR COMMUTERS. (NO PARK & RIDE) LOCATED AT THE CORNER OF PASSONS AND JACKSON IN THE CITY OF PICO RIVERA.	\$3,000
LOS ANGELES	TRANSIT	LA06862	0	PURCHASE OF SEVEN (7) ALTERNATIVE FUEL EXPANSION TRANSIT BUSES	\$4,025
LOS ANGELES	TRANSIT	LA06906	0	REPOWER 4 HYBRID BUSES REHABILITATION PROJECT: REPLACEMENT OF HYBRID POWER PLANTS WITH CNG-FUEL POWER PLANTS AND REPLACEMENT OF HVAC SYSTEM OF 4 HYBRID BUSES THAT HAVE MET THEIR MIDLIFE STATUS.	\$1,200
LOS ANGELES	TRANSIT	LA06907	0	TRANSIT FACILITY MASTER PLAN - 400 SOUTH TAYLOR AVE. MONTEBELLO, CA 90640. PROJECT IS TO IMPROVE INFRASTRUCTURE, SUSTAINABILITY AND TO ADDRESS EXPANSION AND GROWTH NEEDS.	\$1,000
LOS ANGELES	TRANSIT	LA55205	0	ASSOCIATED CAPITAL MAINTENANCE ITEMS (ONGOING). THE ASSOCIATED CAPITAL MAINTENANCE PROJECT PROVIDES FOR THE PURCHASE OF MAJOR BUS COMPONENTS ON AN AS NEEDED BASIS IN SUPPORT OF MONTEBELLO BUS LINES' FIXED ROUTE FLEET. TOLL CREDITS (TDC) OF \$64 WILL BE USED TO MATCH FY15/16 FTA 5307 FOR THE CON PHASE	\$5,625
LOS ANGELES	TRANSIT	LA55207	0	TRANSIT COACH TIRE (LEASE) (ONGOING). CARRYOVER FROM PRIOR FISCAL YEAR. PROJECT USING \$80 OF TDC (\$40 IN FY14/15 AND \$40 IN FY15/16) FOR MATCH TO 5307 FUNDS.	\$2,341
LOS ANGELES	TRANSIT	LA55757	0	CUSTOMER INFORMATION SYSTEM PROJECT: INCLUDING AUTOMATIC VEHICLE LOCATION AND REAL-TIME PASSENGER INFORMATION SYSTEMS.	\$3,014
LOS ANGELES	TRANSIT	LA F1415	0	EAST LA COLLEGE TRANSIT CENTER PHASE II. AMENITIES TO INCLUDE INFORMATION KIOSK AND DRIVER RESTROOMS FOR 2ND PHASE OF THE EAST LOS ANGELES COMMUNITY COLLEGE TRANSIT CENTER.	\$149
LOS ANGELES	TRANSIT	LA F7400	0	CLEAN FUEL BUS REPLACEMENTS: PROCURES (5) NEW CLEAN FUEL BUSES TO REPLACE (3) SPIRIT MID-SIZE DIESEL BUSES. (1) METROLINK CLEAN FUEL CUTAWAY, AND (1) DIAL-A-RIDE GASOLINE-POWERED CUTAWAY BUS.	\$1,560
LOS ANGELES	TRANSIT	LA0C61	0	TRANSIT DATA AND COMMUNICATION SYSTEMS; ITS (RADIO, AVL, DISPATCHING, AND OTHER ADVANCED TECHNOLOGY) ONGOING.	\$823
LOS ANGELES	TRANSIT	LA0C63	0	PURCHASE OF MISC OFFICE EQUIPMENT - (ONGOING)	\$148

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	TRANSIT	LA0C64	0	ASSOCIATED CAPITAL MAINTENANCE (ENGINES, TRANSMISSIONS, PARTICULATE TRAPS, KITS, ETC) (ONGOING)	\$75
LOS ANGELES	TRANSIT	LA0D296	0	BUS STOP IMPROVEMENTS (ONGOING)	\$808
LOS ANGELES	TRANSIT	LA0D43	0	CAPITALIZATION OF PREVENTIVE MAINTENANCE (ONGOING).	\$6,488
LOS ANGELES	TRANSIT	LA0G025	0	PURCHASE REPLACEMENT GASOLINE FUELED SUPPORT VEHICLES	\$268
LOS ANGELES	TRANSIT	LA0G057	0	ONGOING ANNUAL TIRE LEASE CONTRACT	\$193
LOS ANGELES	TRANSIT	LA0G073	0	NORWALK/SANTA FE SPRINGS TRANSPORTATION CENTER-METROLINK STATION IMPROVEMENTS. REHAB/IMPROVEMENT OF THE TRANSIT FACILITY, EQUIPMENT MAINTENANCE FACILITY, OPERATIONS/DISPATCH OFFICES, FUEL ISLAND, BUS WASH AND DRAINAGE, PARKING IMPROVEMENTS (NO NEW SPACES), AND PEDESTRIAN PLAZA PASSENGER AMENITIES.....	\$5,985
LOS ANGELES	TRANSIT	LA0G085	0	ONGOING BUS REPLACEMENT: ALTERNATIVE FUEL BUSES TO COMPRESSED NATURAL GAS (CNG) BUSES - 18 BUSES TOTAL	\$2,854
LOS ANGELES	TRANSIT	LA0G107	0	NORWALK TRANSIT SYSTEM (NTS) BUSES/EQUIPMENT AND STORAGE OF FACILITY MAINTENANCE EQUIPMENT ASSOCIATE WITH MAINTAINING/REPAIRING OF THE METROLINK STATION (I.E. SWEEPING EQUIPMENT, VANDALISM REPAIRS, LANDSCAPING EQUIPMENT, ETC.) ON THE 1.76 ACRE LOT IN SANTA FE SPRINGS (KNOW AS PARCEL B).	\$1,219
LOS ANGELES	TRANSIT	LA0G120	0	PURCHASE REPLACEMENT FULLY ACCESSIBLE PARATRANSIT VANS FOR DEMAND RESPONSE SERVICE (ONGOING). PROGRAM FUNDING TO REPLACE UPTO THREE (3) EL DORADO PARATRANSIT VANS (2005 & 2006).	\$225
LOS ANGELES	TRANSIT	LA0G122	0	BUS STOP IMPROVEMENTS AND/OR REPAIRS (ONGOING) INCLUDING BUS STOP AMENITIES (I.E. BUS SHELTER, TRASH RECEPTACLE, ETC), INSTALLATION OF ROUTE INFORMATION/SIGNAGE, BRAILLE IDENTIFIER PLATES AND INSTALLATION OF BIKE STATIONS/RACKS.	\$134
LOS ANGELES	TRANSIT	LA0G224	0	ONGOING PROJECT- PROCUREMENT AND INSTALLATION OF SECURITY SURVEILLANCE EQUIPMENT IN REPLACEMENT BUSES	\$81
LOS ANGELES	TRANSIT	LAF3443	0	IMPROVEMENTS TO THE PEDESTRIAN PLAZA AT THE NORWALK/SANTA FE SPRINGS METROLINK STATION. IMPROVEMENTS INCLUDE DEVELOPMENT OF A CONTINUOUS NEW PEDESTRIAN WALKWAY AND BICYCLE PATH UTILIZING THE ROADBED ALONG THE NORTHERN EDGE OF THE PROPERTY. ADDITIONAL IMPROVEMENTS INCLUDE PASSENGER CAR PICK-UP/DROP-OFF AREA, PROPER SIGNAGE AND STRIPING, BUS SHELTER/SEATING AREA, SECURITY LIGHTING, AND LANDSCAPING AND INSTALLATION OF CLOSED CIRCUIT TELEVISION (CCTV) SURVEILLANCE SECURITY SYSTEM.	\$1,164
LOS ANGELES	TRANSIT	LAF3403	0	PALMDALE TRANSPORTATION CENTER - PLATFORM EXTENSION. EXTENSION OF THE EXISTING PALMDALE TRANSPORTATION CENTER METROLINK PLATFORM FROM 510 LINEAL FEET TO 680 LINEAL FEET; 170 LINEAL FEET EXTENSION. PROJECT IS CENTRALLY LOCATED WITHIN THE CITY LIMITS ON A 26-ACRE SITE ADJACENT TO 6TH STREET EAST AND TECHNOLOGY DRIVE (FORMERLY AVENUE P-8). THE SERVICE AREA INCLUDES PALMDALE, LANCASTER, QUARTZ HILL, PEARBLOSSOM AND LITTLE ROCK. THIS SERVICE AREA IS A VERY LARGE PORTION OF THE ANTELOPE VALLEY.	\$1012
LOS ANGELES	TRANSIT	LAF413	0	PV TRANSIT LP 6 BUSES. PURCHASE OF TWELVE (12) ALTERNATIVE FUELED VEHICLES TO REPLACE EXISTING GASOLINE-POWERED VEHICLES.	\$1623
LOS ANGELES	TRANSIT	LAF5405	0	PASADENA TRANSIT UPGRADE TO CLEAN FUEL CNG BUSES. THE CITY OF PASADENA HAS REQUESTED FUNDS TO REPLACE SIX (6) 30-FOOT VEHICLES WITH SIX (6) 32 OR 35-FOOT CNG BUSES. THE CITY WILL OPERATE THESE BUSES ON THE PASADENA AREA RAPID TRANSIT SYSTEM (ARTS).	\$2,658
LOS ANGELES	TRANSIT	LAF1605	0	PEDESTRIAN SAFE BUS STOP LINKAGE. LINKING 11 BUS STOPS CURRENTLY INACCESSIBLE BECAUSE OF LACK OF SIDEWALKS ON BOTH THE EAST AND WEST SIDE OF HAWTHORNE BLVD. FROM CREST RD. TO PALOS VERDES DR. SOUTH (ABOUT 13,000)	\$1,397
LOS ANGELES	TRANSIT	LA0D29	0	HEART OF THE CITY BUS TRANSFER STATION AMENITIES. RELOCATE THE EXISTING INTERMODAL TRANSIT TERMINAL AND CONSTRUCT A NEW TRANSIT CENTER WITH 12 BUS BAYS, PASSENGER WAITING AREA AND INFORMATION CENTER, AND A DRIVER OPERATOR LOUNGE. THE PROPERTY WILL ALSO PROVIDE 339 PUBLIC PARKING SPACES (PLUS 2 FOR STAFF: MAINTENANCE & SECURITY) AND BICYCLE FACILITIES. LOCATION - 1521 KINGSDALE AVENUE, REDONDO BEACH, CA 90278	\$10,045
LOS ANGELES	TRANSIT	LA0D298	0	ACQUISITION AND INSTALLATION OF TRANSIT AMENITIES (BENCHES AND SMALL SHELTERS)	\$2,090
LOS ANGELES	TRANSIT	LA0G1018	0	ACQUISITION OF FOUR (4) CNG-POWERED TRANSIT VEHICLES FOR REPLACEMENT OF THE BCT FLEET (3 CUTAWAYS AND 1 FIXED ROUTE BUS).	\$952
LOS ANGELES	TRANSIT	LA0G700	0	PROCUREMENT OF THREE (3) REPLACEMENT ALTERNATIVE FUEL TRANSIT VEHICLES NOT TO EXCEED 35- FEET, INCLUDING AUTOMATED ANNUNCIATING SYSTEMS AND OTHER ASSOCIATED VEHICLE EQUIPMENT..	\$1,426
LOS ANGELES	TRANSIT	LA0G1019	0	INSTALLATION OF 36 BUS SHELTERS AND BENCHES ALONG ALL MTA STOPS CITY WIDE.	\$324

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	TRANSIT	LA06499	0	LAE01278: PURCHASE OF EQUIPMENT TO SUPPORT CNG VEHICLES AND CONSTRUCT CNG FACILITY AND RELATED INFRASTRUCTURE IMPROVEMENTS TO FIXED ROUTE PUBLIC TRANSPORTATION	\$2,231
LOS ANGELES	TRANSIT	LAF601	0	SAN GABRIEL CITY-WIDE BUS SHELTER INSTALLATION. INSTALL BUS SHELTERS AT EXISTING BUS STOPS ON MTA AND MONTEBELLO BUS LINE ROUTES.	\$688
LOS ANGELES	TRANSIT	LA00125	0	BUS STOP AMENITIES (BENCHES AND SHELTERS) PROJECT (ONGOING). PROJECT USING \$125 OF TDC (TOLL CREDITS) TO MATCH FTA 5307 FUNDS IN FY14/15 FOR CON.	\$3,169
LOS ANGELES	TRANSIT	LA0092	0	COUNTY-WIDE UNIVERSAL FARE SYSTEM (UFS) PROJECT (ONGOING). UTILIZING \$100 OF TDC FOR FTA5307 IN FY15/16 FOR CON.	\$2,420
LOS ANGELES	TRANSIT	LA051025	0	VISTA CANYON RANCH COMPRESSED NATURAL GAS (CNG) FUELING STATION. TOLL CREDITS - TRANSIT (TDC) OF \$30 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE PE PHASE. TOLL CREDITS - TRANSIT (TDC) OF \$275 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	\$1,526
LOS ANGELES	TRANSIT	LA051028	0	CONSTRUCT A PARK AND RIDE AT STATE ROUTE 14 AND NEW HALL AVENUE.	\$10,500
LOS ANGELES	TRANSIT	LA051029	0	SYSTEM-WIDE BUS STOP IMPROVEMENTS. IMPROVEMENTS INCLUDE DESIGN AND CONSTRUCTION OF NEW BUS STOPS INCLUDING SIDEWALK, CONCRETE, ACCESSIBILITY IMPROVEMENTS AS WELL AS INSTALLING BENCHES AND SHELTERS.	\$625
LOS ANGELES	TRANSIT	LA051030	0	BUS REPLACEMENT - 13 2004 COMMUTER BUSES. PROJECT USING \$1,414 OF TDC (TOLL CREDITS) TO MATCH 5307 FUNDS IN FY15/16. TOLL CREDITS OF \$1,414 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	\$7068
LOS ANGELES	TRANSIT	LA051193	0	BUS REPLACEMENT OF 14 2005 NEW FLYER CNG BUSES. TOLL CREDIT-TRANSIT (TDC) OF \$1,540 WILL BE USED TO MATCH FY16 FTA 5307 FUNDS FOR THE CON PHASE	\$6,160
LOS ANGELES	TRANSIT	LA05421	0	BUS REPLACEMENT OF 13 COMMUTER OVER THE ROAD COACHES.	\$7,568
LOS ANGELES	TRANSIT	LA05774	0	VISTA CANYON RANCH TRANSIT CENTER - RELOCATE THE EXISTING, TEMPORARY VIA PRINCESSA METROLINK STATION TO THE VISTA CANYON PROJECT SITE; INCLUDES METROLINK STATION AND BUS TRANSFER STATION, A PEDESTRIAN OVERPASS OR UNDERCROSSING OF THE TRACKS AND AN ADJACENT PARKING STRUCTURE WITH UP TO 750 PARKING SPACES.	\$4,625
LOS ANGELES	TRANSIT	LA05963	0	PURCHASE ONE (1) REPLACEMENT 35 FT CNG TROLLEY BUS THAT SEAT 28 AND 19 STANDEES. UTILIZING TDC FOR FTA 5307. TOLL CREDITS - TRANSIT (TDC) OF \$70 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$350
LOS ANGELES	TRANSIT	LA05979	0	PURCHASE ONE (1) EXPANSION 35 FT CNG TROLLEY BUS THAT SEATS 28 AND 19 STANDEES. THIS PROJECT WILL USE TOLL CREDITS OF \$125 AS LOCAL MATCH IN FY14/15.	\$625
LOS ANGELES	TRANSIT	LAF1420	0	SANTA CLARITA TRANSIT BUS STOP EXPANSION AND AMENITIES. PURCHASE AND INSTALL NEW BUS STOPS AND AMENITIES ALONG FUTURE ROUTES IDENTIFIED IN THE CITY OF SANTA CLARITA'S TRANSIT DEVELOPMENT PLAN.	\$387
LOS ANGELES	TRANSIT	LAF3401	0	CITY OF SANTA CLARITA TRANSIT BUS REPLACEMENT WITH CNG. REPLACE FIVE DIESEL POWERED TRANSIT BUSES WITH 40-FOOT ALTERNATIVE FUELED COMPRESSED NATURAL GAS (CNG), LOW-FLOOR BUSES.	\$2,296
LOS ANGELES	TRANSIT	LAF7404	0	VISTA CANYON REGIONAL TRANSIT CENTER: INSTALLS A NEW SEVEN-BAY BUS TRANSFER STATION THAT ALSO INCLUDES CANOPIES, BENCHES, LIGHT POLES, RESTROOM FACILITIES AND OTHER AMENITIES.	\$4,070
LOS ANGELES	TRANSIT	LA0F022	0	BUS SHELTER PROGRAM (INSTALLATION OF BUS SHELTERS AND REAL TIME TRANSIT INFORMATION)	\$10,553
LOS ANGELES	TRANSIT	LA0F093	0	REPLACE 1997 NEW FLYER BUSES (40 FT-DIESEL WITH CNG BUSES. PURCHASE UP TO 67 BUSES)	\$98,018
LOS ANGELES	TRANSIT	LA06856	0	TRANSIT CAPITAL-FUEL COSTS..	\$244
LOS ANGELES	TRANSIT	LA06939	0	EXPO PLANNING STUDY - TO PROVIDE MOBILITY MANAGEMENT WITH THE EXPO LIGHT RAIL TERMINUS IN DOWNTOWN SANTA MONICA.	\$550
LOS ANGELES	TRANSIT	LA980313	0	UNIVERSAL FARE SYSTEM (UFS) PROGRAM	\$3,945
LOS ANGELES	TRANSIT	LAE0364	0	SANTA MONICA'S BIG BLUE BUS/SANTA MONICA COLLEGE TRANSIT SERVICE. BUS STOP IMPROVEMENTS NEAR THE CAMPUS ALONG THE BUS ROUTES. IMPROVEMENTS MAY INCLUDE PASSENGER AMENITIES SUCH AS SHELTERS, BENCHES, STREET IMPROVEMENTS AT STOPS, AND LIGHTING. CARRYOVER FROM PRIOR FISCAL YEAR	\$2,000
LOS ANGELES	TRANSIT	LAF5406	0	REPLACE 18 VEHICLES, INCLUDING ELEVEN (11) 40-FT AND SEVEN (7) 60-FT BUSES. ALL THE VEHICLES WILL HAVE APPROXIMATELY 40 SEATS, BE ADA ACCESSIBLE, INCLUDE NEW BICYCLE RACKS, AND INCORPORATE ADVANCE FLEET MANAGEMENT SYSTEMS TECHNOLOGIES DEPLOYED THROUGHOUT THE SYSTEM.	\$12,345

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	TRANSIT	LA05404	0	CITY-WIDE BUS SHELTER UPGRADES, W/ELECTRONIC KIOSKS, BUS STOP IMPROVEMENTS AT 14 SERVED BY LONG BEACH TRANSIT ROUTES. PROJECT INCLUDES SHELTERS, BENCHES, LED LIGHTING, SOLAR PANELS, AND INFORMATION KIOSKS WITH MESSAGING BOARDS.	\$76
LOS ANGELES	TRANSIT	LA068232	0	ANTELOPE VALLEY LINE CHANGES AT SANTA CLARITA - ALIGNMENT CHANGES WILL PERMIT HIGHER SPEEDS OF OPERATION AND REDUCE MAINTENANCE COST. (SCRRRA). (PPNO 3202).	\$3,693
LOS ANGELES	TRANSIT	LA061210	0	THE PROJECT IS TO REMOVE AND REPLACE THE CURRENT TICKET VENDING MACHINE (TYM) FLEET WITH NEW TYMS, INCLUDING RELATED INTEGRATION AND REPLACEMENT OF BACK OFFICE SYSTEMS. TRANSIT (TDC) OF \$59 WILL BE USED TO MATCH CMAQ IN FY14/15 FOR THE CON PHASE.	\$294
LOS ANGELES	TRANSIT	LA06456	0	METROLINK SEALED CORRIDOR GRADE CROSSING IMPROVEMENTS LOS ANGELES VENTURA SUBDIVISION	\$400
LOS ANGELES	TRANSIT	LA05187	0	MULTI-COUNTY FUNDED POSITIVE TRAIN CONTROL (PTC). SCRRRA IS DEVELOPING AN ACCELERATED STRATEGY TO HAVE POSITIVE TRAIN CONTROL (PTC) OPERATIONAL ON ALL METROLINK TRAINS BY 2012 AND THE FULL PTC SYSTEM INSTALLED ON THE 216 MILES OF METROLINK-OWNED RIGHT-OF-WAY BY 2015. (5307 FUNDS FROM 5340)	\$7,015
LOS ANGELES	TRANSIT	LA01B111	0	BUS SYSTEM - PREVENTIVE MAINTENANCE. THIS PROJECT WILL USE \$450K OF TRANSIT DEVELOPMENT CREDITS (TDC) IN FY14/15 TO MATCH THE 5307 FEDERAL FUNDS IN THE CON PHASE.	\$24,848
LOS ANGELES	TRANSIT	LA06203	0	PURCHASE OF SUPPORT EQUIPMENT - TIRES. FUNDS ADDED TO FY14/15 FOR A TOTAL OF \$265K. TTS WILL ALSO BE UTILIZING \$53K OF TDC (TOLL CREDITS) AS MATCH IN FY14/15.	\$645
LOS ANGELES	TRANSIT	LA0011	0	TRANSIT - ENHANCEMENTS (STREET FURNITURE).	\$1,525
LOS ANGELES	TRANSIT	LA00380	0	HARDWARE AND SOFTWARE UPGRADE-FUEL DISPENSING/MONITORING	\$448
LOS ANGELES	TRANSIT	LA00454	0	REHAB TRANSIT ADMINISTRATIVE AND OPERATIONS OFFICES	\$1,000
LOS ANGELES	TRANSIT	LA00455	0	REPLACE RELIEF AND SUPERVISOR VEHICLES	\$160
LOS ANGELES	TRANSIT	LA06059	0	PURCHASE (5) RELIEF VEHICLES AND (4) SERVICE VEHICLES TO REPLACE EXISTING VEHICLES THAT HAVE REACHED THE END OF THEIR USEFUL SERVICE LIFE.	\$350
LOS ANGELES	TRANSIT	LA06060	0	SOFTWARE/HARDWARE REPLACEMENT & UPGRADE OF AUTOMATIC VEHICLE LOCATOR (AVL).	\$600
LOS ANGELES	TRANSIT	LA06124	0	TORRANCE REGIONAL PARK AND RIDE TRANSIT CENTER - OPERATING FUNDS. TOLL CREDITS (TDC) OF \$1,200 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE. TOLL CREDITS - TRANSIT (TDC) OF \$1,200 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$2,400
LOS ANGELES	TRANSIT	LA06166	0	TORRANCE TRANSIT EXPANSION OF LINE #1 AND LINE #4 HOTLANE SERVICE * : TRANSIT EXPANSION OF LINE #1 AND #4 TO INCLUDE MID-DAY AND WEEKEND SERVICE. THE ACQUISITION OF 5 40' FOOT CNG BUSES.	\$2,886
LOS ANGELES	TRANSIT	LA06145	0	LACRD - 4 EXPANSION BUSES FOR THE I-110 HARBOR TRANSITWAY HOT LANE (TORRANCE TRANSIT). (RTP# 1TR204)	\$2,800
LOS ANGELES	TRANSIT	LA06148	0	LACRD - I-110 HOTLANE OPERATIONS - NEW TRANSIT SERVICES. (RTP# 1TR204). PURCHASE FOUR (4), FORTY FOOT (40'), CNG BUSES. SERVICE WILL BEGIN AT THE ARTESIA TRANSIT CENTER/STATION, IMMEDIATELY JUMP ONTO THE I-10 FREEWAY (VIA HOV LANE) AND TRAVEL NORTH TO DOWNTOWN LOS ANGELES UNION STATION.	\$1,200
LOS ANGELES	TRANSIT	LA06195	0	REMODEL TRAINING ROOM AND MAINTENANCE AREA. TOLL CREDITS (TDC) OF \$150 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE. TOLL CREDITS - TRANSIT (TDC) OF \$150 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	\$750
LOS ANGELES	TRANSIT	LA06199	0	BUS SYSTEM - MAINTENANCE FACILITY EQUIPMENT. HOIST (I).	\$150
LOS ANGELES	TRANSIT	LA06358	0	SOUTH BAY REGIONAL INTERMODAL TRANSIT CENTER PROJECT AT 465 N. CRENSHAW BLVD., TORRANCE, CA 90503.	\$21,000
LOS ANGELES	TRANSIT	LA06722	0	MAINTENANCE FACILITY RETROFIT - FOR CNG BUSES.	\$937
LOS ANGELES	TRANSIT	LA06405	0	TORRANCE TRANSIT SYSTEM - FLEET MODERNIZATION PROJECT WILL FUND FORTY FIVE (45) ALTERNATIVE FUEL/CNG BUSES TO REPLACE EXISTING DIESEL VEHICLES.	\$25,645
LOS ANGELES	TRANSIT	LA061013	0	PURCHASE OF 1 LARGE BUS (16 AP/2 WC) FOR REPLACEMENT FOR BRETHREN HILLCREST HOMES. THIS PROJECT WILL USE \$8 OF TRANSIT DEVELOPMENT CREDIT TO MATCH THE 5310 FEDERAL FUNDS IN THE CON PHASE, FY14/15. FFY'12 FUNDING CYCLE 5310 PROGRAM FUNDING PROGRAMMED. FY2015	\$73

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
LOS ANGELES	TRANSIT	LA061014	0	PURCHASE OF 6 MEDIUM BUSES (12 AP/2 WC) FOR REPLACEMENT FOR ALTIMED HEALTH SERVICES CORPORATION. THIS PROJECT WILL USE \$46 OF TRANSIT DEVELOPMENT CREDIT (TDC) TO MATCH THE 5310 FEDERAL FUNDS IN THE CON PHASE, FY 14/15. FFY 12 FUNDING CYCLE 5310 PROGRAM FUNDS PROGRAMMED: FY 2015	\$402
LOS ANGELES	TRANSIT	LA061015	0	PURCHASE OF 1 MINIVAN (5 AP) FOR SERVICE EXPANSION FOR TARZANA TREATMENT CENTER. THIS PROJECT WILL USE \$5 OF TRANSIT DEVELOPMENT CREDIT (TDC) TO MATCH THE 5310 FEDERAL FUNDS IN THE CON PHASE, FY 14/15. FFY 12 CYCLE 5310 PROGRAM FUNDS PROGRAMMED: FY 2015	\$45
LOS ANGELES	TRANSIT	LA061016	0	PURCHASE OF 1 LARGE BUS (16 AP/2 WC) FOR REPLACEMENT FOR TARZANA TREATMENT CENTER. THIS PROJECT WILL USE \$8 OF TRANSIT DEVELOPMENT CREDIT (TDC) TO MATCH THE 5310 FEDERAL FUNDS IN THE CON PHASE, FY 14/15. FFY 12 FUNDING CYCLE 5310 PROGRAM FUNDS PROGRAMMED: 2015	\$73
LOS ANGELES	TRANSIT	LA061017	0	PURCHASE OF 1 LARGE BUS (20 AP/2 WC) FOR SERVICE EXPANSION FOR THE CITY OF GLENDALE. THIS PROJECT WILL USE \$12 OF TRANSIT DEVELOPMENT CREDIT TO MATCH THE 5310 FEDERAL FUNDS IN THE CON PHASE, FY 14/15. FFY 12 CYCLE 5310 PROGRAM FUNDS PROGRAMMED: FY 2015	\$105
LOS ANGELES	TRANSIT	LA061056	0	PURCHASE OF 1 MINIVAN (5 AP) WITH RAMP FOR SERVICE EXPANSION FOR BRETHREN HILLCREST HOMES. THIS PROJECT WILL USE \$5 OF TRANSIT DEVELOPMENT CREDIT (TDC) TO MATCH THE 5310 FEDERAL FUNDS IN THE CON PHASE, FY 14/15. FFY CYCLE 12 5310 PROGRAM FUNDS PROGRAMMED: FY 2015	\$45
LOS ANGELES	TRANSIT	LA061057	0	PURCHASE OF 1 SMALL BUS (8 AP/2 WC) FOR REPLACEMENT FOR THE INSTITUTE FOR THE REDESIGN OF LEARNING. THIS PROJECT WILL USE \$7 OF TRANSIT DEVELOPMENT CREDIT (TDC) TO MATCH THE 5310 FEDERAL FUNDS IN THE CON PHASE. TDC IS FOR FY 14/15. FFY 12 CYCLE 5310 PROGRAM FUNDS PROGRAMMED: 2015	\$60
LOS ANGELES	TRANSIT	LA06761	0	VALLEY VILLAGE - PURCHASE OF 1 REPLACEMENT SMALL BUS 8 AP, 2 WC...	\$60
LOS ANGELES	TRANSIT	LA06764	0	POMONA VALLEY TRANSPORTATION AUTHORITY - PURCHASE OF 6 REPLACEMENT LARGE BUS (16AP, 2 WC)...	\$420
LOS ANGELES	TRANSIT	LA06767	0	EASTER SEALS - PURCHASE OF 2 REPLACEMENT LARGE BUSES...	\$140
LOS ANGELES	TRANSIT	LA06768	0	PRIDE INDUSTRIES, INC. - PURCHASE OF 3 SERVICE EXPANSION LARGE BUS (16 AP, 2 WC)...	\$210
LOS ANGELES	TRANSIT	LA06770	0	PRIDE INDUSTRIES, INC. - PURCHASE OF 1 OPERATING EQUIPMENT GPS UNITS (6)...	\$5
LOS ANGELES	TRANSIT	LA06772	0	VALLEY VILLAGE - PURCHASE OF 7 SERVICE EXPANSION SMALL BUS 8 AP, 2 WC...	\$420
LOS ANGELES	TRANSIT	LA06773	0	ARTS & SERVICES FOR THE DISABLED - PURCHASE OF 1 SERVICE EXPANSION SMALL BUS (8 AP, 2 WC)...	\$60
LOS ANGELES	TRANSIT	LA06999	0	PURCHASE OF 13 MINIVANS FOR REPLACEMENT FOR ACCESS SERVICES. THIS PROJECT WILL USE \$67 OF TRANSIT DEVELOPMENT CREDIT (TDC) TO MATCH THE 5310 FEDERAL FUNDS IN THE CON PHASE, FY 14/15. FFY 12 FUNDING CYCLE 5310 PROGRAM FUNDING PROGRAMMED: FY 15	\$585
LOS ANGELES	TRANSIT	LA06012	0	FEDERAL OPERATING ASSISTANCE. UTILIZING \$400 OF TDC IN FY15/16 TO MATCH FTA 5307 FUNDS FOR CON.. TOLL CREDITS - TRANSIT (TDC) OF \$400 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	\$25,110
LOS ANGELES	TRANSIT	LA06358	0	PREVENTATIVE MAINTENANCE FOR THE CULVER CITYBUS FLEET.	\$17,500
LOS ANGELES	TRANSIT	LA52101	0	CERTIFICATES OF PARTICIPATION (COP) HAVE BEEN ISSUED FOR THE CULVER CITY TRANSPORTATION FACILITY. PAYMENTS WILL BE MADE BI-ANNUALLY THROUGH JANUARY 2016.	\$6,480
LOS ANGELES	TRANSIT	LA52105	0	PAYMENTS FOR THE LEASING OF BUS TIRES FOR THE CULVER CITYBUS FLEET.	\$500
ORANGE	LOCAL HIGHWAY	ORA990906	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES FUNDED WITH TE - SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED)	\$7,961
ORANGE	LOCAL HIGHWAY	ORA990907	0	GROUPED PROJECTS FOR TRANSPORTATION ENHANCEMENT ACTIVITIES - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - TRANSPORTATION ENHANCEMENT ACTIVITIES (EXCEPT REHABILITATION AND OPERATION OF HISTORIC TRANSPORTATION BUILDINGS, STRUCTURES, OR FACILITIES)	\$19,193
ORANGE	LOCAL HIGHWAY	ORA112622	0	BROOKHURST ST (600' NORTH OF I-5 TO SR-91), ADD ONE LANE EACH DIRECTION. FROM 4 TO 6 LANE FACILITY WITH RAISED MEDIAN. THE PROJECT WILL INCLUDE SIX-FOOT-WIDE CLASS II BIKEWAYS, TEN-FOOT-WIDE PARKWAYS/SIDEWALKS AND CONCRETE SOUNDWALLS ALONG THE EAST AND/OR WEST SIDES OF BROOKHURST ST. CONSISTENT WITH THE 2012 RTP	\$21,770

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
ORANGE	LOCAL HIGHWAY	ORA113001	0	ARTIC TO WEST ANAHEIM 4TH DISTRICT BIKEWAY CONNECTOR PROJECT. CONSTRUCT 3.77 MILES OF CLASS II BIKE LANES AND 4.19 MILES OF CLASS III SHARROWS ALONG A CONTINUOUS CORRIDOR TOTALING 7.96 MILES. FROM BALL ROAD AND MAGNOLIA AVENUE TO ARTIC REGIONAL TRANSPORTATION HUB AND THE SANTA ANA RIVER TRAIL.	\$374
ORANGE	LOCAL HIGHWAY	ORA120501	0	BROOKHURST STREET WIDENING FROM S/O BALL ROAD TO N/O KATELLA AVENUE (4-6 LANES)	\$26,480
ORANGE	LOCAL HIGHWAY	ORA131703	0	ANAHEIM COVES NORTHERN EXTENSION. PROJECT WILL CREATE 0.9 MILES OF A CLASS I 10-FOOT-WIDE PAVED BICYCLE TRAIL THAT WILL EXTEND THE CURRENT ANAHEIM COVES TRAIL FROM E. LINCOLN AVENUE TO FRONTERA STREET ALONG THE WEST SIDE OF THE SANTA ANA RIVER. TOLL CREDIT MATCH OF \$95,430.	\$832
ORANGE	LOCAL HIGHWAY	ORA150008	0	IMPROVE AND EXPAND THE SANTA RIVER TRAIL ALONG THE AREA IMMEDIATELY BORDERING THE EASTSIDE OF THE ANAHEIM REGIONAL TRANSPORTATION INTERMODAL CENTER (ARTIC)	\$1,086
ORANGE	LOCAL HIGHWAY	ORA371	0	SANTA ANA RIVER TRAIL-IMPROVE AND EXPAND THE SANTA ANA RIVER TRAIL ALONG THE AREA IMMEDIATELY BOARDING THE EAST SIDE OF THE ANAHEIM REGIONAL TRANSPORTATION INTERMODAL CENTER (ARTIC)	\$736
ORANGE	LOCAL HIGHWAY	ORA113002	0	THE TRACKS AT BREA WILL CONSTRUCT A CLASS I BICYCLE TRAIL AND SEPARATE PEDESTRIAN PATH ALONG THE LOFTUS CHANNEL AND ON A CITY EASEMENT OVER AMERICAN SUZUKI MOTOR CORPORATION'S PROPERTY. THIS SEGMENT OF THE TRAIL WILL BE APPROXIMATELY 3,500 LINEAR FEET AND ENCOMPASS TEN ACRES.	\$951
ORANGE	LOCAL HIGHWAY	ORA131702	0	THE TRACKS AT BREA - SEGMENT 4. CONSTRUCTION OF A CLASS I BICYCLE TRAIL FROM STATE COLLEGE BLVD. RUNNING EAST UNDER THE 57 FREEWAY, CONTINUING SOUTHEAST TOWARDS BIRCH STREET. 3,400 LINEAR FEET. TOLL CREDITS: FY15/16 ATP-MPO CON FOR \$284,915.	\$3,026
ORANGE	LOCAL HIGHWAY	ORA150103	0	THE TRACKS AT BREA SEGMENTS 2 & 3. CONSTRUCTION CLASS I BICYCLE/PEDESTRIAN TRAIL ALONG 1.15 MILE LONG SECTION ON THE TRACKS AT BREA. SEGMENT 2 FROM BREA FLOOD CONTROL CHANNEL TO NORTH BREA BOULEVARD. SEGMENT 3 FROM NORTH BREA BOULEVARD TO STATE COLLEGE BOULEVARD.	\$2,889
ORANGE	LOCAL HIGHWAY	ORA082001	0	HARBOR BLVD - ADAMS AVE. ADD A SECOND SOUTHBOUND RIGHT-TURN LANE. ADD A THIRD EASTBOUND LEFT-TURN LANE.	\$4,314
ORANGE	LOCAL HIGHWAY	ORA113003	0	BICYCLE EDUCATION AT SCHOOLS. BICYCLE SAFETY EDUCATION PROGRAM WILL BE CLASSES FOR SIXTEEN ELEMENTARY SCHOOLS.	\$139
ORANGE	LOCAL HIGHWAY	ORA113004	0	FAIRVIEW MULTIPURPOSE TRAIL IN COSTA MESA THE PROPOSED PROJECT INCLUDES DESIGN AND CONSTRUCTION OF A NEW EIGHT-FOOT WIDE, CONCRETE CLASS I MULTIPURPOSE TRAIL FACILITY FOR A LENGTH OF APPROXIMATELY 5,300 FEET WITHIN THE LIMITS OF FAIRVIEW PARK.	\$1,247
ORANGE	LOCAL HIGHWAY	ORA113005	0	PLACENTIA AVENUE BICYCLE SIGNAL ON PLACENTIA AVENUE WILL PROVIDE A SAFE AND CONTROLLED CROSSING TO CONNECT THE NEW BICYCLE TRAIL RECENTLY CONSTRUCTED ON THE WEST SIDE OF PLACENTIA AVENUE. THIS INSTALLATION WILL BE A TREMENDOUS ASSET TO LINK COMMUTERS TO SANTA ANA RIVER TRAIL.	\$244
ORANGE	LOCAL HIGHWAY	ORA130105	0	BICYCLE RACKS AT CITY FACILITIES	\$39
ORANGE	LOCAL HIGHWAY	ORA130401	0	WIDEN CERRITOS AVENUE EASTBOUND 4 TO 5 LANES. FROM WALKER STREET TO ANGELA AVENUE.	\$378
ORANGE	LOCAL HIGHWAY	ORA131706	0	CERRITOS AVENUE BIKE CORRIDOR IMPROVEMENTS (FROM DENNI STREET TO WALKER STREET) - CONSTRUCT AN OFF-ROAD BIKE PATH TO REPLACE AN EXISTING ON-STREET BIKE ROUTE TO IMPROVE SAFETY AND CONNECTIVITY. CLASS 1 FOR 1MILE. TOLL CREDITS: FY15/16 CMAQ CON FOR \$9,405; FY15/16 ATP-MPO CON FOR \$72,490.	\$714
ORANGE	LOCAL HIGHWAY	ORA131707	0	COAST HIGHWAY CLASS I BIKEWAY/PEDESTRIAN WAY EXTENSION PROJECT PHASE 1 - PROJECT WILL ENCOMPASS THE EXTENSION OF THE TWO WAY BIKEWAY/PEDESTRIAN PATHWAY ALONG COAST HIGHWAY FROM THE CAPISTRANO SURFSIDE INN PEDESTRIAN OVERCROSSING (POC) TO PALISADES DRIVE. CLASS 1 FOR .36 MILES.	\$690
ORANGE	LOCAL HIGHWAY	ORA00809	0	RAYMOND AVE GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON RAYMOND AVE AT THE BNSF RR TRACKS. (NON-CAPACITY)	\$112,190
ORANGE	LOCAL HIGHWAY	ORA040602	0	STATE COLLEGE GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON STATE COLLEGE BLVD AT THE BNSF RR TRACKS (SANTA FE AVE TO 700 FT SOUTH OF VALENCIA). (NON-CAPACITY)	\$86,004
ORANGE	LOCAL HIGHWAY	ORA113008	0	THE LAKE STREET BICYCLE TREATMENTS AND DOWNTOWN BICYCLE PARK. INSTALL SHARROWS AND BICYCLE SIGNAGE ON LAKE STREET BETWEEN PECAN AVENUE AND ORANGE AVENUE, AND BIKE RACKS ON OR NEARBY MAIN STREET. FOUR SHARROWS ARE PROPOSED ALONG WITH TWO SIGNS, AND APPROXIMATELY 28 BIKE RACKS.	\$47
ORANGE	LOCAL HIGHWAY	ORA120522	0	HUNTINGTON BEACH - ATLANTA AVE WIDENING (FRM HUNTINGTON TO DELEWARE; FRM 2 TO 4 LNS)	\$5,451

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
ORANGE	LOCAL HIGHWAY	ORA131708	0	UTICA AVENUE BICYCLE BOULEVARD - ADA ACCESSIBILITY, BICYCLE IMPROVEMENTS, AND SIGNAGE.	\$853
ORANGE	LOCAL HIGHWAY	ORA080902	0	PROJECT FEASIBILITY STUDY OF SIX MILES OF NEW ROADWAYS INCLUDING TRABUCO RD, O STREET AND MARINE WAY	\$500
ORANGE	LOCAL HIGHWAY	ORA110602	0	WIDENING OF LAGUNA CANYON / I-405 OVERCROSSING FROM 2 LANES TO 4 LANES	\$10,892
ORANGE	LOCAL HIGHWAY	ORA113009	0	THE PETERS CANYON OFF-STREET BIKEWAY WILL IMPROVE A SEGMENT OF THE BIKEWAY THAT IS 2,150 FEET LONG AND IS LOCATED BETWEEN THE RAILROAD TRACKS AND WALNUT AVENUE; ADJACENT TO THE HARVARD ATHLETIC PARK. THE POLE LIGHTING WILL BE INSTALLED EVERY 70-75 FEET OF THE BIKEWAY; A TOTAL OF 35 POLE LIGHTING WITHIN THE PROJECT SEGMENT.	\$858
ORANGE	LOCAL HIGHWAY	ORA113010	0	THE FREEWAY TRAIL IN IRVINE IS LOCATED NORTH OF THE I-405 FREEWAY AND RUNS PARALLEL TO THE I-405 FREEWAY. THE SEGMENT PROPOSED FOR LIGHTING IMPROVEMENT IS 4,300 FEET LONG AND RUNS FROM THE SAN DIEGO CREEK TO CULVER DRIVE. POLE LIGHTING WILL BE INSTALLED EVERY 70-75 FEET OF BIKEWAY; A TOTAL OF 60 POLE LIGHTING WILL BE INSTALLED WITHIN THE PROJECT SEGMENT.	\$878
ORANGE	LOCAL HIGHWAY	ORA120315	0	IRVINE - SAND CANYON @ I-5 (ADD 3RD AND 4TH NB AND SB THRU LNS ON SND CYN; IMP EB APPROACH ADD 2 LFT TRN LNS, 1 THRU LN, & 1 RT TRN LN)	\$8,441
ORANGE	LOCAL HIGHWAY	ORA120514	0	IRVINE - TRABUCO RD @ SR-133 (ADD NEW ON-RAMPS AND OFF RAMPS AT TRABUCO & SR-133) (PRELIMINARY ENGINEERING/PRE-DESIGN ONLY)	\$106,000
ORANGE	LOCAL HIGHWAY	ORA113011	0	LA HABRA UNION PACIFIC RAILROAD BIKEWAY. ENG FOR UNION PACIFIC RAILROAD RIGHT-OF-WAY BETWEEN LA HABRA WEST CITY LIMITS AND LA HABRA EAST CITY LIMITS. ROW FOR LA HABRA WEST CITY LIMITS TO BEACH BOULEVARD. TOLL CREDIT MATCH: FY15/16 CMAQ CON FOR \$10,552, FY15/16 ATP-MPO CON FOR \$81,235.	\$1,321
ORANGE	LOCAL HIGHWAY	ORA020802	0	SALT CREEK TRAIL ENHANCEMENT PROJECT	\$637
ORANGE	LOCAL HIGHWAY	ORA000173	0	LA PAZ RD (MURILANDS/I-5 TO CHRISANTA DR) WIDENING FROM 4 TO 6 LANES BRIDGE # 55C0215	\$97,416
ORANGE	LOCAL HIGHWAY	ORA082405	0	WIDEN OSO PARKWAY FROM COUNTRY CLUB DRIVE TO INTERSTATE 5 - PROJECT WILL WIDEN BOTH THE EAST BOUND AND WEST BOUND DIRECTIONS FROM THE CURRENT THREE LANES IN EACH DIRECTION TO FOUR LANES IN EACH DIRECTION.	\$11,408
ORANGE	LOCAL HIGHWAY	ORA113013	0	EASTBLUFF DRIVE/FORD ROAD CLASS II BIKE LANE IMPROVEMENT WILL ADD A 1.09 MILE STRIPED BIKE LANE ALONG THE SELECTED PORTION OF EASTBLUFF DRIVE AND CONTINUE IT PAST JAMBOREE ROAD ONTO FORD ROAD.	\$270
ORANGE	LOCAL HIGHWAY	ORA130101	0	NEWPORT BEACH CLASS II BICYCLE LANE (6.237 MILES) AND BICYCLE FACILITIES	\$215
ORANGE	LOCAL HIGHWAY	ORA082401	0	COW CAMP ROAD (4 LANES) FROM ANTONIO TO "I" STREET (SEGMENT 1 OF ANTONIO TO Foothill TRANSPORTATION CORRIDOR)	\$32,320
ORANGE	LOCAL HIGHWAY	ORA113006	0	COYOTE CREEK CLASS I BIKEWAY. MALVERN AVENUE/LA MIRADA BOULEVARD TO HILLSBOROUGH DRIVE FOR A TOTAL LENGTH OF APPROXIMATELY 1.95 MILES.	\$1,521
ORANGE	LOCAL HIGHWAY	ORA120504	0	ORANGE COUNTY - LA PATA AVENUE WIDENING & GAP CLOSURE - ADD 4 LNS (EXISTING LA PATA TERMINUS TO CALLE SALUDA)	\$57,220
ORANGE	LOCAL HIGHWAY	ORA130305	0	LA PATA AVENUE WIDENING & GAP CLOSURE (WIDEN FROM 3 TO 5 LNS (2,700 FT S/O ORTEGA HWY TO RD TERMINUS) PA&ED AND PS&E ONLY (SPLIT FROM ORA120504)	\$10,000
ORANGE	LOCAL HIGHWAY	ORA131705	0	LAMBERT ROAD BIKEWAY PROJECT - THIS PROJECT WILL CONSTRUCT NEW 5-FOOT WIDE CLASS II BIKEWAY LANES ON BOTH DIRECTIONS. CLASS II FOR .44 MILES. TOLL CREDIT MATCH: FY15/16 CMAQ CON FOR \$5,852, FY15/16 ATP-MPO CON FOR \$45,192.	\$445
ORANGE	LOCAL HIGHWAY	ORA020507	0	ORANGE COUNTY COUNCIL OF GOVERNMENTS (OCCOG) - REDUCE ORANGE COUNTY CONGESTION (ROCC) PROGRAM (INCLUDES STUDIES AND PLANNING) CO-LEAD OCTA	\$1,500
ORANGE	LOCAL HIGHWAY	ORA000118	0	SAND CYN RD @ SCRRA TRACKS (BURT RD TO LAGUNA CANYON/OAK CANYON) - RAILROAD GRADE SEPARATION. WIDENS FROM 4 TO 6 LANES. CO LEAD WITH IRVINE	\$64,013
ORANGE	LOCAL HIGHWAY	ORA020823	0	KRAEMER BLVD GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON KRAEMER BLVD AT THE BNSF RR TRACKS. ORANGE COUNTY GATEWAY PROJECT. (NON-CAPACITY)	\$66,627
ORANGE	LOCAL HIGHWAY	ORA020824	0	ORANGETHORPE AVE GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON ORANGETHORPE AVE AT THE BNSF RR TRACKS. ORANGE COUNTY GATEWAY PROJECT. (NON-CAPACITY)	\$10,495
ORANGE	LOCAL HIGHWAY	ORA020825	0	LAKEVIEW AVE GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON LAKEVIEW AVE AT THE BNSF RR TRACKS. ORANGE COUNTY GATEWAY PROJECT. (NON-CAPACITY)	\$95,649

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
ORANGE	LOCAL HIGHWAY	ORA020826	0	TUSTIN AVE / ROSE DRIVE GRADE SEPARATION; CONSTRUCT A GRADE SEPARATION ON TUSTIN AVE / ROSE DRIVE AT THE BNSF RRR TRACKS. ORANGE COUNTY GATEWAY PROJECT. PHASE I. (NON-CAPACITY)	\$94,271
ORANGE	LOCAL HIGHWAY	ORA02925	0	BNSF RAILWAY LINE (PLACENTIA) ALONG SS OF ORANGETHORPE. GRADE SEPARATION/ CORRIDOR IMPROVEMENTS. (NON-CAPACITY)	\$78,230
ORANGE	LOCAL HIGHWAY	ORA112601	0	I-5/ROUTE 74 INTERCHANGE IMPROVEMENT - LANDSCAPING/REPLACEMENT PLANTING - (PPNO 4102A) (ORA120326 PARENT PROJECT)	\$2,172
ORANGE	LOCAL HIGHWAY	ORA113099	0	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLES 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION. (SLPP FORMULA GRANT)	\$43,252
ORANGE	LOCAL HIGHWAY	ORA130303	0	STATE COLLEGE GRADE SEPARATION (LOSSAN) - CONSTRUCT AN UNDERCROSSING UNDER THE SCRRRA TRACKS ON STATE COLLEGE BLVD IN THE CITY OF ANAHEIM BETWEEN HOWELL AVE AND KATELLA AVE. (NOT CAPACITY ENHANCING)	\$92,000
ORANGE	LOCAL HIGHWAY	ORA131108	0	2011 CTFP REGIONAL TRAFFIC SIGNAL SYNCHRONIZATION PROGRAM. 102 MILES AND 355 SIGNALIZED INTERSECTIONS ALONG 10 HIGH VOLUME REGIONAL TRAFFIC CORRIDORS.	\$7,600
ORANGE	LOCAL HIGHWAY	ORA131306	0	17TH STREET GRADE SEPARATION (SANTA ANA)-NEW RAIL GRADE SEPARATION ON LOSSAN CORRIDOR (PA&ED PHASE)	\$3,500
ORANGE	LOCAL HIGHWAY	ORA190601	0	PLANNING STUDIES AND PSR'S (SR-55 STUDY 19TH STREET TO INDUSTRIAL WAY IN COSTA MESA)	\$1,130
ORANGE	LOCAL HIGHWAY	ORA131701	0	GOLDEN AVENUE OVER CARBON CANYON CHANNEL - REPLACE 2 TO 4 LANE BRIDGE (BRIDGE # 55C0192)	\$3,087
ORANGE	LOCAL HIGHWAY	ORA113077	0	PACIFIC COAST BIKEWAY ROUTE SIGNAGE AND PARKING EXPANSION IMPROVEMENT PROJECT WILL INSTALL BIKEWAY WAYFINDING SIGNAGE AND ADD BIKEWAY RACKS ALONG THE PACIFIC COAST BIKEWAY ROUTE WITHIN THE CITY OF SAN CLEMENTE.	\$201
ORANGE	LOCAL HIGHWAY	ORA131710	0	SAN JUAN CAPISTRANO BIKEWAY GAP CLOSURE - INCLUDES SEVEN PROJECTS: RANCHO VIEJO ROAD TRAIL TO THE CITY OF MISSION VIEJO'S BIKEWAY SYSTEM FOR .62 OF A MILE, SAN JUAN CREEK ROAD TO COUNTY TRAILS IN THE RANCHO MISSION VIEJO DEVELOPMENT AREA FOR .75 OF A MILE, RANCHO VIEJO ROAD FOR .23 OF A MILE, LA NOVIA AVENUE FOR .21 OF A MILE, CAMINO CAPISTRANO BIKEWAY FOR .8 OF A MILE, DEL OBISPO BIKEWAY FOR .11 OF A MILE, AND ALIPAZ STREET TO SAN JUAN CREEK LEVEE FOR .2 OF A MILE. TOLL CREDIT MATCH: FY15/16 ATP-MPO CON	\$553
ORANGE	LOCAL HIGHWAY	ORA082610	0	SANTA ANA BLVD GRADE SEPARATION -(GARTIO) INITIAL PLANNING AND CONCEPTUAL ENGINEERING PHASE. TO STUDY GRADE SEPARATION OF SANTA ANA BLVD AT OCTA/ METROLINK CROSSING BETWEEN SANTIAGO ST. AND I-5 RAMPS. RELATED TO ORA81621	\$1671
ORANGE	LOCAL HIGHWAY	ORA113018	0	FIRST STREET CLASS II BIKEWAY. CONSTRUCT A .50 MILE SEGMENT OF CLASS II BIKEWAY FROM FIRST STREET FROM HARBOR BOULEVARD TO NEWHOPE AVENUE.	\$143
ORANGE	LOCAL HIGHWAY	ORA113019	0	CHESTNUT AVENUE CLASS II BIKEWAY. CONSTRUCT A .38 MILE SEGMENT OF CHESTNUT AVENUE FROM STANDARD AVENUE TO GRAND AVENUE.	\$429
ORANGE	LOCAL HIGHWAY	ORA113020	0	MAPLE BIKE TRAIL SAFETY ENHANCEMENTS INCLUDES CONSTRUCTING BULB OUTS WITHIN THE EXISTING CURB-TO-CURB STREET WIDTH AT OCCIDENTAL STREET, ST. ANDREWS PLACE AND ST. GERTRUDE PLACE. CLASS 1 BIKEWAY PATH	\$300
ORANGE	LOCAL HIGHWAY	ORA113021	0	NEWHOPE STREET CLASS II BIKEWAY INCLUDES A .74 MILE SEGMENT OF NEWHOPE STREET FROM WESTMINSTER AVENUE TO 5TH STREET. THE PROJECT WILL INCLUDE ASSOCIATED SIGNING/STRIPING, SANDBLASTING, AND BIKEWAY DETECTION.	\$126
ORANGE	LOCAL HIGHWAY	ORA120520	0	SANTA ANA - GRAND AVENUE WIDENING (FRM 1ST TO 4TH; FRM 2 TO 3 LNS)	\$13,537
ORANGE	LOCAL HIGHWAY	ORA120521	0	SANTA ANA - FIRST STREET WIDENING (FRM SUSAN TO FAIRVIEW; FRM 4 TO 6 LNS) BRIDGE 55C0022	\$16,171
ORANGE	LOCAL HIGHWAY	ORA125	0	BRISTOL ST (MEMORY LANE TO 17TH STREET AND 3RD STREET TO ST. ANDREWS PLACE) WIDEN FROM 4 TO 6 LANES. SPLIT PROJECT ORA1500003, ORA1500004, ORA1500005, ORA1500006.	\$75,223
ORANGE	LOCAL HIGHWAY	ORA131709	0	NEWHOPE CIVIC CENTER-GRAND CLASS II BIKE LANE PROJECT- CLASS II 0.45 MILE ON NEWHOPE STREET FROM FIRST STREET TO MCFADDEN AVENUE. CLASS II 0.87 MILE SEGMENT ON CIVIC CENTER DRIVE FROM BRISTOL TO BROADWAY. CLASS II 1.25 MILE SEGMENT ON GRAND AVENUE FROM 21ST STREET TO FAIRHAVEN AVENUE. TOLL CREDITS FY 14/15 CON FOR \$31,349.	\$272
ORANGE	LOCAL HIGHWAY	ORA150003	0	BRISTOL STREET WIDENING FROM WARNER AVENUE TO ST. ANDREW PLACE. WIDEN FROM 4 TO 6 LANES. PHASE IV. SPLIT FROM ORA125	\$12,674
ORANGE	LOCAL HIGHWAY	ORA150004	0	BRISTOL STREET WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE. WIDEN FROM 4 TO 6 LANES. PHASE IIIA. SPLIT FROM ORA125	\$8,169
ORANGE	LOCAL HIGHWAY	ORA150005	0	BRISTOL STREET WIDENING FROM WASHINGTON AVENUE TO 17TH STREET. WIDEN FROM 4 TO 6 LANES. PHASE IIIB. SPLIT FROM ORA125	\$18,402
ORANGE	LOCAL HIGHWAY	ORA150006	0	BRISTOL STREET WIDENING FROM 3RD STREET TO CIVIC CENTER. WIDEN FROM 4 TO 6 LANES. PHASE II. SPLIT FROM ORA125	\$42,260

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
ORANGE	LOCAL HIGHWAY	ORA150106	0	DEVELOP, DESIGN, AND CONSTRUCT BISHOP-PACIFIC-SHELTON BIKE BOULEVARDS. CONSTRUCT CLASS III FACILITIES ALONG BISHOP STREET, PACIFIC AVENUE, AND SHELTON STREET. DEVELOPMENT, DESIGN, AND CONSTRUCTION. INCLUDES BULB OUTS, TRAFFIC CIRCLES, AND TRAFFIC TURNING RESTRICTIONS AND/OR SPEED BUMPS. IMPROVEMENTS ALONG 2.268 MILES OF BIKEWAYS. TOLL CREDITS FOR FY14/15 PA&E/PS&E FOR \$8,029, FY15/16 CON FOR \$100,936.	\$950
ORANGE	LOCAL HIGHWAY	ORA113022	0	WESTMINSTER AVENUE BICYCLE LANE IMPROVEMENTS PROJECT. CONSTRUCT A 2 MILE CLASS-II BIKE LANE PROJECT THAT WILL REPLACE THE EXISTING CLASS-III BIKE LANE ALONG WESTMINSTER AVENUE FROM SEAL BEACH BOULEVARD TO BOLSA CHICA ROAD	\$1150
ORANGE	LOCAL HIGHWAY	ORA102904	0	IMAGE BASED TOLL COLLECTION SYSTEM - DEMONSTRATION PROJECT (ITS)	\$745
ORANGE	LOCAL HIGHWAY	ORA000177	0	RED HILL AVENUE GRADE SEPARATION AT OCTA/SCRRRA RAILWAY: THE PE STUDY WILL ADDRESS VARIOUS ALTERNATIVES.	\$2,097
ORANGE	LOCAL HIGHWAY	ORA000813	0	NEWPORT AVENUE EXTENSION PROJECT, PHASE II (FROM N/O EDINGER AVE. TO MYRTLE AVE.) GRADE SEPARATION AT OCTA/SCRRRA RAILWAY: PS&E PHASE ONLY.	\$2,316
ORANGE	LOCAL HIGHWAY	ORA113026	0	ENDERLE CENTER DRIVE AND VANDENBERG LANE INTERSECTION SAFETY ENHANCEMENTS. CONSTRUCT PLANTER ISLAND ON THE SOUTH SIDE OF THE TEE INTERSECTION WITH RAISED CURB, INSTALLATION OF LANDSCAPING AND IRRIGATION, UPGRADING OF ADA RAMP'S, AND STRIPING.	\$145
ORANGE	LOCAL HIGHWAY	ORA113033	0	NEWPORT AVENUE BICYCLE TRAIL. RECONSTRUCTION FROM MAIN STREET TO IRVINE BOULEVARD 3,000FT	\$450
ORANGE	LOCAL HIGHWAY	ORA150002	0	WARNER AVENUE EXTENSION (NEW CONSTRUCTION) FROM REDHILL AVENUE TO TUSTIN RANCH ROAD. 3 NEW LANES IN EACH DIRECTION FOR A TOTAL OF 6 LANES.	\$9,000
ORANGE	LOCAL HIGHWAY	ORA55244	0	TUSTIN RANCH ROAD EXTENSION FROM WALNUT AVENUE TO VALENICA AVENUE INCLUDING CONSTRUCTION OF A BRIDGE OVER THE OCTA/SCRRRA RAILWAY LINE AND EDINGER AVENUE. 3 NEW LANES IN EACH DIRECTION FOR A TOTAL OF 6.	\$27,996
ORANGE	LOCAL HIGHWAY	ORA020501	0	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	\$52,618
ORANGE	LOCAL HIGHWAY	ORA150102	0	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLES 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION.	\$50,116
ORANGE	LOCAL HIGHWAY	ORA150104	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES - PROJECTS CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED), (REGIONAL ATP FUNDED) TOLL CREDITS FY14/15 PA&E/PS&E FOR \$111,443 AND CON FOR \$18,352, FY15/16 ROW FOR \$10,208 AND CON FOR \$202,331.	\$4,236
ORANGE	LOCAL HIGHWAY	ORA150107	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES - PROJECTS CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED), (STATEWIDE ATP FUNDED) TOLL CREDIT'S FY 14/15 PA&E/PS&E FOR \$45,765, ROW FOR \$87,631, AND CON FOR \$34,410, FY 15/16 CON FOR \$344,329.	\$4,465
ORANGE	LOCAL HIGHWAY	ORA990905	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES FUNDED WITH TE - SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED) - NRTCW - PARENT ID ORA990906	\$10,875
ORANGE	STATE HIGHWAY	ORA150201	5	I-5 HOV LANE EXTENSION FROM AVENIDA PICO TO SAN DIEGO COUNTY LINE (PSR/PDS). TOLL CREDIT FOR CMAQ.	\$450
ORANGE	STATE HIGHWAY	ORA120326	5	RECONSTRUCT I-5/SR-74 INTERCHANGE (IN SAN JUAN CAPISTRANO, ON ROUTE 74 FROM ROUTE 5 TO EAST OF THE CITY LIMIT. RECONSTRUCT THE ROUTE 74 AND ROUTE 5 INTERCHANGE) PPNO 4102 DUAL LEAD SJC CALTRANS. SPLIT WITH ORA12601	\$84,794
ORANGE	STATE HIGHWAY	ORA990929	5	INTERSTATE 5 ADD 1 HOV IN EACH DIRECTION FROM SOUTH OF AVENIDA PICO TO SOUTH OF AVENIDA VISTA HERMOSA AND RECONFIGURE AVENIDA PICO INTERCHANGE PPNO:2531D (UTILIZE TOLL CREDIT MATCH FOR IMD AND STIP)	\$97,736
ORANGE	STATE HIGHWAY	ORA110002	5	INTERSTATE 5 ADD 1 HOV IN EACH DIRECTION FROM SOUTH OF AVENIDA VISTA HERMOSA TO SOUTH OF PACIFIC COAST HIGHWAY. PPNO 2531E	\$68,711
ORANGE	STATE HIGHWAY	ORA11001	5	INTERSTATE 5 ADD 1 HOV IN EACH DIRECTION FROM SOUTH OF PACIFIC COAST HIGHWAY TO SAN JUAN CREEK ROAD. PPNO:2531F	\$63,093
ORANGE	STATE HIGHWAY	ORA13171	5	I-5 (SR-73 TO OSO PARKWAY) SEGMENT 1 - THE PROJECT WILL ADD ONE GENERAL PURPOSE LANE ON THE I-5 IN EACH DIRECTION BETWEEN SR-73 AND OSO CREEK (APPROXIMATELY 2.2 MILES). RECONSTRUCT AVERY PARKWAY INTERCHANGES AND ADD AUXILIARY LANES WHERE NEEDED.	\$144,553
ORANGE	STATE HIGHWAY	ORA13172	5	I-5 (OSO CREEK TO ALICIA PARKWAY) SEGMENT 2 - THE PROJECT WILL ADD ONE GENERAL PURPOSE LANE ON THE I-5 IN EACH DIRECTION BETWEEN OSO CREEK AND ALICIA PARKWAY (APPROXIMATELY 2.6 MILES). RECONSTRUCT LA PAZ ROAD INTERCHANGE AND ADD AUXILIARY LANES WHERE NEEDED.	\$183,056

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
ORANGE	STATE HIGHWAY	ORA111801	5	I-5 (ALICIA PARKWAY TO EL TORO ROAD) SEGMENT 3 - THE PROJECT WILL ADD ONE GENERAL PURPOSE LANE ON THE I-5 IN EACH DIRECTION BETWEEN ALICIA PARKWAY AND EL TORO ROAD (APPROXIMATELY 1.7 MILES), EXTEND THE 2ND HOV LANE IN BOTH DIRECTIONS AND ADD AUXILIARY LANES WHERE NEEDED.	\$122,642
ORANGE	STATE HIGHWAY	ORA131105	5	I-5 / LOS ALISOS. ADD RAMPS AT LOS ALISOS OR EL TORO (UTILIZE TOLL CREDIT MATCH FOR RSTP) PA&ED.	\$57,954
ORANGE	STATE HIGHWAY	ORA130302	5	I-5 (I-405 TO SR-55) - IN THE CITIES OF IRVINE AND TUSTIN, ADD 1 MF LANE NB FROM TRUCK BYPASS ON RAMP TO SR-55, ADD 1 MF LANE SB FROM SR-55 TO ALTON AND 1 AUX LANE FROM ALTON TO TRUCK BYPASS. (PA&ED AND PS&E PHASE) PROJECT WILL UTILIZE \$917,600 TOLL CREDIT MATCH	\$452,000
ORANGE	STATE HIGHWAY	ORA11210	5	I-5 FROM SR 55 TO SR 57 - ADD 1 HOV LANE EACH DIRECTION	\$42,471
ORANGE	STATE HIGHWAY	ORA130060	5	INTERSTATE 5 CONTINUOUS ACCESS HIGH OCCUPANCY VEHICLE LANE STRIPING FROM STATE ROUTE 57 INTERCHANGE TO STATE ROUTE 91/BEACH BOULEVARD INTERCHANGE	\$4,790
ORANGE	STATE HIGHWAY	ORA150401	5	THREE HOV OVERHEAD SIGNS WITHIN THE MEDIAN OF THE I-5 SOUTH OF AVENDIA PICO IN THE CITY OF SAN CLEMENTE. THESE IMPROVEMENTS ARE SUPPLEMENTS TO THE I-5 HOV WIDENING PROJECT AND PROVIDE NORTHBOUND I-5 TRAFFIC ADVANCE NOTIFICATION OF A HOV LANE THAT IS ADDED TO THE 6P LANES. (RELATED TO ORA990929)	\$1,250
ORANGE	STATE HIGHWAY	ORA000193	22	HOV CONNECTORS FROM SR-22 TO I-405, BETWEEN SEAL BEACH BLVD. (I-405 PM 022.558) AND VALLEY VIEW ST. (SR-22 PM R000.917), WITH A SECOND HOV LANE IN EACH DIRECTION ON I-405 BETWEEN THE TWO DIRECT CONNECTORS. TOLL CREDIT MATCH FOR CMAQ.	\$119,295
ORANGE	STATE HIGHWAY	ORA131301	55	I-5 (I-5 TO SR-91) - ADD CAPACITY FROM I-5 TO SR-22 AND IMPROVE OPERATIONS FROM I-5 TO SR-91 (UTILIZE TOLL CREDIT MATCH FOR RSTP) (STUDY ONLY)	\$148,490
ORANGE	STATE HIGHWAY	ORA015	55	BAKER STREET AND SR-55; N/B & S/B FRONTAGE ROAD IMPROVEMENTS. S/B FREE RIGHT TURN, N/B LEFT TURN AND 2ND E/B LEFT.	\$900
ORANGE	STATE HIGHWAY	ORA016	55	PAJLARINO AVE (SR-55 NB FRONTAGE ROAD @ PAJLARINO AVE) IN COSTA MESA INTERSECTION IMPROVEMENT. ADDING A N/B RAMP AND W/B RIGHT-TURN-LANE.	\$505
ORANGE	STATE HIGHWAY	ORA017	55	PAJLARINO AVE IN SR-55 SB FRONTAGE ROAD COSTA MESA. INTERSECTION IMPROVEMENT ADD S/B RIGHT-TURN LANE.	\$270
ORANGE	STATE HIGHWAY	ORA100511	55	SR-55 WIDENING BETWEEN I-405 AND I-5 - ADD 1 MF LANE EACH DIRECTION AND FIX CHOKPOINTS FROM I-405 TO I-5; ADD 1 AUX LANE EA DIR BTWN SELECT ON/OFF RAMP AND NON-CAPACITY OPERATIONAL IMPROVEMENTS THROUGH PROJECT LIMITS (PS&E AND PAED). CONSISTENT WITH THE 2012 RTP. TOLL CREDIT FOR RSTP.	\$274,900
ORANGE	STATE HIGHWAY	ORA000146	55	CONSTRUCT NEW INTERCHANGE ON SR 55 @ MEATS AVENUE. CONSTRUCT ON-RAMP/OFF-RAMPS. CONSTRUCTION OF AUXILIARY LANES BETWEEN KATELLA AVENUE AND LINCOLN AVENUE/NOEL RANCH ROAD BOTH NORTHBOUND AND SOUTHBOUND ON SR-55. WIDEN TAFT AVENUE UNDERCROSSING ON NORTHBOUND SIDE OF SR-55. WIDEN MEATS AVENUE FROM PARK LANE TO BRECKENRIDGE STREET. REALIGN 1820' OF THE SR 55 MEDIAN BARRIER. WIDEN SANTIAGO AVENUE AT MEATS AVENUE FOR TURNING LANES	\$150,000
ORANGE	STATE HIGHWAY	ORA10302	57	IN PLACENTIA AND FULLERTON, N/B SR-57 FROM 0.4 MI N/O SR-91 TO 0.1 MI N/O LAMBERT RD (5.1 MILES). REPLACEMENT PLANTING AS THE RESULT OF THE SR-57 NORTHBOUND WIDENING. REPLACEMENT PLANTING RELATED TO ORA081901 AND ORA120332	\$2,688
ORANGE	STATE HIGHWAY	ORA131903	57	SR-57 ORANGEWOOD TO KATELLA-ADD 1 MF LANE NORTHBOUND BETWEEN ORANGEWOOD AND KATELLA (UTILIZE TOLL MATCH FOR RSTP) ENG ONLY.	\$6,500
ORANGE	STATE HIGHWAY	ORA120320	57	SR-57/LAMBERT RD INTERCHANGE IMPROVEMENTS - RECONFIG EXISTING DIAMOND INTERCHANGE TO LOOP RAMP, ADD SB LN ON OFFRAMP	\$43,800
ORANGE	STATE HIGHWAY	ORA000820	57	SR-57 TRUCK CLIMBING AUX LANE FROM LAMBERT TO LA CO. LINE PPNO 3847A EA DC120 (PE ONLY)	\$124,600
ORANGE	STATE HIGHWAY	10254	73	SAN JOAQUIN HILLS TRANSPORTATION CORRIDOR (SJHTC - SR 73) 15 MI TOLL RD BETWEEN I-5 IN SAN JUAN CAPISTRANO & RTE 73 IN IRVINE, CONSISTENT WITH SCAG/TCA MOU 4/5/01. EXISTING 3 M/F EA DIR. 1 ADDITIONAL M/F EA DIR, PLUS CLIMBING & AUX LANES BY 2020.	\$3,518,860
ORANGE	STATE HIGHWAY	ORA020808	90	IN ORANGE COUNTY, ON RTE 90 IMPERIAL HIGHWAY, IN THE CITIES OF YORBA LINDA AND ANAHEIM ON ROUTE 90 FROM EAST OF KELLOGG DRIVE UNDERCROSSING TO LA PALMA AVENUE. THE PROJECT IS TO PROVIDE ENHANCEMENT AND MITIGATION PLANTING. PPNO 4434B EA 12-056221	\$1,669
ORANGE	STATE HIGHWAY	ORA000822	91	CONNECT EXISTING AUXILIARY LANE THROUGH INTERCHANGES ON W/B SR-91 BETWEEN SR-57 AND I-5 WITH ITS ELEMENTS PPNO 4516A EA OC5700	\$65,677
ORANGE	STATE HIGHWAY	ORA130301	91	SR-91 (SR-57 TO SR-55) - ADD 1 MF LANE EASTBOUND; IMPROVE INTERCHANGE AT SR-91/SR-55 AND LAKEVIEW AVE; OPERATIONAL, NO INCREASE IN CAPACITY	\$425,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
ORANGE	STATE HIGHWAY	ORA150110	91	SR-91 (SR-57 TO SR-55) - PROJECT PROPOSES TO ADD 1 GP LANE EASTBOUND FROM SR-57 TO SR-55, AND 1 GP LANE WESTBOUND FROM GLASSSELL STREET TO STATE COLLEGE BLVD. ADDITIONAL FEATURES OF THE PROJECT INCLUDE IMPROVEMENTS TO NEARBY LOCAL INTERCHANGES AND FREEWAY TO FREEWAY CONNECTORS. AUXILIARY LANES WILL BE ADDED IN CERTAIN SEGMENTS (PA&ED PHASE).	\$425,000
ORANGE	STATE HIGHWAY	ORA000821	91	SR-91 WB (SR-55 THROUGH TUSTIN INTERCHANGE) EXTEND LANE AND RECONSTRUCT AUX. LANE. PPNO 4587A EA 0C560)	\$46,270
ORANGE	STATE HIGHWAY	ORA020807	91	IN ORANGE COUNTY, AT THE COAL CANYON ROAD INTERCHANGE, THE PROJECT IS TO INSTALL VEGETATION ENHANCEMENTS. EA12-0K3300	\$802
ORANGE	STATE HIGHWAY	ORA051	241	FOOTHILL TRANSPORTATION CORRIDOR-NORTH (FTC-N - SR 241), 12.7 MI TOLL ROAD BETWEEN OSO PKWY AND ETC, CONSISTENT WITH SCAG/TCA MOU 4/05/01. EXISTING 2 M/F IN EA DIR. 2 ADDITIONAL M/F, PLS CLIMBING & AUX LANES BY 2020.	\$2,959,495
ORANGE	STATE HIGHWAY	ORA052	241	FOOTHILL TRANSPORTATION CORRIDOR-SOUTH (FTC-S - SR 241), 10.3 MI TOLL ROAD BETWEEN SAN DIEGO COUNTY LINE AND OSO PKWY, CONSISTENT WITH SCAG/TCA MOU 4/05/01. 2 M/F EA DIR FROM OSO PKWY TO COW CAMP RD BY 2017. 2 M/F EA DIR FROM COW CAMP RD TO SAN DIEGO CO LINE BY 2021. 1 ADDITIONAL M/F EA DIR PLS CLIMBING & AUX LANES BY 2030.	\$25,294,111
ORANGE	STATE HIGHWAY	ORA11207	241	241/91 EXPRESS LANE (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241, PER SCAG/TCA MOU 4/05/01. PARENT PROJECT ORA050	\$183,557
ORANGE	STATE HIGHWAY	ORA050	241	EASTERN TRANSPORTATION CORRIDOR (ETC - SR 241/261/133) 26.4 MI TOLL ROAD CONNECTS SR 91 TO I-5 VIA SR 261 AND SR 133, CONSISTENT WITH SCAG/TCA MOU 4/05/01. EXISTING 2 M/F EA DIR. 2 ADDITIONAL M/F IN EA DIR, PLUS CLIMBING AND AUX LANES BY 2020.	\$11,374,236
ORANGE	STATE HIGHWAY	ORA131304	405	I-405 (I-5 TO SR-55)-ADD 1 MF LANE EACH DIRECTION FROM I-5 TO SR-55 AND IMPROVE MERGING.(UTILIZE TOLL CREDIT MATCH FOR RSTP) ENG ONLY.	\$190,000
ORANGE	STATE HIGHWAY	ORA130064	405	I-405 - ADD ONE SOUTHBOUND AUXILIARY LANE FROM UNIVERSITY DRIVE TO SAND CANYON (SEGMENT 2) AND SAND CANYON AVENUE TO SR-133 (SEGMENT 1)	\$16,379
ORANGE	STATE HIGHWAY	ORA113030	405	WIDEN RAMP FOR DECELERATION LANE - NB I-405 FROM 1 MILE NORTH OF JEFFERY RD TO CULVER DR. 0.6 MILES. SPLIT FROM ORA01105	\$3,230
ORANGE	STATE HIGHWAY	ORA000194	405	HOV CONNECTORS FROM I-405 TO I-605, BETWEEN KATELLA AVE. (I-605 PM R00104) AND SEAL BEACH BLVD. (I-405 PM 022.643), WITH A SECOND HOV LANE IN EACH DIRECTION ON I-405 BETWEEN THE TWO DIRECT CONNECTORS. TOLL CREDITS FOR CMAQ.	\$162,830
ORANGE	STATE HIGHWAY	ORA030605	405	I-405 FROM SR-73 TO I-605. ADD 1 MF LANE IN EACH DIRECTION, AND ADDITIONAL CAPITAL IMPROVEMENTS. COMBINED WITH ORA045, ORA151, ORA100507 AND ORA120310. PHASE 2 LISTED UNDER ORA030605A	\$1,300,000
ORANGE	STATE HIGHWAY	ORA030605A	405	I-405 FROM SR-73 TO I-605. CONVERT EXISTING HOV TO HOT. ADD 1 ADDITIONAL HOT LANE EACH DIRECTION (BY 2035). PHASE 1 PROJECT LISTED UNDER ORA030605	\$400,000
ORANGE	STATE HIGHWAY	ORA001108	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MANDATES PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL-AID SYSTEM ROADS, SHOULDER IMP, TRAFFIC CONTROL DEVICES AND OPS ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, LIGHTING IMP	\$23,623
ORANGE	STATE HIGHWAY	ORA040607	999	ORANGE COUNTY - COUNTYWIDE ACTIVITIES: PLANNING, PROGRAMMING AND MONITORING (PPM)	\$16,459
ORANGE	STATE HIGHWAY	ORA001104	999	GROUPED PROJECTS FOR SHOULDER IMPROVEMENTS - SHOPP ROADSIDE PRESERVATION PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - FENCING, SAFETY ROADSIDE REST AREAS	\$1,264
ORANGE	STATE HIGHWAY	ORA084402	999	GROUPED PROJECTS FOR PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES. SCOPE - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES	\$580
ORANGE	TRANSIT	ORA080908	0	A TRANSIT CORRIDOR FOR THE CITY OF ANAHEIM - ANAHEIM RAPID CONNECTION (ARC) FIXED GUIDEWAY SYSTEM CONNECTING THE ANAHEIM REGIONAL TRANSPORTATION INTERMODAL CENTER (ARTIC) THE PLATINUM TRIANGLE, AND THE ANAHEIM RESORT. ALTERNATIVES ANALYSIS, EIR/EIS, LPA AND CONCEPTUAL AND ADVANCED ENGINEERING; PROJECT DEVELOPMENT ACTIVITIES AND PRELIMINARY ENGINEERING.	\$319,000
ORANGE	TRANSIT	ORA120318	0	ANAHEIM REGIONAL TRANS INTERMODAL CENTER (ARTIC) PHASE I - INCLUDE EXPAND OF EXIST AMTRAK/METROLINK STATION AT ANA STAD TO PROVIDE ACCESS W/ TRANS SVC.	\$183,863
ORANGE	TRANSIT	ORA113027	0	FULLERTON TRANSPORTATION CENTER ELEVATORS EXPANSION	\$3,500
ORANGE	TRANSIT	ORA080901	0	GROUPED PROJECTS FOR OPERATING ASSISTANCE TO TRANSIT AGENCIES. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - OPERATING ASSISTANCE TO TRANSIT AGENCIES	\$8,721

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
ORANGE	TRANSIT	ORA113028	0	LAGUNA BEACH - THREE (3) BUS TROLLEY ACQUISITION (27' - 33 FOOT)	\$636
ORANGE	TRANSIT	ORA990933	0	TRANSIT OPERATING ASSISTANCE (LAGUNA BEACH)	\$9,544
ORANGE	TRANSIT	ORA000817	0	PURCHASE (36) STANDARD 60FT REPLACEMENT BUS- ALTERNATIVE FUEL - (30) IN FY13/14, (6) IN FY14/15. TRANSIT DEVELOPMENT CREDIT/TOLL CREDIT MATCH FOR FTA SECTION 5307-TR @ 602,175 IN FY 14/15.	\$29,900
ORANGE	TRANSIT	ORA020118	0	PURCHASE REPLACEMENT PARATRANSIT VANS (215) - (198) IN FY11/12 AND (17) IN FY12/13. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET	\$29,070
ORANGE	TRANSIT	ORA020120	0	FIXED ROUTE OPERATING COSTS	\$1,544,667
ORANGE	TRANSIT	ORA020811	0	PURCHASE (164) 40-FOOT ALTERNATIVE FUEL REPLACEMENT BUSES (OCTA) - (90) IN FY 2013-14 (71 IN FY 2011-12, 19 IN FY 2012-13), (2) IN FY 2015-16, AND (72) IN FY 2016-17.	\$94,714
ORANGE	TRANSIT	ORA020818	0	GROUPED PROJECTS FOR ACTIVITIES THAT DO NOT LEAD TO CONSTRUCTION. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - SPECIFIC ACTIVITIES WHICH DO NOT INVOLVE OR LEAD DIRECTLY TO CONSTRUCTION, SUCH AS: PLANNING AND TECHNICAL STUDIES, GRANTS FOR TRAINING AND RESEARCH PROGRAMS, PLANNING ACTIVITIES CONDUCTED PURSUANT TO TITLES 23 AND 49 U.S.C, FEDERAL-AID SYSTEMS REVISIONS, ENGINEERING TO ASSESS SOCIAL, ECONOMIC, AND ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION OR ALTERNAT	\$852
ORANGE	TRANSIT	ORA020819	0	GROUPED PROJECTS FOR OPERATING ASSISTANCE TO TRANSIT AGENCIES - SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - OPERATING ASSISTANCE TO TRANSIT AGENCIES	\$796
ORANGE	TRANSIT	ORA020820	0	METROLINK SERVICE TRACK EXPANSION AND GRADE CROSSING IMPROVEMENTS. PART OF A PLAN TO IMPLEMENT 30 MINUTE HEADWAYS COULD INCLUDE TURNBACK FACILITIES, LAYOVER FACILITIES, AND/OR RELIABILITY IMPROVEMENTS FOR HIGH FREQUENCY METROLINK SERVICE OPERATIONS BETWEEN FULLERTON AND LAGUNA NIGUEL/MISSION VIEJO	\$180,003
ORANGE	TRANSIT	ORA021202	0	BUS OPERATING ASSISTANCE FTA9 - FOR PARATRANSIT (MISSION VIEJO)	\$25,801
ORANGE	TRANSIT	ORA021203	0	PREVENTIVE MAINTENANCE (MISSION VIEJO) TRANSIT DEVELOPMENT CREDITS IN FY 2014-15 FOR \$1,698, FY 2015-16 FOR \$1,698, FY 2016-17 FOR \$1,698 FY 2017-18 FOR \$1,698, FY 2018-19 FOR \$1,698, AND FY 2019-20 FOR \$1,698.	\$59,401
ORANGE	TRANSIT	ORA030612	0	PLACENTIA TRANSIT STATION - E OF SR-57 AND MELROSE ST AND N OF CROWTHER AVE. CONSTRUCT NEW METROLINK STATION AND RAIL SIDING PPNO 9514	\$23,420
ORANGE	TRANSIT	ORA080803	0	CAPITAL COST OF CONTRACTING COSTS ASSOCIATED WITH CONTRACTING FOR SERVICES SUCH AS PARATRANSIT AND VANPOOL - OCTA/TRANSIT DEVELOPMENT CREDITS IN FY 2014-15 @ \$4154, FY 2015-16 @ \$4702, FY 2016-17 @ \$4551, FY 2017-18 @ \$4142, FY 2018-19 @ \$4131, AND FY 2019-20 @ \$4131.	\$407,304
ORANGE	TRANSIT	ORA080903	0	ENVIRONMENTAL CLEARANCE AND ADVANCED CONCEPTUAL DESIGN OF THE CALIFORNIA HIGH SPEED RAIL AUTHORITY, HIGH SPEED RAIL PROJECT FROM SAN FRANCISCO TO LOS ANGELES	\$7,000
ORANGE	TRANSIT	ORA081621	0	SANTA ANA TRANSIT STATION - EXPANSION OF THE SANTA ANA REGIONAL TRANSPORTATION CENTER. INITIAL PLANNING AND CONCEPTUAL ENGINEERING PHASE	\$1,500
ORANGE	TRANSIT	ORA081623	0	FULLERTON TRANSPORTATION CENTER - INITIAL PLANNING AND CONCEPTUAL ENGINEERING OF THE EXPANSION FOR THE FULLERTON TRANSPORTATION CENTER.	\$875
ORANGE	TRANSIT	ORA090302	0	OCTA SHARE OF THE METROLINK ROLLING STOCK ACQUISITION. CARS & LOCOS, UP TO 87 CARS/CABS ORDERED IN FY 09 & IN FUTURE YRS. UP TO 22 CARS/CABS, UP TO 11 LOCOS ORDERED BY FY 09, & UP TO 4 LOCOS IN FUTURE	\$158,110
ORANGE	TRANSIT	ORA10303	0	PURCHASE (20) MIDSIZE 32- FOOT ALTERNATIVE FUEL REPLACEMENT BUSES (OCTA) - (12) IN FY 2013-14 AND (8) IN FY 2015-16.	\$4,590
ORANGE	TRANSIT	ORA10304	0	GOLDENWEST TRANSPORTATION CENTER. CONSTRUCT A SURFACE PARKING LOT (300 SPACES)	\$2,100
ORANGE	TRANSIT	ORA10305	0	THE LAGUNA NIGUEL/MISSION VIEJO STATION IMPROVEMENTS. IMPROVEMENTS INCLUDE PEDESTRIAN ACCESSIBILITY, RESTROOMS, BENCHES, SHADE STRUCTURES, AN ADA UNDERCROSSING AND OTHER STRUCTURES OR AMENITIES.	\$8,524
ORANGE	TRANSIT	ORA10618	0	FTA SECTION 5317 NEW FREEDOMS (OCTA) VARIOUS PROJECTS AND TRANSPORTATION SERVICES BEYOND THOSE REQUIRED BY ADA, INCLUDING VOUCHER PROGRAMS	\$5,214

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
ORANGE	TRANSIT	ORA110619	0	FTA SECTION 5316 JOBS ACCESS REVERSE COMMUTE (OCTA) VARIOUS PROJECTS TO INCREASE TRANSPORTATION ACCESS TO JOBS FOR LOW INCOME INDIVIDUALS, INCLUDING VOUCHER PROGRAMS AND VANPOOLS	\$12,042
ORANGE	TRANSIT	ORA110625	0	VARIOUS PLANNING & TRANSPORTATION PROJECTS DETERMINED BY THE ORANGE COUNTY COUNCIL OF GOVERNMENTS (OCCOG) TO REDUCE CONGESTION IN OC, INCLUDING SMARTH GROWTH AND INCREASED TRANSIT	\$2,395
ORANGE	TRANSIT	ORA11209	0	LAGUNA NIGUEL TO SAN JUAN CAPISTRANO PASSING SIDING - ADD 18 MILES OF NEW RAILROAD TRACK ADJACENT TO THE EXISTING MAIN TRACK. MP 193.9 - MP 195.7 (PROJECT WILL UTILIZE TRANSIT DEVELOPMENT CREDITS MATCH - CMAQ FY13/14 FOR \$438 AND FY14/15 FOR \$1,832)	\$25,274
ORANGE	TRANSIT	ORA11802	0	PURCHASE (29) 40-FOOT ALTERNATIVE FUEL REPLACEMENT BUSES (MISSION VIEJO) - (15) FY 2015-16 AND (14) FY 2016-17. INCLUDES TRANSIT DEVELOPMENT CREDITS IN FY 2015-16 @ \$1,499 AND FY 2016-17 @ \$1,367	\$16,856
ORANGE	TRANSIT	ORA112004	0	REMOVE UNDERGROUND DIESEL STORAGE TANKS AT THREE BUS BASES AND INSTALL THREE ABOVE GROUND TANKS.	\$10,935
ORANGE	TRANSIT	ORA112005	0	IMPLEMENT BIKE STATIONS AND BIKE SHARING PROGRAM IN ORANGE COUNTY	\$960
ORANGE	TRANSIT	ORA112006	0	CONTROL POINT 4TH STREET WILL ESTABLISH A NEW CP AT 4TH STREET (MP 175.7) AND PROVIDE A NEW NO. 10 POWER TURNOUT TO THE UNION PACIFIC RAILROAD (UPRR) SPUR APPROXIMATELY 0.5 MILES SOUTH OF THE SANTA ANA STATION (MP 175.6). REPLACING THE EXISTING HAND-THROWN TURNOUT, AS WELL AS CONSTRUCTING A NEW POWER DERAIL ON THE UPRR CONNECTING TRACK. PROJECT WILL UTILIZE \$800,000 IN TOLL CREDIT MATCH FOR FY 12/13.	\$4,000
ORANGE	TRANSIT	ORA112008	0	SLOPE STABILIZATION IN THE PACIFIC SURFLINER CORRIDOR IN THE CITIES OF LAGUNA NIGUEL AND MISSION VIEJO. WILL UTILIZE \$400,000 IN TOLL CREDIT MATCH FOR FY 12/13.	\$2,000
ORANGE	TRANSIT	ORA112501	0	TRANSIT SYSTEM STUDY PILOT PROJECT - OPERATING ASSISTANCE. (PROJECT WILL UTILIZE \$1,200,000 IN TOLL CREDIT IN FY12/13 FOR CONSTRUCTION PHASE)	\$6,000
ORANGE	TRANSIT	ORA112702	0	REDISABLE VANPOOL PROGRAM - CAPITAL LEASE COST FY12/13 - FY16/17. (USE TOLL CREDITS FOR \$1,338 IN FY12/13)	\$11,669
ORANGE	TRANSIT	ORA130099	0	PURCHASE (15) EXPANSION PARATRANSIT VANS (OCTA) - (8) IN FY 2016-17 AND (7) IN FY 2017-18	\$1,863
ORANGE	TRANSIT	ORA130901	0	CAPITAL MAINTENANCE ON BUS SYS. AND ADMIN. FACILITIES, BUS REBUILDS AND PURCHASE OF MISCELLANEOUS SUPPORT EQUIPMENT. PROJECTS CONSISTENT WITH 40 CFR PART 93126 EXEMPT TABLES 2 & 3 CATEGORIES - REHAB OR RECONSTRUCTION OF TRACK STRUCTURES, TRACK, TRACKBED IN EXISTING ROW INCLUDING PURCHASE OF REPLACEMENT LOCOMOTIVES WITH TIER-4 TECH.(NON-CAPACITY INCREASING) TOLL CREDIT MATCH FOR FTA 5339: FY14/15 @ \$1,097; FY15/16 @ \$1,097; FY16/17 @ \$1,097; AND FY17/18 @ \$1,097.	\$32,618
ORANGE	TRANSIT	ORA174	0	BUS OPERATING ASSISTANCE FTA9 - FOR PARATRANSIT (OCTA)	\$159,171
ORANGE	TRANSIT	ORA37111	0	CAPITAL MAINTENANCE ON METROLINK SYSTEM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - REHABILITATION OR RECONSTRUCTION OF TRACK STRUCTURES, TRACK, TRACKBED IN EXISTING RIGHTS-OF-WAY INCLUDING THE PURCHASE OF REPLACEMENT LOCOMOTIVES WITH TIER-4 TECHNOLOGY.(NON-CAPACITY INCREASING), TOLL CREDIT MATCH FOR FTA 5337: FY 14/15 FOR \$1677; FY15/16 FOR \$2,478, FY 16/17 FOR \$2,878.	\$52,331
ORANGE	TRANSIT	ORA37115	0	OPERATING ASSISTANCE FOR COMMUTER RAIL	\$172,821
ORANGE	TRANSIT	ORA65002	0	RIDESHARE SERVICES RIDEGUIDE, DATABASE, CUSTOMER INFO, AND MARKETING (ORANGE COUNTY PORTION).	\$6,732
ORANGE	TRANSIT	ORA085001	0	ORANGE TRANSPORTATION CENTER PARKING STRUCTURE - PROJECT WILL PROVIDE APPROXIMATELY 600 ADDITIONAL TRANSIT PARKING SPACES AT THE ORANGE STATION PARKING CENTER. (UTILIZE TRANSIT DEVELOPMENT CREDIT MATCH CMAQ FY15/16 FOR \$337)	\$27,257
ORANGE	TRANSIT	ORA080801	0	POSTIVE TRAIN CONTROL FOR METROLINK WILL HELP TO PREVENT TRAIN-TO-TRAIN COLLISIONS, SPEEDING AND OVER-SPEED DERAILMENTS, AND MOVEMENT OF A TRAIN THROUGH A WRONG RAIL SEGMENT OR INTO TRACK WORK ZONES. THE IMPLEMENTATION OF THE PROJECT WILL ENHANCE THE SAFETY AND SECURITY OF COMMUTER RAIL SERVICE, WHILE HELPING TO MEET 2015 FEDERAL MANDATE ENACTED IN THE RSA OF 2008.	\$38,928
ORANGE	TRANSIT	ORA131501	0	ABRAZAR, INC. - 2 SMALL REPLACEMENT BUSES, 4 EXPANSION MINIVANS, 10 COMPUTERS, 10 RESTRAINTS, 10 RADIOS, 40 MOBILE DATA UNITS. CALTRANS TOLL CREDITS FOR \$38,998.	\$340
ORANGE	TRANSIT	ORA131502	0	AGE WELL, INC. - 7 REPLACEMENT BUSES, 1 REPLACEMENT MINIVAN, SCHEDULING SOFTWARE. CALTRANS TOLL CREDITS FOR \$88,361.	\$596
ORANGE	TRANSIT	ORA131503	0	AIDS SERVICES FOUNDATION ORANGE COUNTY - 1 REPLACEMENT MINIVAN. CALTRANS TOLL CREDIT FOR \$5,162	\$45

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
ORANGE	TRANSIT	ORA131504	0	GOLDEN RAIN FOUNDATION LAGUNA WOODS - 3 REPLACEMENT LARGER BUSES, CALTRANS TOLL CREDITS FOR \$36,131	\$315
ORANGE	TRANSIT	ORA131505	0	HORIZONS CROSS CULTURAL CENTER - 1 REPLACEMENT MODIFIED RAISED TOP VAN, CALTRANS TOLL CREDITS FOR \$5,735.	\$50
ORANGE	TRANSIT	ORA131506	0	ORANGE COUNTY ADULT ACHIEVEMENT CENTER - 6 LARGE REPLACEMENT BUSES, 1 LARGE EXPANSION BUS, 10 VEHICLE CAMERAS, 3 MOBILE DATA UNITS, CALTRANS TOLL CREDITS FOR \$63,087	\$550
ORANGE	TRANSIT	ORA131507	0	PROJECT INDEPENDENCE - 4 REPLACEMENT MINIVANS, CALTRANS TOLL CREDITS FOR \$20,646	\$180
ORANGE	TRANSIT	ORA150402	0	CITY OF SANTA ANA 2 - MEDIUM CNG BUSES FOR REPLACEMENT SERVICE.	\$182
ORANGE	TRANSIT	ORA150601	0	GROUPED PROJECTS FOR PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLES 3 CATEGORIES - GROUPED PROJECTS FOR PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET, FY 2013 ORANGE COUNTY FTA 5310 PROJECTS. (TRANSIT DEVELOPMENT CREDITS MATCH - FTA 5310 FY14/15 FOR \$149)	\$743
ORANGE	TRANSIT	ORA150602	0	ABRAZAR - 2 MEDIUM EXPANSION BUSES, 7 EXPANSION MINIVANS, AND 6 SMALL EXPANSION BUSES. (TRANSIT DEVELOPMENT CREDITS MATCH - FTA 5310 FY14/15 FOR \$163)	\$816
ORANGE	TRANSIT	ORA150603	0	GROUPED PROJECTS FOR PURCHASE OF OFFICE SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - GROUP PROJECTS FOR PURCHASE OF OFFICE SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES. FY 2013 ORANGE COUNTY FTA 5310 PROJECTS. (TRANSIT DEVELOPMENT CREDITS MATCH - FTA 5310 FY14/15 FOR \$13)	\$66
ORANGE	TRANSIT	ORA150604	0	GROUPED PROJECTS FOR PURCHASE OF SUPPORT VEHICLES. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF SUPPORT VEHICLES. FY 2013 ORANGE COUNTY FTA 5310 PROJECTS. (TRANSIT DEVELOPMENT CREDITS MATCH - FTA 5310 FY14/15 FOR \$37)	\$184
ORANGE	TRANSIT	ORA150605	0	JEWISH FEDERATION - SILVER STREAK MOBILITY PARTNERS EXPAND EXISTING SERVICE. (TRANSIT DEVELOPMENT CREDITS MATCH - FTA 5310 FY14/15 FOR \$63)	\$125
ORANGE	TRANSIT	ORA020106	0	PREVENTIVE MAINTENANCE (OCTA) PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF OFFICE SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES (TRANSIT DEVELOPMENT CREDITS/TOLL CREDITS IN FY14/15 @ \$3.521, FY15/16 @ \$3,798, FY16/17 @ \$3,948, FY17/18 @ \$1,484, FY18/19 \$3,007, AND FY19/20 \$3,007)	\$127,435
ORANGE	TRANSIT	ORA111211	0	PREVENTATIVE MAINTENANCE (ATN) PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF OFFICE SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES	\$6,390
ORANGE	TRANSIT	ORA110632	0	1% TRANSIT ENHANCEMENTS - BICYCLE AND PEDESTRIAN FACILITIES COUNTYWIDE (MISSION VIEJO) PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED)	\$917
ORANGE	TRANSIT	ORA110634	0	1% TRANSIT ENHANCEMENTS - BICYCLE AND PEDESTRIAN FACILITIES COUNTYWIDE (OCTA) PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED)	\$4,401
ORANGE	TRANSIT	ORA080909	0	OCT STREETCAR - SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY BETWEEN SARTC AND A NEW TRANSIT CENTER IN GARDEN GROVE, NEAR THE INTERSECTION OF HARBOR BOULEVARD AND WESTMINSTER AVENUE (PE AND FINAL DESIGN)	\$43,729
RIVERSIDE	LOCAL HIGHWAY	RIV090911	0	IN MORENO VALLEY, WIDEN KITCHING ST FROM 2 TO 4 LANES FROM GENTIAN AVE TO CACTUS AVE, INCLUDING SIDEWALK INSTALLATION WITHIN PROJECT LIMITS.	\$4,555
RIVERSIDE	LOCAL HIGHWAY	RIV091002	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF MORENO VALLEY - EUCLYPTUS AVE. EXTENSION: CONSTRUCTION OF 3 THROUGH LANES (2 LANES WB & 1 LANE EB) BETWEEN REDLANDS BLVD. AND THEODORE STREET, INCLUDING THE INSTALLATION OF MEDIANS, LEFT TURN POCKETS, DEDICATED RIGHT TURN LANES, DRAINAGE IMPROVEMENTS, LANDSCAPING, SIDEWALKS, AND A CLASS I BIKE PATH.	\$7,266
RIVERSIDE	LOCAL HIGHWAY	RIV091003	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF MORENO VALLEY - EUCLYPTUS AVE. WIDENING/EXTENSION: CONSTRUCTION OF A 4TH THROUGH LANE IN THE EASTERN DIRECTION FROM REDLANDS BLVD. TO THEODORE ST & EXTENSION OF EUCLYPTUS AVE. TO REDLANDS BLVD., WITH A SIGNALIZED INTERSECTION.	\$3,550
RIVERSIDE	LOCAL HIGHWAY	RIV110125	0	IN MORENO VALLEY ON COTTONWOOD AVE. FROM INDIAN ST. TO KITCHING ST; PAVEMENT RESURFACING, ADJUSTMENT OF UTILITY MANHOLE AND VALVE COVERS, RESETTling SURVEYING MONUMENTS, RECONSTRUCTION OF ACCESS RAMPS TO MEET ADA REQUIREMENTS, AND INSTALLING PAVEMENT STRIPING AND MARKERS.	\$600

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV110127	0	IN MORENO VALLEY ON GILMAN SPRINGS RD. FROM EUCALYPTUS AVE TO 2,225 FT. S/O VIRGINIA ST.; PAVEMENT RESURFACING, ADJUSTMENT OF UTILITY MANHOLE AND VALVE COVERS, RESETTling SURVEYING MONUMENTS, RECONSTRUCTION OF STORM DRAIN CULVERTS, AND INSTALLATION OF PAVEMENT STRIPING AND MARKERS.	\$800
RIVERSIDE	LOCAL HIGHWAY	RIV110128	0	IN MORENO VALLEY ON HEACOCK ST FROM ALESSANDRO BLVD TO COTTONWOOD AVE.; PAVEMENT RESURFACING, ADJUSTMENT OF UTILITY MANHOLE AND VALVE COVERS, RESETTling SURVEYING MONUMENTS, RECONSTRUCTION OF ACCESS RAMPS TO MEET ADA REQUIREMENTS, AND INSTALLING PAVEMENT STRIPING AND MARKERS.	\$600
RIVERSIDE	LOCAL HIGHWAY	RIV112101	0	IN MORENO VALLEY - NASON ST WIDENING FROM FIR AVE TO ALESSANDRO BLVD. THE PROJECT WILL WIDEN NASON ST FROM 2 TO 4 THROUGH LANES, INCLUDING CURB AND GUTTER, SIDEWALKS, MEDIANS, SIGNAL MODIFICATIONS AND UTILITY WORK.	\$11,200
RIVERSIDE	LOCAL HIGHWAY	RIV130808	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF MORENO VALLEY - GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION.	\$2,080
RIVERSIDE	LOCAL HIGHWAY	RIV151213	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF WILDOMAR - WIDENING OF GRAND AVE (CLINTON KEITH RD TO DAVID BROWN MIDDLE SCHOOL) TO INCLUDE A CLASS II BIKE LANE AND MINIMAL WORK TO INCORPORATE CLASS II/III BIKE LANES ON CLINTON KEITH RD FROM GRAND AVE TO GEORGE AVE. IMPROVEMENTS INCLUDE A TOTAL OF 7,300 LF OF NEW BIKE LANES	\$951
RIVERSIDE	LOCAL HIGHWAY	RIV100102	0	IN WESTERN RIVERSIDE COUNTY IN BEAUMONT: SR79 BYPASS EXT NO. PH II - INSTALL OF A 3-LN PRE-FAB BRIDGES ON THE EASTSIDE OF THE PH I POTRERO BRIDGE SR79 BYPASS EXT. NO., EXTENDING THE POTRERO BLVD 0.675 MI. NO. FROM THE FUTURE SR60/POTRERO FWY IC (RIV050535), TO CONNECT TO THE OAK VALLEY PKWY IN BEAUMONT, INCLUDING THE INSTALL OF A CLASS I MULTI-PURPOSES TRAIL, FLARED INTERSECTION AND TURNING POCKETS.	\$21,846
RIVERSIDE	LOCAL HIGHWAY	RIV140805	0	IN EASTERN RIVERSIDE COUNTY NEAR THE CITY OF BLYTHE - COMPOSITION AND PRINTING OF A BLYTHE AREA OFF HIGHWAY VEHICLE TRAIL MAP	\$29
RIVERSIDE	LOCAL HIGHWAY	RIV060102	0	IN CALIMESA - WIDEN EB COUNTY LN RD FROM 1 TO 2 LNS (I-10 TO 600' E/O CALIMESA BLVD), CONSTRUCT 90 FT. ROUNDABOUT AT INTERSECTION OF CALIMESA BLVD AND COUNTY LN RD. WIDEN ALL ADJACENT CORNERS FOR TRANSITION TO ROUNDABOUT INCLUDING CURB AND GUTTER AS REQUIRED. ADDITIONAL IMPROVEMENTS INCLUDE DRAINAGE AND CONCRETE WORK (SAFETEA-LU-DEMO ID 445, 1316)	\$2,366
RIVERSIDE	LOCAL HIGHWAY	RIV091011	0	IN EASTERN RIVERSIDE COUNTY IN THE COACHELLA VALLEY - DATE PALM DR OVER THE WHITEWATER RIVER; WIDENING OF DATE PALM DR FROM 4 TO 6 LNS (3 LNS IN EA DIR), FROM APPROX. 350 FT S/O THE BRIDGE TO 250 FT N/O THE BRIDGE (VIA ESTRADA TO THE NORTH AND PEREZ RD. TO THE SOUTH), INCLUDING THE CONSTRUCTION OF A RAISED MEDIAN AND SIDEWALK ALONG THE EAST SIDE OF THE PROJECT (BRIDGE NO. 56C0189).	\$18,703
RIVERSIDE	LOCAL HIGHWAY	RIV110501	0	IN EASTERN RIVERSIDE COUNTY IN THE COACHELLA VALLEY - DATE PALM DR WIDENING FROM I-10 TO VARNER RD.; WIDENING OF DATE PALM DR FROM 2 TO 6 LNS (3 LNS IN EA DIR) FROM I-10 TO VARNER RD INCLUDING A BOX CULVERT SPANNING THE LONG CANYON WASH; OTHER IMPROVEMENTS INCLUDE ADDITIONAL TURNING LANES AT INTERSECTION OF DATE PALM DR. & VARNER RD., TRAFFIC SIGNALIZATION, SIDEWALKS, MEDIANS AND BIKE LANES.	\$5,791
RIVERSIDE	LOCAL HIGHWAY	RIV140845	0	IN WESTERN RIVERSIDE CO. FOR THE CITY OF EASTVALE - SRTS AT MULTIPLE SCHOOLS-SIGNALIZED XING & RADAR SPEED DISPLAY; INSTALL A TRAFFIC SIGNAL, RADAR SPEED DISPLAY, CURB & GUTTER, ASPHALT CONCRETE, SIGNS, CROSSWALKS, STRIPING & 10,200 L.F. OF BIKE LANES NEAR EASTVALE, ROSA PARKS, & HARADA ELEM SCHOOLS, RIVER HEIGHTS & RAMIREZ MID SCHOOLS & ROOSEVELT HIGH SCHOOL.	\$479
RIVERSIDE	LOCAL HIGHWAY	RIV151201	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF EASTVALE - TRAFFIC SYNCHRONIZATION OF SIX TRAFFIC SIGNALIZED INTERSECTIONS ALONG HAMMER AVENUE FROM SCHLEISMAN ROAD TO EASTVALE GATEWAY	\$384
RIVERSIDE	LOCAL HIGHWAY	RIV071246	0	IN CITY OF COACHELLA - CONSTRUCT NEW (NON-CAPACITY) AVE 52 GRADE SEPARATION OVERHEAD STRUCTURE SPANNING OVER UPRR MAINLINE TRACKS AND GRAPEFRUIT BLVD/HWY 111, FROM SHADY LN TO APPROX 600 FT. E/O INDUSTRIAL WAY/TYLER ST. IMPROVEMENTS INCL: RECONFIG CONNECTION FROM AVE 52 TO GRAPEFRUIT BLVD/HWY 111, BIKE LNS, SIDEWALKS, RETAINING WALLS, RECONSTRUCT TRAFFIC SIGS/DRIVEWAYS, REMOVE EXISTING AT-GRADE CR	\$29,866
RIVERSIDE	LOCAL HIGHWAY	RIV110825	0	IN THE CITY OF COACHELLA - AVE 50 OVER COACHELLA STORMWATER CHANNEL: REPLACEMENT OF A 2-LN LOW WATER X-ING (BRIDGE NO. 00L0055) WITH A 6-LN (3-LNS IN EA DIR) BRIDGE FROM 300-FT W/O APACHE TRAIL TO SR-86S INTERSECTION. OTHER IMPROVEMENTS INCLUDE BIKE LANES/TRAILS, SIDEWALKS, RECONSTRUCT TRAFFIC SIGNAL/DRIVEWAYS, CHANNEL SCOUR PROTECTION, AND REMOVAL OF LOW WATER X-ING AND CULVERTS.	\$29,915
RIVERSIDE	LOCAL HIGHWAY	RIV140816	0	IN EASTERN RIVERSIDE COUNTY FOR THE CITY OF COACHELLA - INSTALL 8.2 MILES OF CLASS II BIKE LANES ON CITY ARTERIALS TO FACILITATE RESIDENTIAL TO COMMERCIAL CONNECTIVITY (\$52.76 OF TC TO MATCH CMAQ IN FY 15/16)(PM 2.5 BENEFITS .816 KG/DAY)	\$320
RIVERSIDE	LOCAL HIGHWAY	RIV140842	0	IN EASTERN RIVERSIDE COUNTY FOR THE CITY OF COACHELLA - ATP IMPROVEMENTS CYCLE 1: ADD 7 MI. OF CLASS II BIKE LANES & CLASS III BIKEWAYS W/ SHARROWS, ASPHALT BIKE PATH, PED XING, & CONSTRUCTION OF 2 MI. OF SIDEWALKS AT DIFFERENT LOCATIONS & LANDSCAPED MEDIANS ALONG AVE 50 & AVE 52 FROM WESTERN CITY LIMITS TO CV LINK. TC USED TO MATCH ATP	\$1,764

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV15217	0	IN EASTERN RIVERSIDE COUNTY IN THE CITY OF COACHELLA - WIDENING OF AVENUE 48 FROM 2 TO 6 LANES (1 LN EA DIR TO 3 LNS EA DIR) FROM JACKSON RD TO VAN BUREN ST INCLUDING TRAFFIC SIGNAL MODIFICATIONS, STREET LIGHTING, DRAINAGE IMPROVEMENTS INCLUDING SIDEWALK AND BICYCLE LANES AND LANDSCAPING	\$3,600
RIVERSIDE	LOCAL HIGHWAY	RIV31005	0	IN EASTERN RIVERSIDE COUNTY FOR CVAG. CONSTRUCT IN PHASES A NEW 50 MILE BICYCLE, PEDESTRIAN AND LOW SPEED ELECTRICAL VEHICLE PATH FROM CITY OF DESERT HOT SPRINGS TO THE SALTON SEA ROUGHLY ALONG WHITEWATER RIVER. PH I WILL CONSTRUCT LINK FROM PALM SPRINGS TO COACHELLA. FUTURE PHASES WILL CONSTRUCT LINK FROM DESERT HOT SPRINGS TO PALM SPRINGS AND COACHELLA TO THE SALTON SEA.	\$99,359
RIVERSIDE	LOCAL HIGHWAY	RIV140820	0	IN EASTERN RIVERSIDE COUNTY FOR CVAG. REGIONAL SIGNAL SYNCHRONIZATION PROGRAM THROUGH THE COACHELLA VALLEY INCLUDING BUT NOT LIMITED TO SIGNAL UPGRADES, COMMUNICATION SYSTEMS, HARDWARE AND SOFTWARE.	\$10,828
RIVERSIDE	LOCAL HIGHWAY	RIV010209	0	IN THE CITY OF CORONA - CONSTRUCT FOOTHILL PARKWAY WESTERLY EXTENSION 4 LANE ROAD FROM LINCOLN AVE TO PASEO GRANDE (APPROX 2.5 MILES)	\$67,481
RIVERSIDE	LOCAL HIGHWAY	RIV011240	0	IN CORONA ON EXISTING MCKINLEY ST - CONSTRUCT GRADE SEPARATION AT BNSF RAILROAD CROSSING (PROJECT STUDY REPORT & PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT ACTIVITIES)	\$3,800
RIVERSIDE	LOCAL HIGHWAY	RIV011241	0	IN CORONA ON AUTO CENTER DRIVE - CONSTRUCT 4 LANE OVERCROSSING (GRADE SEPARATION) OVER EXISTING BNSF TRACKS (\$1,240 TOLL CREDITS IN CONST TO MATCH PNRS).	\$32,675
RIVERSIDE	LOCAL HIGHWAY	RIV091001	0	IN THE COACHELLA VALLEY IN THE CITY OF DESERT HOT SPRINGS - INDIAN AVE WIDENING: WIDENING OF INDIAN AVE FROM 2 TO 6 THROUGH LANES (3 IN EA DIR), BETWEEN HWY 62 AND MISSION LAKES BLVD., INCLUDING THE CONSTRUCTION OF AN ALL WEATHER BRIDGE OVER MISSION CREEK (PA&ED).	\$44,000
RIVERSIDE	LOCAL HIGHWAY	RIV130101	0	REHABILITATE APPROXIMATELY 0.5 MILES OF THE PACIFIC COAST TRAIL - FULLERS RIDGE TRAIL BETWEEN SEVEN PINES TRAIL AND DEER SPRINGS TRAIL IN MOUNT SAN JACINTO STATE PARK. CONSTRUCTION ACTIVITIES INCLUDE BRUSHING AND CLEARING, SWITCHBACKS, ARMORING, ROCK RETAINING WALLS, DRAINAGE LENSES, AND TRAIL CONSTRUCTION AND REHABILITATION (PART OF MAP-21 BILL)	\$385
RIVERSIDE	LOCAL HIGHWAY	RIV141202	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF HEMET - GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES - NON - MOTORIZED: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED)	\$3,936
RIVERSIDE	LOCAL HIGHWAY	RIV091006	0	IN EASTERN RIVERSIDE CO. IN THE COACHELLA VALLEY - HWY 111 WIDENING W/IN INDIAN WELLS CITY LIMITS: WIDENING FROM 4 TO 6 THRU LNS (3 LNS IN EA DIR) BTWN THE WCL (570' W/O VILLAGE CTR DR) & EL DORADO DR (RTP ID'S 3A07316 & 3A07257) INCLUDING THE INSTAL OF A RAISED, LANDSCAPE MEDIAN, LEFT TURN PH @ EL DORADO DR, DUAL LEFT TURN PH @ THE SB AND EB COOK ST, RT TURN ONLY LNS AT THE EAST, WEST, AND SB COOK ST.	\$27,788
RIVERSIDE	LOCAL HIGHWAY	RIV091209	0	IN EASTERN RIVERSIDE CO. IN THE COACHELLA VALLEY - HWY 111 WIDENING WITHIN INDIAN WELLS CITY LIMITS: WIDENING FROM 4 TO 6 THRU LNS (3 LNS IN EA DIR) BTWN EL DORADO & EAST CITY LIMITS (W/O WASHINGTON), INCLUDING THE INSTALL OF A RAISED, LANDSCAPE MEDIAN AND RIGHT TURN ONLY LANE AT INDIAN WELLS LN (RTP ID'S 3A07258 & 3A07259).	\$32,779
RIVERSIDE	LOCAL HIGHWAY	RIV091208	0	IN COACHELLA VALLEY IN THE CITY OF INDIO - JACKSON ST TRAFFIC SIGNAL INTERCONNECT AND TRAFFIC SIGNAL INSTALL: INSTALL A NEW TS AT JACKSON ST & MARKET ST/DILLON AVE., & INSTALL OF A WIRELESS INTERCONNECT SYSTEM ON JACKSON ST BTWN AVE. 44 TO THE NO. & AVE. 45 TO THE SO., A DISTANCE OF APPROX. 1 MILE. INTERCONNECT SYSTEM INCLUDES 2 EXIST. TS & 1 NEW TS (\$38 TOLL CREDITS USED FOR CMAQ MATCH IN CONS).	\$367
RIVERSIDE	LOCAL HIGHWAY	RIV111202	0	IN THE CITY OF INDIO - AVE 44 BRIDGE REPLACEMENT: REPLACE EXISTING AVENUE 44 TWO LANE LOW WATER CROSSING OVER THE COACHELLA VALLEY STORMWATER CHANNEL WITH A FOUR LANE BRIDGE (BRIDGE NO. 00LO056), INCLUDING 6 FT SIDEWALK ON EACH SIDE OF THE BRIDGE.	\$19,230
RIVERSIDE	LOCAL HIGHWAY	RIV140819	0	IN EASTERN RIVERSIDE COUNTY FOR THE CITY OF INDIO - FULLY PAVE ABOUT ONE MILE OF UNPAVED CITY ROADS ALONG (4) RESIDENTIAL STREETS IN INDIO, NORTH OF INTERSTATE 10. STREETS TO BE REPAVED ARE: RANCHO LOS CERRITOS DR; PRIMROSE LANE; GALINDO CT; AND SABRINA CT (PM 2.5 BENEFITS 17.92 KG/DAY)	\$1,279
RIVERSIDE	LOCAL HIGHWAY	RIV140848	0	IN EASTERN RIVERSIDE COUNTY IN THE CITY OF INDIO - ANDREW JACKSON ELEM PED IMPROVEMENTS: ON TEN STREETS WITHIN THE ANDREW JACKSON ELEM SCHOOL COMMUNITY, INSTALL SIDEWALKS, UPGRADE PED ACCESS RAMPS AND DRIVEWAY APPROACHES, THREE ENHANCED CROSSWALKS, AND TWO SPEED FEEDBACK SIGNS. TC USED TO MATCH ATP	\$2,581
RIVERSIDE	LOCAL HIGHWAY	RIV151001	0	IN EASTERN RIVERSIDE COUNTY FOR THE CITY OF INDIO - RECONSTRUCT AND IMPROVE HIGHWAY 111 FROM 760 FT WEST OF MADISON ST TO RUBIDOUX ST INCLUDING UPDATING ALL TRAFFIC SIGNALS AND UPDATE ALL SIDEWALKS, RAMPS AND DRIVEWAYS TO CURRENT ADA STANDARDS. WIDEN OF HIGHWAY 111 FROM 4 LANES (2 IN EACH DIR) TO 6 LANES (3 IN EACH DIR).	\$10,920

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV21202	0	IN EASTERN RIVERSIDE COUNTY IN THE CITY OF LA QUINTA - ON DUNE PALMS RD; REPLACE 3-LANE LOW WATER CROSSING WITH 4 LANE BRIDGE OVER THE COACHELLA VALLEY STORMWATER CHANNEL, WHITEWATER RIVER - BRIDGE NO.00LO070)	\$17,510
RIVERSIDE	LOCAL HIGHWAY	RIV091005	0	IN MIDWESTERN RIVERSIDE COUNTY IN THE CITY OF LAKE ELSINORE - CONSTRUCTION OF A 6-PHASE TRAFFIC SIGNAL AT THE INTERSECTION OF SR-74 AND GUNNISON AVENUE AND WIDENING OF THE ROUTE TO PROVIDE FOR TWO LEFT TURN LANES.	\$2,450
RIVERSIDE	LOCAL HIGHWAY	RIV11203	0	IN LAKE ELSINORE - TEMESCAL CANYON RD BRIDGE REPLACEMENT/WIDENING; REPLACE TEMESCAL CANYON RD, 2 LANE BRIDGE WITH A 4 LANE BRIDGE OVER TEMESCAL WASH, 0.22 MI. W/O LAKE STREET (BRIDGE NO. 56C00050).	\$19,452
RIVERSIDE	LOCAL HIGHWAY	RIV011210	0	IN MORENO VALLEY/COUNTY - REALIGN RECHE VISTA DR (PERRIS BLVD TO NORTH CITY LIMITS - APPROX. 2,450') & INSTALL SIGNAL (PERRIS/HEACOCK/ RECHE VISTA DR)	\$4,600
RIVERSIDE	LOCAL HIGHWAY	RIV071240	0	IN THE CITY OF MORENO VALLEY - EAST BOUND CACTUS AVE WIDENING BETWEEN VETERANS WAY & HEACOCK; WIDENING OF EAST BOUND CACTUS AVE FROM 2 TO 3 LANES; INCLUDING TRAFFIC SIGNAL MODIFICATIONS WITHIN THE PROJECT REACH, CHANNELIZATION, AND SIGNAL INTERCONNECT SYSTEM (6 SIGNALS).	\$3,241
RIVERSIDE	LOCAL HIGHWAY	RIV080905	0	IN THE CITY OF MORENO VALLEY - WIDEN ALESSANDRO BLVD BETWEEN I-215 AND FREDERICK ST FROM 4 TO 6 LANES.	\$12,401
RIVERSIDE	LOCAL HIGHWAY	RIV080907	0	IN THE CITY OF MORENO VALLEY - WIDEN ALESSANDRO BLVD BETWEEN NASON ST AND GILMAN SPRINGS RD FROM 2 TO 4 LANES; REALIGN ALESSANDRO BLVD WITHIN PROJECT LIMITS BETWEEN THEODORE ST AND GILMAN SPRINGS RD. IMPROVEMENTS INCLUDE MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION, LEFT TURN POCKETS, DEDICATED RIGHT TURN, DRAINAGE, LANDSCAPING, SIDEWALKS, BIKE LANES, AND TRAILS.	\$62,000
RIVERSIDE	LOCAL HIGHWAY	RIV080908	0	IN THE CITY OF MORENO VALLEY - WIDEN GILMAN SPRINGS RD BETWEEN SR-60 AND ALESSANDRO BLVD FROM 2 TO 6 LANES. IMPROVEMENTS INCLUDE MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION, LEFT TURN POCKETS, DEDICATED RIGHT TURN, DRAINAGE, ACCESS ROADS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	\$41,500
RIVERSIDE	LOCAL HIGHWAY	RIV080909	0	IN THE CITY OF MORENO VALLEY - WIDEN GILMAN SPRINGS RD BETWEEN ALESSANDRO BLVD AND BRIDGE ST FROM 2 TO 6 LANES. IMPROVEMENTS INCLUDE MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION, LEFT TURN POCKETS, DEDICATED RIGHT TURN, DRAINAGE, ACCESS ROADS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	\$51,000
RIVERSIDE	LOCAL HIGHWAY	RIV080910	0	IN THE CITY OF MORENO VALLEY - WIDEN HEACOCK ST BETWEEN CACTUS AVE AND SAN MICHELE RD FROM 2 TO 4 LANES INCLUDING CURB, GUTTER, SIDEWALK, AND SIGNAL.	\$10,800
RIVERSIDE	LOCAL HIGHWAY	RIV080911	0	IN THE CITY OF MORENO VALLEY - WIDEN HEACOCK ST BETWEEN SAN MICHELE RD AND HARLEY KNOX RD (PERRIS CITY LIMITS), FROM 2 TO 4 LANES; REALIGN HEACOCK ST WITHIN PROJECT LIMITS BETWEEN NANDINA AND OLEANDER; REPLACE BRIDGE OVER PUSD LATERAL B.	\$6,100
RIVERSIDE	LOCAL HIGHWAY	RIV080912	0	IN THE CITY OF MORENO VALLEY - WIDEN BOX SPRINGS RD BETWEEN 500' WEST OF CLARK ST AND DAY ST FROM 2 TO 4 LANES. INCLUDES UTILITY RELOCATION, GRADING, DRAINAGE, CURB, GUTTER, RETAINING WALLS, SIGNAGE, AND STRIPING.	\$3,178
RIVERSIDE	LOCAL HIGHWAY	RIV080915	0	IN THE CITY OF MORENO VALLEY - WIDEN IRONWOOD AVE BETWEEN PERRIS BLVD AND VISTA DE CERROS DR, FROM 2 TO 5 LANES (2 LANES IN EACH DIRECTION AND 1 CENTER TURNING LANE). ADDITIONAL IMPROVEMENTS INCLUDE SIGNAL MODIFICATIONS, LIGHTING, DRAINAGE, CURB, GUTTER, STRIPING, AND SIDEWALK.	\$13,397
RIVERSIDE	LOCAL HIGHWAY	RIV080917	0	IN THE CITY OF MORENO VALLEY - WIDEN MORENO BEACH DR BETWEEN CACTUS AVE AND AUTO MALL DR FROM 2 TO 6 LANES. INCLUDES SIGNALS AT COTTONWOOD AVE, ALESSANDRO BLVD, AND CACTUS AVE.	\$23,000
RIVERSIDE	LOCAL HIGHWAY	RIV080918	0	IN THE CITY OF MORENO VALLEY - WIDEN REDLANDS BLVD BETWEEN SR-60 AND CACTUS AVE FROM 2 TO 4 LANES. IMPROVEMENTS INCLUDE MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION, LEFT TURN POCKETS, DEDICATED RIGHT TURN, DRAINAGE, LANDSCAPING, SIDEWALKS, BIKE LANES, AND TRAILS.	\$18,300
RIVERSIDE	LOCAL HIGHWAY	RIV090908	0	IN MORENO VALLEY, WIDEN THEODORE ST FROM 2 TO 4 LANES FROM ALESSANDRO BLVD TO EUCALYPTUS AVE, INCLUDING TRAFFIC SIGNALS, CHANNELIZATION IMPROVEMENTS, LEFT-TURN POCKETS, DEDICATED RIGHT-TURN LANES, DRAINAGE IMPROVEMENTS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	\$15,456
RIVERSIDE	LOCAL HIGHWAY	RIV090909	0	IN MORENO VALLEY, WIDEN THEODORE ST FROM 2 TO 4 LANES + 2 AUX LANES FROM EUCALYPTUS AVE TO SR-60 EB RAMPS, INCLUDING MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION IMPROVEMENTS, LEFT-TURN POCKETS, DEDICATED RIGHT-TURN LANES, DRAINAGE IMPROVEMENTS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	\$4,791

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV090910	0	IN MORENO VALLEY, WIDEN THEODORE ST FROM 2 TO 4 LANES FROM SR-60 WB RAMPS TO IRONWOOD AVE, INCLUDING TRAFFIC SIGNALS, CHANNELIZATION IMPROVEMENTS, LEFT-TURN POCKETS, DEDICATED RIGHT-TURN LANES, DRAINAGE IMPROVEMENTS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	\$4,791
RIVERSIDE	LOCAL HIGHWAY	RIV440849	0	IN WESTERN RIVERSIDE CO. IN THE CITY OF MORENO VALLEY - CITY-WIDE SRTS PED FACILITY IMPROVEMENTS: INSTALL 2,840 FT. OF SIDEWALK GAP CLOSURES, CURBS, GUTTERS, STREET LIGHTS, ADA RAMPS, & STREET WIDENING ON DRACAE AVE, EUCALYPTUS AVE, IRONWOOD AVE, KITCHING ST, SANDY GLADE AVE, AND ELSWORTH ST; NON-INFRASTRUCTURE INCLUDES BIKE/PEDESTAL SAFETY CAMPAIGN & BIKE SAFETY CLASSES. TC USED TO MATCH ATP	\$16,400
RIVERSIDE	LOCAL HIGHWAY	RIV151202	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF MORENO VALLEY - DESIGN AND CONSTRUCTION OF ITS, INCLUDING AN ETHERNET FIBER-OPTIC BACKBONE SYSTEM, CCTV CAMERAS AT 26 KEY INTERSECTIONS, AND NEW TRAFFIC SIGNAL CONTROLLERS AT EXISTING 43 SIGNALIZED INTERSECTIONS (CMAQ PM 2.5 BENEFITS: 21 KG/DAY)	\$2,400
RIVERSIDE	LOCAL HIGHWAY	RIV151203	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF MORENO VALLEY - INSTALL THREE DYNAMIC MESSAGE SIGNS ALONG ARTERIAL ROUTES APPROACHING INTERSTATE 15 AND STATE ROUTE 60. PROPOSED LOCATIONS INCLUDE: CACTUS AVENUE, ALESSANDRO BOULEVARD AND EUCALYPTUS AVENUE OR DAY STREET.	\$451
RIVERSIDE	LOCAL HIGHWAY	RIV151204	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF MORENO VALLEY - DEVELOP PLANS FOR MISSING SEGMENTS OF THE AQUEDUCT TRAIL FOR A CONTINUOUS TRAIL FROM EUCALYPTUS AVENUE TO LAKE PERRIS STATE RECREATIONAL PARK. (PA&ED ONLY)	\$425
RIVERSIDE	LOCAL HIGHWAY	RIV031204	0	IN MURRIETA - CONSTRUCT NEW 2 LANE GUAVA ST. BRIDGE (400') OVER MURRIETA CREEK FROM WASHINGTON AVE TO ADAMS AVE W/ SHOULDERS & ALL REQUIRED APPROACHES (BR#: 56C0162) (\$27,528 TOLL CREDITS UTILIZED FOR R/W IN FY 2010/2011).	\$7,575
RIVERSIDE	LOCAL HIGHWAY	RIV11130	0	IN MURRIETA - WHITEWOOD RD EXTENSION: EXT. OF WHITEWOOD RD FROM JACKSON AVE NO. TO THE INTERSECTION OF MURRIETA HOT SPRINGS RD & WHITEWOOD RD (PA&ED). THE PRECISE LOCATION OF WHITEWOOD RD WILL BE DETERMINED BY AN ALIGNMENT STUDY. THE RD WILL BE IMPROVED TO A 4-LN CROSS-SECTION W/RAISED OR PAINTED MEDIAN (MAJOR ST. DESIGNATION), PROVIDING BETTER TRAFFIC CIRCULATION BTWN TEMECULA & MURRIETA.	\$5,000
RIVERSIDE	LOCAL HIGHWAY	RIV11131	0	IN MURRIETA - KELLER RD. EXTENSION: EXTENSION OF KELLER RD. FROM WHITEWOOD RD (EAST) TO SR79 (WINCHESTER RD). THE PROJECT EXTENSION WILL INCLUDE 4 LANES (2 LNS IN EA DIR), A LEFT TURN LANE, BIKE LANES, AND INSTALLATION OF CURB, GUTTER AND SIDEWALK	\$34,000
RIVERSIDE	LOCAL HIGHWAY	RIV071243	0	IN THE CITY OF PALM DESERT - FREE RIGHT TURN LANE-WB FRED WARING DR TO NB HWY 111; RECONFIGURATION OF A FREE RIGHT TURN LANE AT THE INTERSECTION FROM WEST BOUND FRED WARING DR TO NORTH BOUND HWY 111 (\$61 TOLL CREDITS USED TO MATCH CMAQ IN CONST FY14/15).	\$706
RIVERSIDE	LOCAL HIGHWAY	RIV071255	0	IN THE CITY OF PALM DESERT - MID VALLEY BIKE PATH: CONSTRUCT A 6.5 MILE CLASS 1 BIKE PATH ALONG THE NORTHERN CITY LIMITS BETWEEN S/O WASHINGTON ST. AND N/O MONTEREY AVE.	\$5,800
RIVERSIDE	LOCAL HIGHWAY	RIV031205	0	IN THE CITY OF PALM SPRINGS - WIDEN RAMON RD FROM 4 TO 6 LNS (3 IN EA DIR), FROM EL CIELO RD TO SUNRISE WY., WITH INTERSECTION WIDENING AT EL CIELO RD (ADD WB RT TURN LANE), AT FARRELL DR (ADD SB LEFT TURN LANE), & AT SUNRISE WY (ADD SB LEFT, NB LEFT, AND WB LEFT).	\$4,750
RIVERSIDE	LOCAL HIGHWAY	RIV031206	0	ON S. PALM CANYON DR OVER ARENAS CANYON SOUTH DRAINAGE CHANNEL- REPLACE EXISTING 4 LANE LOW-WATER CROSSING WITH A NEW 4-LANE BRIDGE, INCLUDING DRAINAGE IMPROVEMENTS CONSISTING OF LEVEE CHANNELIZATION (HBR# #: 00L0027).	\$4,875
RIVERSIDE	LOCAL HIGHWAY	RIV071258	0	IN THE CITY OF PALM SPRINGS - TRAFFIC MANAGEMENT CENTER: ADVANCE THE INTERCONNECTED SIGNAL TIMING TO BE UNIFIED CITY-WIDE, COORDINATE THE COMM. EQUIP., BRINGING THEM ALL ONTO THE SAME COMM. PLATFORM FOR THE TRANSMISSION OF COMPLETE DATA & DISSEMINATION OF INFO. TO THE PUBLIC. (\$189 OF TC USED TO MATCH CON IN FY14/15)	\$1869
RIVERSIDE	LOCAL HIGHWAY	RIV090402	0	IN PALM SPGS- PROVIDE ST & SD IMPVTS FOR THE AGUA CALIENTE CULTURAL MUSEUM. IMPVTS INCLUDE: WIDEN HERMOSA DR BTWN TAHQUITZ CANYON WY & ARENAS RD (NON-CAPACITY); CONSTRUCT OFF-SITE PARKING SPACES ALONG E/S OF HERMOSA DR, BTWN TAHQUITZ CANYON WY & ARENAS RD; WIDEN HERMOSA DR TO OP WIDTH BTWN ARENAS & BARISTO RDS (600 FT); & CONSTRUCT SD SYSTEM (LINE 9) EXTEND HERMOSA DR FRM BARISTO CHANNEL TO ARENAS RD.	\$1193
RIVERSIDE	LOCAL HIGHWAY	RIV090405	0	IN THE CITY OF PALM SPRINGS: REPLACE EXISTING 4-LANE LOW WATER CROSSING ON VISTA CHINO AT WHITEWATER RIVER WITH A NEW 4-LANE BRIDGE - BRIDGE NO. 00L0052.	\$95,000
RIVERSIDE	LOCAL HIGHWAY	RIV091205	0	IN COACHELLA VALLEY IN CITY OF PALM SPRINGS - FARRELL DR RIGHT TURN LANE AT VISTA CHINO: CONSTRUCTION OF A SEPARATE RIGHT TURN LANE FOR NB TRAFFIC AT THE INTERSECTION OF FARRELL DR AND VISTA CHINO, INCLUDING RELOCATION AND UPGRADE OF THE TRAFFIC SIGNAL.	\$482

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV110124	0	IN THE COACHELLA VALLEY IN THE CITY OF PALM SPRINGS - RAMON RD. WIDENING BETWEEN SAN LUIS REY DR & LANDAU BLVD. - WIDENING OF RAMON RD. FROM A 4-LN ARTERIAL TO A 6-LN ARTERIAL (3-LNS IN EA DIR) BETWEEN SAN LUIS REY DR & LANDAU BLVD., INCLUDING THE WIDENING/REPLACEMENT OF THE WHITEWATER RIVER BRIDGE (BRIDGE NO. 3660287), INCLUDING SEISMIC RETROFIT AND SCOUR COUNTERMEASURES AS NECESSARY.	\$35,401
RIVERSIDE	LOCAL HIGHWAY	RIV20206	0	IN EASTERN RIVERSIDE COUNTY IN PALM SPRINGS - WIDENING OF WEST SAN RAFAEL RD. WIDENING OF WEST SAN RAFAEL RD FROM TWO TO FOUR LANES (2 LANES IN EACH DIRECTION) WITH A CONTINUOUS LEFT TURN LANE FROM N. INDIAN CANYON DR. TO N. VIRGINIA RD.	\$4,500
RIVERSIDE	LOCAL HIGHWAY	RIV40818	0	IN EASTERN RIVERSIDE CO FOR THE CITY OF PALM SPRINGS-CONSTRUCT 9.8 MI. CLASS II & CLASS III BIKE LNS ALONG THE FOLLOWING ST'S: ALONG CROSSLY RD FROM 34TH AVE TO RAMON RD; S PALM CANYON DR FROM MURRAY CANYON DR TO BELARDO RD; SAN RAFAEL DR FROM INDIAN CANYON DR TO SUNRISE WY; INDIAN CANYON DR FROM RACQUET CLUB DR TO SUNRISE PKWY; & VIA ESCUELA FROM SUNRISE WY TO GENE AUTRY TR (PM2.5 BEN. 4.3KG/DAY)	\$475
RIVERSIDE	LOCAL HIGHWAY	RIV990727	0	IN PALM SPRINGS: WIDEN INDIAN CANYON DR FROM 2 TO 6 LANES (3 IN EACH DIRECTION). FROM UPRR OVERCROSSING TO GARNET AVE (HBR#5660025).	\$19,860
RIVERSIDE	LOCAL HIGHWAY	RIV140850	0	IN WESTERN RIVERSIDE CO. IN THE CITY OF PERRIS - MURRIETA RD PED IMPROVEMENTS: INSTALL 1.0 MILE OF SIDEWALK GAPS, CURB & GUTTER ON W-SIDE OF MURRIETA RD W/ CLASS II BIKE LANES IN BOTH DIRECTIONS B/W SAN JACINTO AVE & 1000' NORTH OF NUEVO RD; 10' WIDE BRIDGE OVER METZ FLOOD CONTROL CHANNEL; TRAFFIC SIGNAL AT MURRIETA & NUEVO RDS; NEW SIDEWALK ON DALE ST B/W WILSON & MURRIETA RD. TC TO MATCH ATP	\$1,100
RIVERSIDE	LOCAL HIGHWAY	RIV140851	0	IN WESTERN RIVERSIDE CO. IN THE CITY OF PERRIS - PERRIS VALLEY STORM DRAIN CHANNEL TRAIL: NEW 15-FT WIDE 4.32 MILES OF CONCRETE MULTI-USE TRAIL PARALLEL TO PERRIS VALLEY STORM DRAIN FROM NORTHERN CITY LIMITS TO SAN JACINTO RIVER TRAIL AT KABIAN REGIONAL PARK IN S.WEST CITY LIMITS, INCLUDES LANDSCAPING IRRIGATION, SIGNAGE, CHAIN LINK FENCE AND SPLIT RAIL PVC FENCE. TC USED TO MATCH ATP	\$3,828
RIVERSIDE	LOCAL HIGHWAY	RIV091010	0	IN EASTERN RIVERSIDE COUNTY IN THE COACHELLA VALLEY - MONTEREY AVE WIDENING FROM 4 TO 6 THROUGH LANES (ADDING A 3RD NB & SB THROUGH LANE) FROM HOVLEY LANE WEST TO PARK VIEW DR IN THE CITIES OF RANCHO MIRAGE AND PALM DESERT, INCLUDING TS MODIFICATION, AND SIGNING AND STRIPING IMPROVEMENTS (RTP ID 3A07116 & 3A07128).	\$5,345
RIVERSIDE	LOCAL HIGHWAY	RIV110130	0	IN COACHELLA VALLEY IN RANCHO MIRAGE - WIDENING OF SOUTH BOUND MONTEREY AVE. FROM 2 TO 3 LANES FROM DINAH SHORE DR TO GERALD FORD DR. (APPROX. 3,480 L.F.). OTHER IMPROVEMENTS INCLUDE INSTALLATION OF CURB AND GUTTER, DRAINAGE IMPROVEMENTS (RETENTION BASINS), SIGNING AND STRIPING, AND TRAFFIC SIGNAL MODIFICATION AT GINGER ROGERS RD.	\$1,850
RIVERSIDE	LOCAL HIGHWAY	RIV140814	0	IN EASTERN RIVERSIDE CO FOR THE CITY OF RANCHO MIRAGE-INSTALLATION OF 11,080 L.F. OF FOUR FT. HIGH SAND FENCING ALONG BOB HOPE DR, W/S FROM THE SOUTH END OF AGUA CALIENTE CASINO OVERFLOW PARKING LOT TO DINAH SHORE DR (0.60 MILES) & DINAH SHORE DR, N/S, FROM BOB HOPE DR 1,320 FT. TO THE WEST (0.25 MILES) (PM 2.5 BENEFITS 2.25 KG/DAY)	\$251
RIVERSIDE	LOCAL HIGHWAY	RIV140815	0	IN EASTERN RIVERSIDE CO FOR CITY OF RANCHO MIRAGE-CONSTRUCT FREE RT, PORKCHOP ISLAND & CURB & GUTTER; RELOCATE SIGNAL POLE; REPLACE SIGNAL LOOP; REMOVE & RELOCATE CONCRETE PAVEMENT, SPANDREL, CROSS GUTTER, HANDICAP RAMP & BUS TURNOUT; & INSTALL 15,418 LF OF 4FT. SAND FENCING ALONG RAMON RD FROM LOS ALAMOS RD TO BOB HOPE DR & ALONG DINAH SHORE DR N/S FROM BOB HOPE DR TO MIRIAM WY (PM 2.5 BEN 3.341KG/DAY)	\$966
RIVERSIDE	LOCAL HIGHWAY	RIV011236	0	IN RIV COUNTY & MURRIETA - EXTEND/CONSTRUCT CLINTON KEITH ROAD (3 LANES TOTAL - APPROX 3.4 MILES) WITH 2 BRIDGES FROM ANTELOPE ROAD TO WINCHESTER ROAD (SR79)	\$57,940
RIVERSIDE	LOCAL HIGHWAY	RIV031202	0	I-10 BYPASS SOUTH (FORMERLY RAMSEY ST. EXT.): CONSTRUCT TWO LANES OF ROADWAY TO PROVIDE A BY-PASS/NETWORK FACILITY FOR THE I-10. APPROX. 1/2 MILE S/O I-10 BETWEEN THE EASTERN END OF THE CITY OF BANNING AND APACHE TRAIL IN CABAZON. OTHER IMPROVEMENTS INCLUDE THE CONSTRUCTION OF BRIDGE CROSSINGS AT SMITH CREEK AND SAN GORGONIO RIVER.	\$21,021
RIVERSIDE	LOCAL HIGHWAY	RIV060123	0	IN NORTHWEST RIVERSIDE COUNTY ON CLAY ST FROM APPROX 100' SW OF GENERAL DR TO APPROX 500' N/O LINARES AVE; REPLACE EXISTING 4-LANE (2 LNS IN EACH DIRECTION) AT GRADE R/R X-ING WITH A 4-LN (2 LNS IN EACH DIRECTION - NON-CAPACITY) UNDERCROSSING (UPRR).	\$30,806
RIVERSIDE	LOCAL HIGHWAY	RIV070702	0	NEAR SR60 AND BEAUMONT W/O JCT SR60/I-10: CONSTRUCT NEW 4 LANE (2 LNS EACH DIR) POTRERO BLVD FROM SR 60 SOUTH & EAST TO SR79 (PA&ED/ PRE-DESIGN)	\$800
RIVERSIDE	LOCAL HIGHWAY	RIV071278	0	IN NORTHWEST RIVERSIDE COUNTY ON MAGNOLIA AVE - REPLACE EXISTING 4 LANE (2 LNS IN EA. DIR) R/R X-ING WITH A 4-LN (2 LNS IN EA DIR - NON-CAPACITY) O.C. GRADE SEPARATION ON MAGNOLIA AVE BTWN BUCHANAN AVE. (ON THE EAST) AND LINCOLN STREET (ON THE WEST).	\$51,632
RIVERSIDE	LOCAL HIGHWAY	RIV071285	0	IN THE SOUTH/EAST COACHELLA VALLEY IN EASTERN RIVERSIDE COUNTY, JUST SOUTH OF THE CITY OF COACHELLA ON AVE. 56 (AIRPORT BLVD) - FROM POLK ST TO THE WEST TO ORANGE ST. TO THE EAST OF THE R/R X-ING; REPLACE EXISTING 2 LN (1 LN IN EA DIR) AT GRADE R/R X-ING WITH A 2 LN OC (1 LN IN EA DIR - NON-CAPACITY) ACROSS THE UPRR TRACKS.	\$27,740

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV090903	0	IN RIVERSIDE COUNTY ON CA JALCO RD - CA JALCO RD - WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON RD TO HARVILL AVE AND FROM 4 TO 6 LANES FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND A BRIDGE RECONSTRUCTION OVER A WATER CROSSING (RTP IDs: 3A04WTT37 AND 3A04WTT38) (PA&ED ONLY) (\$803 IN FY 09/10 AND \$344,011 IN FY 16/17 OF TC USED FOR STPL MATCH IN PA&ED).	\$73,185
RIVERSIDE	LOCAL HIGHWAY	RIV11003	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF JURUPA VALLEY - MARKET STREET BRIDGE REPLACEMENT: REPLACE THE EXISTING TWO LANE (ONE LANE IN EACH DIRECTION) MARKET STREET BRIDGE OVER THE SANTA ANA RIVER, 0.4 MILES NORTHWEST OF SR60 WITH A FOUR LANE (TWO LANES IN EACH DIRECTION) BRIDGE. BRIDGE NO. 56C0024	\$40,900
RIVERSIDE	LOCAL HIGHWAY	RIV121203	0	IN EASTERN RIVERSIDE COUNTY IN THE COACHELLA VALLEY - ON AVE 56/AIRPORT DR, REPLACE 2 LANE BRIDGE WITH A 4 LANE BRIDGE OVER WHITEWATER RIVER, 21 MILES E/O HWY 111 (BRIDGE NO.56C0020).	\$15,755
RIVERSIDE	LOCAL HIGHWAY	RIV121204	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF NORCO - ON HAMNER AVE OVER SANTA ANA RIVER, 5 MILES N/O OF SIXTH STREET, REPLACE 2 LANE BRIDGE WITH A 6 LANE BRIDGE (BRIDGE NO.56C0446).	\$56,339
RIVERSIDE	LOCAL HIGHWAY	RIV140401	0	IN WESTERN RIVERSIDE COUNTY NEAR THE CITY OF MENIFEE - ON NUEVO ROAD, REHABILITATE AND WIDEN EXISTING 2 LANE BRIDGE TO A 4 LANE BRIDGE OVER SAN JACINTO RIVER 1.2 MILES W/O LAKEVIEW AVENUE. (BRIDGE NO. 56C0004).	\$7,040
RIVERSIDE	LOCAL HIGHWAY	RIV140838	0	IN WESTERN RIVERSIDE CO. FOR THE COUNTY OF RIVERSIDE IN MEAD VALLEY-CLARK ST S/W & INTERSECTION SAFETY IMPROVEMENTS: ON EAST SIDE OF CLARK ST B/W RIDER ST AND CAJALCO RD, CONSTRUCT APPROX. 2,000 L.F. OF CONCRETE SIDEWALK, CURB & GUTTER, PAVEMENT IMPROVEMENTS, NEW CURB RAMPS MEETING LATEST ADA REQS, DRIVEWAY APPROACHES, SIGNS, MARKINGS, & OTHER INCIDENTAL ITEMS TO IMPROVE PEDESTRIAN SAFETY.	\$2,290
RIVERSIDE	LOCAL HIGHWAY	RIV140839	0	IN EASTERN RIVERSIDE CO. FOR THE COUNTY OF RIVERSIDE NEAR DHS-AVENIDA RAMBLA S/W SAFETY IMPROVEMENTS: ON AVENIDA RAMBLA B/W BUBBLING WELLS ELEMENTARY SCHOOL AND CAMINO AVENTURAA AND NORTH SIDE OF CAMINO CAMPESINO B/W AVENIDA RAMBLA AND BUBBLING WELLS RD, CONSTRUCT APPROX. 3,200 L.F. OF SIDEWALK, CURB & GUTTER IMPROVEMENTS, CURB RAMPS, DRIVEWAY APPROACHES, SIGNS, MARKINGS, & OTHER INCIDENTAL ITEMS.	\$356
RIVERSIDE	LOCAL HIGHWAY	RIV140840	0	IN EASTERN RIVERSIDE CO. FOR THE COUNTY OF RIVERSIDE IN MECCA-GRAPEFRUIT BLVD/4TH ST PED & RDWY SAFETY IMPROVEMENTS: ON W/S OF GRAPEFRUIT BLVD B/W 4TH ST & 3,000 FT SOUTH OF 66TH AVE, CONSTRUCT APPROX. 3,500 L.F. OF ASPHALT CONCRETE WALKWAY & 250 L.F. OF CONCRETE S/W, CURB & GUTTER, ADA CURB UPGRADES & WIDENING, TRAFFIC SIGNAL IMPROVEMENTS.	\$2,300
RIVERSIDE	LOCAL HIGHWAY	RIV140846	0	IN WESTERN RIVERSIDE COUNTY FOR THE COUNTY OF RIVERSIDE IN NUEVO-LAKEVIEW AVE S/W SAFETY IMPROVEMENTS: ON LAKEVIEW AVE B/W 10TH ST AND 100-FT NORTH OF 11TH ST, INSTALL 2,600 L.F. OF CONCRETE SIDEWALK, CURB AND GUTTER, PAVEMENT IMPROVEMENTS, ADA COMPLIANT CURB RAMPS, DRIVEWAY APPROACHES, SIGNS AND MARKINGS.	\$878
RIVERSIDE	LOCAL HIGHWAY	RIV140847	0	IN EASTERN RIVERSIDE COUNTY FOR THE COUNTY OF RIVERSIDE IN MECCA - MECCA SIDEWALK & ROADWAY SAFETY IMPROVEMENTS: INSTALL 4,200 L.F. OF CONCRETE SIDEWALK, CURB AND GUTTER, PAVEMENT IMPROVEMENTS, CURB RAMPS, DRIVEWAY APPROACHES, SIGNS AND MARKERS ALONG SIXTH ST., DALE KILLER RD., & BROWN ST.	\$605
RIVERSIDE	LOCAL HIGHWAY	RIV140853	0	IN RIV CO FOR CO'S DPH-PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2&TABLE 3 CAT-SPECIFIC ACTIVITIES WHICH DO NOT INVOLVE OR LEAD TO CON SUCH AS: PLAN & TECH STUDIES, GRANTS FOR TRAINING & RESEARCH PROGRAMS, PLAN ACTIVITIES CONDUCTED PUR TO TITLES 23 & 49 USC, FED-AID SYSTEMS REVIEW TO ASSESS SOCIAL, ECONOMIC, & ENVIRONMENTAL AFFECTS OF THE PROPOSED ACTION OR ALTERNATIVE TO THAT ACTION	\$1,350
RIVERSIDE	LOCAL HIGHWAY	RIV140857	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF JURUPA VALLEY - SRTS TROTH ST - ON EAST AND WEST SIDES OF TROTH ST B/W 58TH ST & JURUPA RD, INSTALL 3,650 FT. OF SIDEWALK EXTENSION, CURB & GUTTER, ADA-COMPLIANT RAMPING, CROSSWALK AT TROTH ST & 56TH ST W/ SOLAR LED FLASHERS AND PED PUSH BUTTONS, AND MODIFIED ON-STREET PARKING TO CREATE SCHOOL PICK-UP/DROP-OFF ZONE.	\$689
RIVERSIDE	LOCAL HIGHWAY	RIV140858	0	IN WESTERN RIVERSIDE CO. IN THE CITY OF JURUPA VALLEY - PYRITE ST SRTS: INSTALL 2,625-FT OF SIDEWALK ON PYRITE ST B/W GALENA ST & MISSION BLVD WITH A ROAD DIET, WITH ADA RAMPING, ENHANCED CROSSWALK AT PYRITE ST & CASSIDY CIRCLE W/ SOLAR LED FLASHERS AND PED PUSH BUTTONS, MODIFIED ON-STREET PARKING FOR PICK-UP/DROP-OFF ZONES.	\$732
RIVERSIDE	LOCAL HIGHWAY	RIV151210	0	IN WESTERN RIVERSIDE COUNTY FOR THE COUNTY OF RIVERSIDE - CONSTRUCTION OF A 7.2 MILE MULTI-MODAL URBAN TRAIL ALONG THE SALT CREEK FLOOD CONTROL CHANNEL BETWEEN THE COMMUNITIES OF HEMET, MENIFEE AND CANYON LAKE. THE MULTI-MODAL TRAIL WILL INCLUDE A 16 FT WIDE CLASS I BIKEWAY AND 12 FT WIDE DECOMPOSED GRANITE PEDESTRIAN TRAIL	\$6,405
RIVERSIDE	LOCAL HIGHWAY	RIV031218	0	IN WESTERN RIV CO - NEW MID CO PKWY: CONS 6 THRU LN (3 LNS IN EA DIR) APPROX 16 MI. BTWN I-215 IN PERRIS EAST TO SR79 IN SAN JACINTO, INC. CONS/RECONS OF 13 ICS, ADD OF AUX LN REDLANDS-EVANS & EB AUXILIARY LN EVANS-ANTELOPE. I-215 IMP: ADD 1 MF LN IN EA DIR NUEVO RD -VAN BUREN BLVD, & 1AUX LN IN EA DIR MID CO PKWY-CA JALCO/RAMONA EXP & FROM MID CO PKWY-NUEVO.	\$1691500

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV041047	0	THROUGHOUT RIVERSIDE COUNTY - GROUPED PROJECTS FOR TRANSPORTATION ENHANCEMENT ACTIVITIES - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - TRANSPORTATION ENHANCEMENT ACTIVITIES (EXCEPT REHABILITATION AND OPERATION OF HISTORIC TRANSPORTATION BUILDINGS, STRUCTURES, OR FACILITIES). \$292 IN TOLL CREDITS WILL BE UTILIZED TO MATCH STPL CONS	\$2,543
RIVERSIDE	LOCAL HIGHWAY	RIV30401	0	THROUGHOUT WESTERN RIVERSIDE COUNTY - GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION.	\$14,388
RIVERSIDE	LOCAL HIGHWAY	RIV30402	0	THROUGHOUT EASTERN RIVERSIDE COUNTY - GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION.	\$5,110
RIVERSIDE	LOCAL HIGHWAY	RIV071271	0	IN RIVERSIDE ON STREETER AVENUE: REPLACE EXISTING 4 LANE (2 LNS IN EA DIR) R/R X-ING WITH A 4 LN (2 LNS IN EA DIR - NON-CAPACITY) U.C. GRADE SEPARATION ON STREETER AVE BETWEEN LANTANA STAND BEATTY DR., AND INSTALL APPROX. 1000 FT OF PCC S/W ON EACH SIDE OF STREETER AVENUE WITHIN THE PROJECT LIMITS.	\$36,000
RIVERSIDE	LOCAL HIGHWAY	RIV071272	0	IN RIVERSIDE ON RIVERSIDE AVE: REPLACE EXISTING 4-LANE (2 LNS IN EA DIR) R/R X-ING WITH A 4 LN (2 LNS IN EA DIR - NON-CAPACITY) U.C. G. S. ALONG RIVERSIDE AVE BTWN MERRILL AVE AND 400 FT N/O ELIZABETH ST. ADD IMP INCLUDE INSTALLATION OF APPROX 1100 FT OF PCC S/W ON EACH SIDE OF RIVERSIDE AVE WITHIN THE PROJECT LIMITS (\$791TC IN FY09/10 USED TO MATCH STPL IN R/W)	\$32,154
RIVERSIDE	LOCAL HIGHWAY	RIV071280	0	IN RIVERSIDE ON MARY STREET: REPLACE EXISTING 4 LN (2 LNS IN EA DIR) R/R X-ING WITH A 4 LN (2 LNS IN EA DIR - NON-CAPACITY) U.C. GRADE SEPARATION ON MARY ST BETWEEN MARGUERITE AVE AND INDIANA AVE.	\$38,000
RIVERSIDE	LOCAL HIGHWAY	RIV110116	0	IN RIVERSIDE - QUIET ZONE X-ING IMPROVEMENTS: UPGRADE OF 11 AT-GRADE HWY-RAIL X-INGS & ONE PEDESTRIAN ONLY AT-GRADE X-ING ALONG THE BNSF SAN BERNARDINO SUBD. W/IN THE CITY OF RIVERSIDE. THE IMPROVEMENTS ARE NEEDED TO OPTIMIZE SAFETY AT THE X-INGS AND ALLOW FOR QUIET ZONE TO MITIGATE EXISTING AND PROJECTED TRAIN HORN NOISE IMPACTS.	\$8,000
RIVERSIDE	LOCAL HIGHWAY	RIV11121	0	IN RIVERSIDE ON THIRD STREET: REPLACE EXISTING 4 LANE (2 IN EACH DIRECTION) R/R X-ING WITH A 4-LN (2 LNS IN EA DIR - NON-CAPACITY) U.C. GRADE SEPARATION ON THIRD ST BETWEEN VINE ST AND PARK AVE.	\$28,100
RIVERSIDE	LOCAL HIGHWAY	RIV11208	0	IN RIVERSIDE - MADISON ST GRADE SEPARATION: CONSTRUCT A 4-LN (2 LNS IN EA DIR) NON-CAPACITY ENHANCING MADISON ST/BNSF UNDERPASS BETWEEN INDIANA AVE AND PETERS ST/YSMAEL VILLEGAS ST.	\$38,000
RIVERSIDE	LOCAL HIGHWAY	RIV40641	0	IN WESTERN RIVERSIDE COUNTY FOR CITY OF RIVERSIDE-IOWA AVE & MLK BLVD BIKE IMPROVEMENTS: CONSTRUCT 0.8 MI/10 FT WIDE TWO DIR MULTI-USE PATH ON INSIDE OF MLK BLVD B/W CANYON CREST DR & CHICAGO AVE & WIDENING IOWA AVE B/W MLK BLVD & EVERTON PL INCLUDES GRADING, ASPHALT PAVING, SIGNS & RESTRIPING & INSTALL 6 FT CLASS II BIKE LNS FOR 0.8 MI WITH 2 FT BUFFERS	\$332
RIVERSIDE	LOCAL HIGHWAY	RIV40643	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE-WELLS/ARLANZA SIDEWALK IMPROVEMENTS: INSTALL ADA RAMPS, DRIVEWAY APPROACHES & 32,730 SQ FT OF SIDEWALK ON ONE SIDE OF FIVE STREETS (CHALLENGER AVE, IVANHOE AVE, KENT AVE, RUTLAND AVE, BABB AVE) SURROUNDING WELLS MIDDLE SCHOOL AND ARLANZA ELEMENTARY SCHOOL. TC USED TO MATCH ATP FUNDS	\$1961
RIVERSIDE	LOCAL HIGHWAY	RIV40644	0	IN WESTERN RIVERSIDE CO. IN THE CITY OF RIVERSIDE - NORTE VISTA SIDEWALK IMPROVEMENTS: INSTALL ADA RAMPS, DRIVEWAY APPROACHES & 94,200 SQ.FT. OF SIDEWALK ON ONE SIDE OF FOUR STREETS (GAYLORD ST, JONES AVE, CHADBOURNE AVE, BUSHNELL AVE) NEAR NORTE VISTA HIGH SCHOOL, ROSEMARY KENNEDY ELEMENTARY SCHOOL, AND TWINHILL ELEMENTARY SCHOOL. TC USED TO MATCH ATP	\$2,833
RIVERSIDE	LOCAL HIGHWAY	RIV40852	0	IN WESTERN RIVERSIDE CO. IN THE CITY OF RIVERSIDE - DOWNTOWN & ADJOINING AREAS BICYCLE AND PED IMPROVEMENTS: 17 MILES OF BIKE LANES, 2,500 FT. OF CONNECTING SIDEWALKS, BIKE STATION AT METROLINK, CONNECTIVITY MAP KIOSKS, TWO NEW HAWK SIGNALS, BIKE STAGING AREA, BIKE SHARE TERMINAL, BIKE CORRALS, BIKE BLVD, PEDESTRIAN SIGNALS, WALKING PATH, ALL-WAY STOP CROSSWALK & NEW SIDEWALK.	\$997
RIVERSIDE	LOCAL HIGHWAY	RIV51205	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - INSTALL FIBER-OPTIC SIGNAL INTERCONNECT IMPROVEMENTS ON MARKET ST/MAGNOLIA AVE FROM FIRST ST TO BUCHANAN STAND AND INSTALL MISSING CONDUITS ON MAGNOLIA AVE FROM LA SIERRA AVE TO PIERCE ST UPDATING 49 SIGNALIZED INTERSECTIONS	\$1857
RIVERSIDE	LOCAL HIGHWAY	RIV51206	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - PRELIMINARY ENGINEERING TO CONSTRUCT A PEDESTRIAN/BICYCLE BRIDGE ACROSS THE SR-91 CONNECTING THE RIVERSIDE METROLINK STATION TO DOWNTOWN AREA (PA&ED ONLY)	\$751
RIVERSIDE	LOCAL HIGHWAY	RIV51207	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - CONSTRUCT A NEW 4.3 MILE WALKING PATH ADJACENT TO SANTA ANA RIVER CLASS I BIKE TRAIL FROM MARTHA MCLEAN ANZA NARROWS PARK TO FAIRMOUNT PARK	\$3,250
RIVERSIDE	LOCAL HIGHWAY	RIV51208	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - REALIGN AND RECONSTRUCT A PORTION OF THE SANTA ANA RIVER CLASS I BICYCLE TRAIL BEHIND GRASSY TRAIL DRIVE. THE IMPROVEMENTS INCLUDE GRADING, PAVING, STRIPING AND FENCE RELOCATION	\$223

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV151209	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - INSTALL UP TO FOUR BICYCLE STATIONS AND PROVIDE FORTY BICYCLES. TEN AT EACH STATION, TO IMPLEMENT A BIKE SHARE PROGRAM IN THE VICINITY OF DOWNTOWN RIVERSIDE, RIVERSIDE METROLINK STATION AND UNIVERSITY OF CALIFORNIA IN RIVERSIDE.	\$303
RIVERSIDE	LOCAL HIGHWAY	RIV151215	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - CONSTRUCTION OF SIDEWALK ON ONE SIDE OF BRUCE STREET FROM ADAIR AVE TO LAKE AVE. IMPROVEMENTS INCLUDE A TOTAL OF 2,100 LF OF NEW SIDEWALK	\$403
RIVERSIDE	LOCAL HIGHWAY	RIV151216	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - WIDENING OF MAGNOLIA AVENUE WITHIN EXISTING R/W FROM 4 TO 6 LANES (2 EA DIR TO 3 EA DIR) FROM BUCHANAN ST TO BANBURY DRIVE.	\$6,331
RIVERSIDE	LOCAL HIGHWAY	RIV120203	0	IN SAN JACINTO - RAMONA EXP WIDENING PH II: RAMONA EXP WIDENING 2 TO 4 LANES (2 LANES IN EACH DIRECTION) BETWEEN EAGLE RD AND LAKE PARK DRIVE/MAIN ST., INCLUDING LEFT TURN OR LANDSCAPED STRIPED MEDIUM, 5-8 FT OF PAVED SHOULDER, DRAINAGE IMPROVEMENTS AND RELOCATION OF TRAFFIC SIGNAL POLES.	\$7,000
RIVERSIDE	LOCAL HIGHWAY	RIV140856	0	IN WESTERN RIVERSIDE CO. IN THE CITY OF SAN JACINTO - SAFE & ACTIVE SAN JACINTO SRTS: INFRASTRUCTURE INCLUDES 33,275 SQ. FT. OF NEW SIDEWALK, 5,215 SQ. FT. OF EXISTING SIDEWALK UPGRADES, 52,800 SQ. FT. OF BIKE TRAILS WITHIN WALKING DISTANCE TO SCHOOLS. NON-INFRASTRUCTURE INCLUDES PED/BIKE SAFETY EDUCATION, SRTS WORKSHOPS, DEVELOPMENT OF SRTS PLANS FOR EACH SCHOOL, AND OUTREACH.	\$989
RIVERSIDE	LOCAL HIGHWAY	991203	0	EXTEND OVERLAND DRIVE (4 LANES) FROM COMMERCE CENTER DRIVE TO AVENIDA ALVARADO/DIAZ ROAD INTERSECTION INCLUDING CONSTRUCTION OF 4 LANE BRIDGE OVER MURRIETA CREEK (TO BE IMPLEMENTED IN PHASES)	\$19,301
RIVERSIDE	LOCAL HIGHWAY	991206	0	BUTTERFIELD STAGE RD EXTENSIONS: EXTEND MURRIETA HOT SPRINGS RD (4 LNS) FROM BUTTERFIELD STAGE RD TO SERAPINA RD; BUTTERFIELD STAGE RD (4 LNS) FROM RANCHO CALIFORNIA RD TO MURRIETA HOT SPRINGS RD; & NICHOLAS RD (4 LNS) FROM BUTTERFIELD STAGE RD. TO CALLE GIRASOL	\$43,536
RIVERSIDE	LOCAL HIGHWAY	RIV060113	0	CONSTRUCT NEW 4 LANE BRIDGE OVER MURRIETA CREEK (PART OF WESTERN BYPASS CORRIDOR) INCLUDING APPROACHES, CURB & GUTTER, SIDEWALKS, & STORM DRAIN FACILITIES	\$10,366
RIVERSIDE	LOCAL HIGHWAY	RIV060114	0	IN SOUTHWEST TEMECULA: DESIGN AND CONSTRUCT 4 LANE WESTERN BYPASS CORRIDOR (PHASE 1) FROM SR79 SOUTH TO RANCHO CALIFORNIA RD	\$13,500
RIVERSIDE	LOCAL HIGHWAY	RIV140301	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF TEMECULA - CONSTRUCT REMAINING ONE MILE MISSING LINK IN THE SANTA GERTRUDIS CREEK RECREATIONAL MULTI-USE PEDESTRIAN AND BICYCLE TRAIL FROM YNEZ ROAD TO MURRIETA CREEK MULTI-PURPOSE TRAIL	\$7,574
RIVERSIDE	LOCAL HIGHWAY	RIV62029	0	IN SOUTHWEST RIVERSIDE COUNTY IN TEMECULA ON TEMECULA PKWY (FORMERLY SR79) AT LA PAZ ST. ACQUIRE LAND, DESIGN AND CONSTRUCT PARK-AND-RIDE LOT - 157 SPACES. OTHER IMPROVEMENTS INCLUDE THE CONSTRUCTION OF TO BICYCLE LOCKERS, PASSENGER LOAD/UNLOAD ZONE AND ADA ACCESSIBLE PARKING.	\$2,364
RIVERSIDE	LOCAL HIGHWAY	RIV151214	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF WILDOMAR - WIDENING OF GRAND AVE (CORYDON RD TO DAVID BROWN MIDDLE SCHOOL) TO INCLUDE A CLASS II BIKE LANES. IMPROVEMENTS INCLUDE A TOTAL OF 12,000 LF OF NEW BIKE LANES	\$1,019
RIVERSIDE	LOCAL HIGHWAY	RIV071288	0	IN EASTERN RIVERSIDE CO. IN THE COACHELLA VALLEY - 66TH AVE GRADE SEPARATION: CONSTRUCT A TWO-LN (1-LN IN EA DIR) 66TH AVE ELEVATED STRUCTURE OVER THE UPRR, HAMMOND RD, AND SH-111, FROM WESTERLY OF LINCOLN ST TO JOHNSON ST ON THE EAST IN THE COMMUNITY OF MECCA. ADD IMPROVEMENTS WILL BE CONSTRUCTED TO TIE BACK INTO THE EXISTING ALIGNMENT.	\$25,250
RIVERSIDE	LOCAL HIGHWAY	RIV050201	0	IN RIVERSIDE COUNTY GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM; PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLE 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES). TC USED TO WATCH HBP FUNDS	\$161,197
RIVERSIDE	LOCAL HIGHWAY	RIV060124	0	IN BANNING ON SUNSET AVE AT I-10 FROM S/O RAMSEY ST TO S/O LINCOLN ST: LOWER SUNSET AVE TO CONSTRUCT NEW 4-LANE UC AT UPRR CROSSING (NON-CAPACITY) AND RECONSTRUCT THE I-10 IC RAMPS TO MEET THE NEW STREET GRADE (SAFE TEA-LU CA438; #1261) (EA33471)	\$34,764
RIVERSIDE	STATE HIGHWAY	RIV131201	10	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - RECONSTRUCTION OF EXISTING INTERCHANGE AT I-10/COUNTY LINE WITH TWO 90 FT RADIUS ON/OFF RAMP ROUNDABOUTS. EXTENDING 1300 LINEAR FEET FROM COUNTY LINE LANE TO APPROX. 300 FT. W/O CALIMESA BLVD. THE PROJECT WILL INCLUDE RAMP REALIGNMENT FOR ALL FOUR RAMPS WITH MINOR RAMP WIDENING.	\$15,000
RIVERSIDE	STATE HIGHWAY	RIV060117	10	ON I-10/SINGLETON RD (IC: RECONSTRUCT/WIDEN 2 TO 4 THROUGH LANES (WOODHOUSE TO CALIMESA BLVD). RECONSTRUCT/WIDEN RAMPS - EB ENTRY 1 TO 2 LNS W/ HOV PREFERENTIAL LN, WB EXIT 1 TO 3 LNS, ADD EB EXIT RAMP (3 LNS), WB ENTRY RAMP (2 LNS W/ HOV PREFERENTIAL LN), INCLUDE EXTENDED RAMP ACCEL/DECEL LNS, RELOCATE CALIMESA BLVD/SINGLETON RD INTERSECTION, ADD SB EXTENDED DEDICATED RIGHT-TURN LN (EA: OF980)	\$38,400

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	STATE HIGHWAY	RIV060116	10	I-10/CHERRY VALLEY BLVD IC: REPLACEMENT OF EXISTING CURVED OVERCROSSING WITH TWO 90 FT. RADIUS ON/OFF RAMP ROUNDABOUTS AND WILL EXTEND 1600 LINEAR FEET FROM ROBERTS ROAD (SOUTH) TO APPROXIMATELY 500 FT E/O CALIMESA BLVD. ASSOCIATED PROJECT IMPROVEMENTS INCLUDE REALIGNMENT OF CALIMESA BLVD AND RAMP REALIGNMENT FOR ALL FOUR RAMP WITH MINOR RAMP WIDENING (CMAQ PM 2.5 BENEFITS PROJECT).	\$15,000
RIVERSIDE	STATE HIGHWAY	RIV060115	10	AT I-10/OAK VALLEY PKWY IC: RECONSTRUCT/WIDEN IC FROM 2 TO 6 THROUGH LANES FROM APPROX 500 FT. W/O DESERT LAWN DR TO GOLF CLUB DR, WIDEN RAMPS - EB ENTRY 1 TO 2 LANES, EB & WB EXIT 1 TO 3 LANES, WB ENTRY 1 TO 3 LANES, ADD NEW EB/WB ENTRY LOOP RAMPS (2 LANES), ENTRY RAMPS INCLUDE HOV PREFERENTIAL LANE, AND RAMPS INCLUDE EXTENDED ACCELERATION/DECELERATION LANE (EA: 06280).	\$25,425
RIVERSIDE	STATE HIGHWAY	RIV071251	10	ON I-10 AT APPROX PM 4117: CONSTRUCT NEW DA VALL DR IC (6 LNS) & RAMPS (2 LNS) FROM VARNER RD TO RAMON RD INCLUDING BRIDGE OVER UPRR AND LONG CYN CREEK CHANNEL, ADD EB/WB AUX LANES (DATE PALM DR IC TO DA VALL & DA VALL TO RAMON RD)	\$69,800
RIVERSIDE	STATE HIGHWAY	RIV031209	10	AT I-10/PORTOLA AVE (B/W MONTEREY IC & COOK IC): CONSTRUCT NEW 6 THRU LANE PORTOLA AVE IC FROM DINAH SHORE DR TO VARNER RD & RAMPS (EB EXIT 2 LNS, WB EXIT 3 LNS, EB & WB ENTRY 2 LNS, WB ENTRY LOOP RAMP 2 LNS, ENTRY INCL HOV LN, WIDENING INCLUDES BRIDGE OVER UPRR & RELOCATE/WIDEN VARNER 2 TO 4 LNS, ADD EB/WB AUX LNS (MONTEREY TO PORTOLA AND PORTOLA TO COOK), EXTEND 4TH WB LANE COOK TO PORTOLA (EA)	\$71,993
RIVERSIDE	STATE HIGHWAY	47520	10	AT I-10/JEFFERSON ST IC: RECONSTRUCT, REALIGN, & WIDEN IC 2 TO 6 LANES (SOUTHERLY OF VARNER RD TO UPRR), WIDEN RAMPS, ADD NEW ENTRY RAMPS, INCLUDING RAMP METERING (NO HOV PREFERENTIAL LANE INCLUDED), ADD ACCEL/DECEL LANES AT WB ENTRY AND EB EXIT (<1/4 MILE), AND ADD DEDICATED RIGHT-TURN LANES. (EA: 47520)	\$60,967
RIVERSIDE	STATE HIGHWAY	RIV071254	10	ON I-10 IN INDIO AT MONROE ST IC: RECONSTRUCT/WIDEN IC FROM 2 TO 6 THROUGH LANES INCLUDING BRIDGE OVER WHITEWATER RIVER CHANNEL FROM AVENUE 42 TO S/O WHITEWATER RIVER CHANNEL, RECONSTRUCT/WIDEN RAMPS 1 TO 2 LANES, AND EXTEND RAMPS WITH ACCELERATION/DECELERATION LANES (EA: 0K730K)	\$47,000
RIVERSIDE	STATE HIGHWAY	RIV071252	10	ON I-10 IN INDIO AT JACKSON ST IC (AT PM 55.575): RECONSTRUCT/WIDEN IC FROM 2 TO 6 THROUGH LANES INCLUDING BRIDGE OVER WHITEWATER RIVER CHANNEL FROM SHOWCASE PKWY TO SOUTH OF WHITEWATER RIVER CHANNEL, RECONSTRUCT/WIDEN RAMPS 1 TO 2 LANES, MODIFY TRAFFIC SIGNALS	\$56,000
RIVERSIDE	STATE HIGHWAY	RIV071253	10	ON I-10 IN INDIO AT GOLF CENTER PKWY IC: RECONSTRUCT/WIDEN IC FROM 4 TO 6 THROUGH LANES INCLUDING BRIDGE OVER WHITEWATER RIVER CHANNEL BETWEEN AVENUE 44 TO S/O WHITEWATER RIVER CHANNEL, RECONSTRUCT/WIDEN RAMPS 1 TO 2 LANES, AND EXTEND RAMPS WITH ACCELERATION/DECELERATION LANES	\$27,000
RIVERSIDE	STATE HIGHWAY	RIV030901	10	ON I-10 IN EASTERN COACHELLA (AT 3.4 MILES E/O DILLON RD & 9.1 MILES W/O CACTUS CITY SRRA): CONSTRUCT NEW 6 THROUGH LANE AVENUE 50 IC (3 LANES EACH DIR, APPROX 600' N/O I-10 AND 1100' S/O I-10), EB EXIT RAMP (3 LANES), WB EXIT RAMP (2 LANES), EB & WB ENTRY RAMPS (2 LANES) & ADD ACC LN 3,800' W/B DIR, WEST OF IC (EA-45210)	\$186,000
RIVERSIDE	STATE HIGHWAY	RIV10302	10	ON I-10 IN THE CITY OF BLYTHE - PROVIDE NEW W/B ON AND W/B OFF RAMPS TO HOBSON WAY APPROX 3,500' W/O EXISTING RAMPS TO RIVIERA DR/ INSPECTION STATION. THE NEW RAMPS WILL REPLACE EXISTING CONNECTION TO RIVIERA DR. \$93 TC UTILIZATION FY 2014/15 FOR STPL CONSTRUCTION FUNDS.	\$4,343
RIVERSIDE	STATE HIGHWAY	RIV031215	15	FRENCH VALLEY PKWY IC/ARTERIAL PHASES: CONSTRUCT 6 LN IC (JEFFERSON TO YNEZ) & RAMPS, NB/SB AUX LN, CD LNS (3 LNS NB&SB) & MODIFY WINCHESTER RD IC (I-215 PM: 8.43-9.75) (EA-43270)	\$187,691
RIVERSIDE	STATE HIGHWAY	RIV62031	15	I-15/SR79 SO. IC: REMOVE SB EXIT RAMP, ADD NEW SB EXIT LOOP RAMP, REALIGN SB EXIT RAMP (2 LNS) W/AUX LN, WIDEN SB ENTRY 1 TO 3, NB EXIT 1 TO 4, NB ENTRY 1 TO 3 & RECON SR79S.	\$45,841
RIVERSIDE	STATE HIGHWAY	RIV080901	15	AT I-15/MURRIETA HOT SPRINGS RD IC - CONSTRUCT NEW NB LOOP ON RAMP AND REALIGN EXISTING NB OFF RAMP (EA: 0J650K)	\$8,100
RIVERSIDE	STATE HIGHWAY	RIV010206	15	AT I-15/RR CYN RD IC: CONST 5-MULTI LN ROUNDABOUTS (SUMMERHILL DR - MISSION TR), WIDEN NB ENTRANCE RAMP FROM 2-3 LNS, WIDEN SB ENTRANCE RAMP FROM 1-3 LNS, AND RAMP ACCEL/DECEL LNS AT RR CYN RD (PH I); CONST NEW I-15/FRANKLIN ST IC, ADD AUX LNS FROM FRANKLIN ST IC TO MAIN ST IC & FROM FRANKLIN ST IC TO RR CYN IC, REALIGN/WIDEN MAIN ST SB ON RAMP 1-2 LNS, AND CONST FRONTAGE RD ON WS AND ES OF I-15 F	\$618,520
RIVERSIDE	STATE HIGHWAY	RIV060109	15	AT I-15/SR74 (CENTRAL AVE) IC JCT MOD. BTWN 1,000 FT W/O COLLIER AVE TO RIVERSIDE ST, ADD NB LOOP ENTRY RAMP WITH ACCEL LN, REALIGN NB ENTRY & EXIT RAMPS, ADD SB ACCEL/DECEL LNS, ADD NB DECEL LN, WIDEN SR 74 FROM RIVERSIDE DR. TO CENTRAL AVE 2 TO 4 THROUGH LANES AND FROM COLLIER AVE TO CAMBERN AVE FROM 6 TO 8 THRU LNS; CONST NEW RIVERSIDE AVE OC & SR74 PM 15.5 TO 18.5 (EA: 0F-3100).	\$57,750

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	STATE HIGHWAY	RV071267	15	I-15 IN RIVERSIDE COUNTY: CONSTRUCT 4 TOLL EXPR LNS (TEL) (2 TE EADIR) TO HIDDEN VALLEY PKWY (PM 514) AND CONS 2 TE LNS (1 TE EADIR) FROM HIDDEN VALLEY PKWY (PM 42.9) TO CAJALCO RD (PM 36.8). ADVANCE SIGNAGE WILL BE INSTALLED AT THE SOUTH END BETWEEN PM 34.7 TO PM 36.8 (CAJALCO RD) AND AT THE NORTH END BETWEEN PM 514 (SR60) TO PM 1.3 IN SAN BERNARDINO COUNTY.	\$450,000
RIVERSIDE	STATE HIGHWAY	RV010208	15	AT I-15/CAJALCO RD IC NEAR CORONA: DESIGN, RECONSTRUCT/REALIGN & WIDEN CAJALCO RD FROM 2 TO 6 THRU LNS FROM TEMESCAL CYN RD TO BEDFORD CYN RD, RECONSTRUCT/WIDEN SB ENTRY FROM 1-2 LNS; SB EXIT FROM 2-5 LNS; NB ENTRY FROM 1-2 LNS; NB EXIT FROM 2-4 LNS; ADD AUX LNS BTWN NB ENTRY AND NB EXIT TO EL CERRITO RD AND BTWN SB ENTRY FROM EL CERRITO RD AND SB EXIT. (\$840 TC FY11/12 ENG & \$600 TC FY13/14 R/W).	\$74,199
RIVERSIDE	STATE HIGHWAY	RV011233	15	AT I-15/LIMONITE AVE IC - RECONSTRUCT/WIDEN LIMONITE AVE FROM 4 TO 6 THROUGH LANES BETWEEN HAMNER AVE AND WINEVILLE AVE, RECONSTRUCT/WIDEN NB AND SB EXIT RAMP FROM 3 TO 4 LANES, REPLACE NB AND SB ENTRY RAMP WITH ENTRY LOOP RAMP FROM 2 TO 3 LANES, ENTRY RAMP INCLUDE HOV LANE, RAMP INCLUDE EXTENDED ACCELERATION/DECELERATION LANES AND EXTENDED RIGHT TURN LANES (EA 0E150).	\$48,246
RIVERSIDE	STATE HIGHWAY	RV050535	60	ON SR60 BTWN JACK RABBIT TR & SR60/I-10 JCT: PHH-CONST. NEW POTRERO 6 LN OC (3 LNS EACH DIR) W/TEMP CONNECT TO WESTERN KNOLLS (EA34141/34143). PHZ: NEW IC ON/OFF RAMP. CONST. WB/EB EXIT & ENTRY RAMP (2 LNS) & WB/EB LOOP ENTRY RAMP (2 LNS) (ENTRY RAMP INCL HOV LANE). INCL EB/WB AUX LNS AT EXIT RAMP, REALIGN WESTERN KNOLLS AVE, AND REMOVE WESTERN KNOLLS AVE CONNECTION TO SR60 (EA34142/34443).	\$79,746
RIVERSIDE	STATE HIGHWAY	RV071242	60	IN THE CITY OF MORENO VALLEY - RECONSTRUCT INDIAN ST X-ING SR 60 FROM 150' S/O SUNNYMEAD BLVD. TO HEMLOCK AVE. COMPLETE RECONSTRUCT. OF THE BRIDGE TO PROVIDE 16'6" CLEARANCE & 4 THROUGH LANES (2 LNS IN EA DIR) & ASSOC. ST IMP. WITHIN THE PROJECT LIMITS (LEFT TURN POCKETS AT SUNNYMEAD AND HEMLOCK INTERSECT, RIGHT-TURN ONLY SB AT SUNNYMEAD, NEW TS AT HEMLOCK/INDIAN ST., & INTERCONNECT MOD).	\$14,120
RIVERSIDE	STATE HIGHWAY	RV041052	60	IN MORENO VALLEY AT SR-60/MORENO BEACH DR IC - MODIFY MORENO BEACH DR IC - WIDEN OC FROM 2 TO 6 THROUGH LANES, REALIGN/WIDEN RAMP (WB EXIT 1 TO 2 LANES), ADD NEW WB ENTRY RAMP (2 LANES), ADD WB AUX LANE, AND INSTALL RELATED DRAINAGE AND ASSOCIATED WORK (EA: 32303).	\$40,700
RIVERSIDE	STATE HIGHWAY	RV080902	60	AT SR-60/REDLANDS BLVD - WIDEN OC FROM 2 TO 6 THRU LANES; WIDEN WB EXIT & ENTRY RAMP FROM 1 LANE TO 2 LANES AT EXIT/ENTRY, 3 LANES AT ARTERIAL AND HOV AT ENTRY; WIDEN EB EXIT & ENTRY RAMP FROM 1 LANE TO 2 LANES AT EXIT/ENTRY AND HOV AT ENTRY; ADD AUX LNS 1000' EACH DIRECTION WEST OF IC AND 1700' EACH DIRECTION EAST OF IC	\$52,000
RIVERSIDE	STATE HIGHWAY	RV080904	60	AT SR-60/THEODORE ST IC - WIDEN OC FROM 2 TO 4/6 THRU LNS; WIDEN WB EXIT/ENTRY RAMP FROM 1-2 LNS AT EXIT/ENTRY, 3 LNS AT ART.W/ HOV AT ENTRY; WIDEN EB EXIT RAMP FROM 1-2 LNS AT EXIT AND 3 LNS AT ART.; WIDEN EB ENTRY RAMP FROM 1-2 LNS W/HOV; ADD EB LOOP ENTRY WITH 2 LNS AT ART AND 1 LN AT ENTRY; ADD AUX LNS 1400' EB DIR E/O IC, 2,500' EB DIR W/O IC, 2,300' WB DIR W/O IC & 1700' WB DIR E/O IC (EA	\$386,452
RIVERSIDE	STATE HIGHWAY	RV151220	60	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF MORENO VALLEY ALONG SR 60 - WIDEN FROM TWO TO THREE LANES IN EACH DIRECTION IN THE EXISTING MEDIAN TO PROVIDE ONE ADDITIONAL GENERAL PURPOSE LANE IN EACH DIRECTION FROM REDLANDS BLVD. TO GILMAN SPRINGS RD.	\$15,000
RIVERSIDE	STATE HIGHWAY	RV080903	60	AT SR-60/GILMAN SPRINGS RD IC - REALIGN GILMAN SPRINGS RD/REMOVE EXISTING EB/WB RAMP; WIDEN OC FROM 2 TO 6 THRU LANES; WB EXIT IS 1 LANE WIDENING TO 2 LANES THEN TO 3 LANES AT ARTERIAL - WB LOOP & EB ENTRY RAMP FROM 1 LANE TO 2 LANES W/ HOV; WIDEN EB EXIT RAMP FROM 1 LANE TO 2 LANES AT EXIT AND 3 LANES AT ARTERIAL; ADD AUX LANES TO WEST OF IC 1200' EB AND 2200' WB	\$70,000
RIVERSIDE	STATE HIGHWAY	RV120201	60	ON SR-60 NEAR BEAUMONT: CONSTRUCT NEW EASTBOUND AND WESTBOUND TRUCK LANES FROM GILMAN SPRINGS RD TO 1.47 MILES WEST OF JACK RABBIT TRAIL AND UPGRADE EXISTING INSIDE AND OUTSIDE SHOULDERS TO STANDARD WIDTHS (10-FT INSIDE SHOULDER AND 10-FT OUTSIDE SHOULDER) (EA: 0N69U) - CMAQ PM2.5 BENEFITS PROJECT. \$802.9 TC WILL BE UTILIZED FOR CMAQ ENG IN FY14/15.	\$126,282
RIVERSIDE	STATE HIGHWAY	RV091007	74	IN MID-WESTERN RIVERSIDE COUNTY IN THE CITY OF LAKE ELSINORE: WIDENING OF SR-74 FROM 2 TO 6 THROUGH LANES (3 LANES IN EACH DIRECTION), WEST OF I-15 TO THE ORTEGA MOUNTAINS. OTHER IMPROVEMENTS INCLUDE TURN POCKETS AND ONE TRAFFIC SIGNAL AT INTERSECTION OF SR74 (RIVERSIDE DR) AND GRAND AVE (RVI31127).	\$11,500
RIVERSIDE	STATE HIGHWAY	RVI31127	74	IN LAKE ELSINORE - INTERSECTION WIDENING AND TRAFFIC SIGNAL INSTALLATION - RIVERSIDE DR/SR74 AT GRAND AVE: WIDEN RIVERSIDE DR/SR74 FROM 3 TO 6 LANES AND GRAND AVENUE FROM 2 TO 4 LANES AND INSTALL TRAFFIC SIGNAL AT THE T-INTERSECTION OF RIVERSIDE DR/SR74 AT GRAND AVE.	\$3,195
RIVERSIDE	STATE HIGHWAY	RV62024	79	ON SR79 IN SOUTH-WESTERN RIVERSIDE COUNTY BETWEEN 2.0 KILOMETERS SOUTH OF DOMENIGONI PKWY TO GILMAN SPRINGS ROAD: REALIGN AND WIDEN SR79 FROM 2 TO 4 THROUGH LANES.	\$1,125,438
RIVERSIDE	STATE HIGHWAY	RV071274	86	AT SR86S/AVENUE 52: WIDEN AND CONSTRUCT NEW 6 THROUGH LANE IC FROM E/O COACHELLA STORMWATER CHANNEL BRIDGE TO E/O TYLER ST. IMPROVEMENTS INCLUDE: REALIGN POLK ST AND RELOCATE AVE 52 AND POLK ST IN INTERSECTION. EXTENDED RAMP ACCELERATION/DECELERATION LANES, BIKE LANES, SIDEWALKS, AND RECONSTRUCT TRAFFIC SIGNALS (EA: 0C960).	\$33,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	STATE HIGHWAY	RIV061159	86	AT SR86S AVENUE 50: WIDEN AND CONSTRUCT NEW 6TH THROUGH LANE (C FROM E/O COACHELLA STORMWATER CHANNEL BRIDGE TO E/O TYLER ST. IMPROVEMENTS INCLUDE: EXTENDED RAMP ACCELERATION/DECELERATION LANES. RELOCATE/REALIGN AVE 50 AND TYLER ST, BIKE LANES, SIDEWALKS, AND RECONSTRUCT TRAFFIC SIGNALS (SAFE TEALU 1702, CA583, #23543) (EA: 0C970)	\$32,160
RIVERSIDE	STATE HIGHWAY	RIV071250	91	ON SR-91/I-15: SR91 - CONST 1 MF LN (SR71-15)/I AUX LN VAR LOCS (SR241-PIERCE) (OC PM 14.43-18.91), CD SYSTEM (2/3/4 LNS MAIN-I15), 1 TOLL EXPR LN (TEL) & CONVERT HOV TO TEL EA DIR (OC-I15); I15 - CONST TEL MED DIR CONNECT NB15 TO WB91 AND EB91 TO SB15; 1 TELE EA DIR SR91 DIR CONNECT-ONTARIO IC (I15 PM 37:56-42:94).	\$1,311,660
RIVERSIDE	STATE HIGHWAY	RIV140501	91	IN WESTERN RIVERSIDE COUNTY ABOUT 0.4 MILES E/O RIVERSIDE/ORANGE COUNTY LINE, ABOUT 1.8 MI. SW OF PRADO DAM, 0.7 MI. W/O GREEN RIVER RD IC - CONSTRUCT A WILDLIFE CROSSING.	\$1,880
RIVERSIDE	STATE HIGHWAY	RIV050102	91	GREEN RIVER RD LANDSCAPE ENHANCEMENTS: NEAR CORONA FROM 1.0 KM E/O ORANGE/RIVERSIDE CNTY LINE TO 1.35 KM W/O SR 71/91 SEP - INSTALL LANDSCAPE ENHANCEMENTS (EA: 45662, PPN0: 00726)	\$1,832
RIVERSIDE	STATE HIGHWAY	RIV070308	91	AT SR91/71 JCT: REPLACE EB 91 TO NB 71 CONNECTOR W/ DIRECT FLY-OVER CONNECTOR, AND RECONSTRUCT THE GREEN RIVER ROAD EB ON-RAMP (EA: OF541) (\$1501/\$639/\$200 TOLL CREDITS WILL BE USED IN PS&E TO MATCH DEMO- SAFETEALU/DEMO-TEA21/STP, RESPECTIVELY. \$159 TOLL CREDITS WILL BE USED IN R/W TO MATCH DEMO- SAFETEALU.)	\$123,397
RIVERSIDE	STATE HIGHWAY	RIV131202	91	IN THE CITY OF RIVERSIDE - SR-91 AT ADAMS STREET INTERCHANGE: RAMP RECONFIGURATIONS OF EAST BOUND ON AND OFF RAMP AT ADAMS ST (PA&E ONLY).	\$1,100
RIVERSIDE	STATE HIGHWAY	RIV131001	111	IN EASTERN RIVERSIDE COUNTY IN THE CITY OF PALM SPRINGS - CONSTRUCT A SECOND LEFT TURN LANE (NON-CAPACITY INCREASING) NORTH BOUND ON GENE AUTRY TRAIL AT THE INTERSECTION OF GENE AUTRY TRAIL AND VISTA CHINO (HWY 11) (PM 2.5 BENEFITS .007KG/DAY).	\$326
RIVERSIDE	STATE HIGHWAY	RIV110122	215	ON I-215 IN SW RIVERSIDE COUNTY FROM ONE AND ONE-HALF MILES N/O MURRIETA HOT SPRINGS RD TO FRENCH VALLEY PKWY OFF-RAMP: CONSTRUCT A THIRD MIXED-FLOW LANE IN THE MEDIAN AND AUX-LANE FROM MURRIETA HOT SPRINGS SB ENTRANCE RAMP TO ONE-HALF MILE S/O FRENCH VALLEY PKWY OFF-RAMP (WIDEN I215/I-15 SEPARATION FROM 2 TO 4 LANES) (EA: OF163).	\$14,874
RIVERSIDE	STATE HIGHWAY	RIV00107	215	IN SW RIVERSIDE CO. I-215/KELLER RD. IC: REPLACE EXISTING 2-LN I-215/KELLER RD. UNDERPASS WITH A NEW 4-LN (2 LNS IN EA DIR 1500' EAST AND WEST OF I-215 CL) IC, INCLUDING LEFT TURN LANES IN EACH DIR, AUX LANES AT THE SB OFF-RAMP & NB ON-RAMP (APPROX. 2,400'), ADD 2-LN NB/SB OFF RAMP, NB I-1 LN LOOP ON-RAMP, AND 2-LN NB/SB ON-RAMP W/HOV, SWS, AND REALIGN ANTELOPE RD APPROX 1/4 MI EAST.	\$63,900
RIVERSIDE	STATE HIGHWAY	RIV070309	215	ON I-215 IN SOUTHWEST RIVERSIDE COUNTY FROM SCOTT RD TO NUEVO RD IC: CONSTRUCT A MIXED FLOW LANE IN EACH DIRECTION AND RECONSTRUCT AUX LANES BETWEEN D ST IC AND NUEVO RD IC (EA: OF162)	\$123,502
RIVERSIDE	STATE HIGHWAY	RIV011232	215	AT I-215/SCOTT RD IC: RECONSTRUCT/WIDEN FROM 2 TO 6 THROUGH LANES BTWN E/O ANTELOPE RD & HAUN RD, RECONSTRUCT/WIDEN RAMP - NB EXIT 2 TO 3 LNS; NB ENTRY 1 TO 3 LNS; SB EXIT 2 TO 4 LNS; SB ENTRY 1 TO 2 LNS; ADD NB EXIT LOOP RAMP (2 LNS) & SB ENTRY RAMP (3 LNS); ENTRY RAMP INCLUDE HOV LN, RAMP INCLUDE EXTENDED ACCELERATION/DECELERATION LNS, ADD EXTENDED RIGHT-TURN LNS (EA: 0A020)	\$52,250
RIVERSIDE	STATE HIGHWAY	RIV050534	215	AT I-215/NEWPORT RD IC: RECONSTRUCT/WIDEN FROM 4 TO 6 THROUGH LANES BETWEEN HAUN RD AND ANTELOPE RD, RELOCATE NB AND SB EXIT RAMP (3 LANES), RECONFIGURE NB & SB ENTRY RAMP TO INCLUDE HOV LANE, ADD NEW NB AND SB LOOP ENTRY RAMP (2 LANES), INCLUDE EXTENDED RAMP ACCELERATION/DECELERATION LANES, ADD EXTENDED DEDICATED RIGHT-TURN LANES (EA: 03440)	\$36,450
RIVERSIDE	STATE HIGHWAY	RIV151219	215	IN WESTERN RIVERSIDE COUNTY IN MENIFEE: CONSTRUCT NEW HOLLAND AVE 4-LANE OC (2 LNS IN EA DIR) OVER I-215 AND ANTELOPE RD. PROJECT INCLUDES REALIGNMENT OF WILLOWOOD WAY, RESTRIPING OF HANOVER LANE AND ALBION LANE, AND CONSTRUCTION OF AN ACCESS ROAD FOR BUSINESS ON THE WEST SIDE OF I-215 (EA IF980).	\$56,400
RIVERSIDE	STATE HIGHWAY	RIV151218	215	IN WESTERN RIVERSIDE COUNTY IN MENIFEE: RECONSTRUCT/WIDEN I-215 IC AT MC CALL BLVD. - WIDEN IC FROM 4 TO 6 LANES (SUN CITY BLVD TO EASTERLY OF ENCANTO DR), WIDEN ENTRY RAMP (RAMP METTERED / NON HOV PREFERENTIAL LANE), WIDEN EXIT RAMP (DUAL LEFT @ SB & DUAL RIGHT @ NB WITH MCCALL), ADD DUAL LEFT-TURN AND DEDICATED RIGHT-TURN LANES (EA IF700).	\$94,050
RIVERSIDE	STATE HIGHWAY	RIV060111	215	IN MID WESTERN RIVERSIDE CO IN THE CITY OF PERRIS - I-215/ETHANAC RD IC IMP: IC OPERATIONAL IMP OF THE NB & SB OFF RAMP @ I-215/ETHANAC RD AND ON ETHANAC ON EITHER SIDE OF I-215 FOR UP TO 1,200 FT. IMPROVEMENTS CONSIST OF THE WIDENING OF THE ON AND OFF RAMP TO PROVIDE LEFT AND RIGHT TURN POCKETS. I.S. UPGRADE AT THE RAMP TERMINI & WIDEN OC 2 TO 4 LANES WITH TURN LANES.	\$12,000
RIVERSIDE	STATE HIGHWAY	RIV091012	215	IN MID-WESTERN RIVERSIDE COUNTY IN THE CITY OF PERRIS - CASE ROAD/MATTHEWS RD. (SR-74) AT I-215 INTERCHANGE: RECONFIGURATION OF THE EXISTING CASE RD/MATTHEWS RD. (SR-74) AT I-215 IC, IMPROVING THE INTERSECTION OPERATIONS AND ELIMINATING CROSS TRAFFIC CONFLICTS ON THE SB RAMP, WIDEN MATTHEWS RD FROM 2/3 LANES TO 4 LANES FROM CASE RD TO TRUMBLE RD (EA: 0P420).	\$21,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	STATE HIGHWAY	RIV31003	215	IN CENTRAL RIVERSIDE COUNTY IN THE CITY OF PERRIS - I-215 AT NUEVO INTERCHANGE IMPROVEMENTS: WIDENING OF OC FROM 4 TO 6 LANES (3 LANES IN EA DIRECTION) AND WIDENING OF NB AND SB ENTRY RAMP FROM 2 TO 3 LANES. ADDITIONAL IMPROVEMENTS INCLUDE SIDEWALK INSTALLATION ON BOTH SIDES OF THE OC (EA: 00670).	\$13,000
RIVERSIDE	STATE HIGHWAY	RIV31006	215	IN THE CITY OF PERRIS - I-215 AT NUEVO RD I.C. IMP: WIDENING OF NB AND SB OFF RAMP FROM 2 TO 3 LNS, ADD. OF WB RT TURN LN ONTO THE NB I-215 ON RAMP (WID. FROM 2 TO 3 LANES, 2 EXIST. THRU LNS + 1 NEW RT TURN LN), AND ADDITION OF WB LEFT TURN LN ONTO SB I-215 ON RAMP (WID. FROM 3 TO 4 LNS - 2 THRU EXIST LNS, 1 LEFT TURN LN + 1 NEW LEFT TURN LANE) & SW INSTALL E/O OC.	\$4,100
RIVERSIDE	STATE HIGHWAY	RIV071276	215	ON I-215 FROM NUEVO RD TO BOX SPRINGS RD: CONSTRUCT 2 HOV LANES (1 LANE IN EACH DIRECTION) - PA&ED.	\$212,500
RIVERSIDE	STATE HIGHWAY	RIV050533	215	AT I-215/CACTUS AVE I.C. WIDENIC FROM 3 TO 6 THRU LNS (EB FROM 2 TO 3 BTWN W/O BNSF RR TO 1300' E/O VETERANS WAY, ADD 4TH EB LANE FROM NB EXIT RAMP TO E/O ELSWORTH ST, WIDEN WB FROM 1&2 TO 3 THRU LNS FROM COMMERCE CENTER DR TO BNSF RR), WIDEN RAMPS 1 TO 2&3 LNS (ENTRY RAMPS INCL HOV), EXTEND NB AUX LN BTWN ALESSANDRO BLVD SOUTH TO CACTUS AVE NB ENTRY LOOP RAMP & ADD DEDICATED RT-TURN LNS (EA0E760)	\$65,370
RIVERSIDE	STATE HIGHWAY	0121D	215	ON I-215/SR91/SR60, RIV I215 COR IMPROV PROJ - FROM 60/91/215 JCT TO 60/215 SPLIT - WIDEN 6 TO 8 LNS, INCLUDING MAINLINE/IC IMPROVS, ADD HOV AUX, & SB TRUCK CLIMB LN, AND LANDSCAPING (EA: 3348U1, 33486, 33487, AND 33488). MAINLINE COMPLETE - THIS PROJECT LISTING IS ONLY FOR REMAINING LANDSCAPE AND GARVEE.	\$782,720
RIVERSIDE	STATE HIGHWAY	RIVL506	999	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES). TABLE 2 - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	\$19,654
RIVERSIDE	STATE HIGHWAY	RIVL508	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS, SHOULDER IMPROVEMENTS, PAVEMENT RESURFACING AND/OR REHABILITATION - MINOR PROGRAM: PROJECTS ARE CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2&3 - RR/HWY CROSSING, SAFER NON-FED-AID SYSTEM, RDS, SHOULDR IMPRVMTS, TRAFFIC CONTROL DEVICES/OPERATING ASSISTANCE OTHER THAN SIGNALS, INTERSECTN SIGNAL PROJECTS AT INDVL INTERSECTN, (DESCRIPTION CONT. IN COMMENTS)	\$5,255
RIVERSIDE	STATE HIGHWAY	RIVL509	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MANDATES PROGRAM: PROJECTS ARE CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2&3 - RR/HWY CROSSING, SAFER NON-FED-AID SYSTEM, RDS, SHOULDR IMPRVMTS, TRAFFIC CNTRL DEVICES/OPERATING ASSIST OTHER THAN SIGNALS, INTERSECTN SIGNAL PRJCTS AT INDVL INTERSECTNS, PYMNT MARKING DEMO, TCL OUTSIDE THE UA, LIGHTING IMPRVMTS, EMERGENCY TRUCK PULLOVERS	\$10,822
RIVERSIDE	STATE HIGHWAY	RIVL502	999	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - SHOPP ROADWAY PRESERVATION PROGRAM: PROJECTS ARE CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLE 2 - PAVEMENT RESURFACING AND/OR REHABILITATION, EMERGENCY RELIEF (23 USC 125), WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES)	\$391,053
RIVERSIDE	STATE HIGHWAY	RIVL513	999	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION ON THE STATE HIGHWAY SYSTEM - HIGHWAY MAINTENANCE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 & 3 - PAVEMENT RESURFACING AND/OR REHABILITATION	\$6,806
RIVERSIDE	STATE HIGHWAY	RIVL510	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MOBILITY PROGRAM: PROJECTS ARE CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2&3 - RR/HWY CROSSING, SAFER NON-FED-AID SYSTEM, RDS, SHOULDR IMPRVMTS, TRAFFIC CNTRL DEVICES/OPERATING ASSIST OTHER THAN SIGNALS, INTERSECTN SIGNAL PRJCTS AT INDVL INTERSECTNS, PYMNT MARKING DEMO, TCL OUTSIDE THE UA, LIGHTING IMPRVMTS, EMERGENCY TRUCK PULLOVERS	\$13,206
RIVERSIDE	TRANSIT	RIV091210	0	IN CORONA - PURCHASE THREE REPLACEMENT TYPE II CNG PARATRANSIT DIAL-A-RIDE BUSES W/LIFTS, FAREBOXES, SECURITY CAMERAS, COMMUNICATION EQUIPMENT & ACCESSORIES (FEDERAL APPROPRIATION THROUGH HR 3288, FFY 2009/2010 - FTA 5309).	\$260
RIVERSIDE	TRANSIT	RIV10802	0	IN EASTERN RIVERSIDE COUNTY FOR PALO VERDE TRANSIT AGENCY - OPERATING ASSISTANCE: FIXED ROUTE AND DIAL-A-RIDE OPERATING ASSISTANCE FOR FISCAL YEAR 2011/2012 (UZA: PALO VERDE).	\$960
RIVERSIDE	TRANSIT	RIV120803	0	IN EASTERN RIVERSIDE COUNTY FOR PALO VERDE TRANSIT AGENCY - OPERATING ASSISTANCE: FIXED ROUTE AND DIAL-A-RIDE OPERATING ASSISTANCE FOR FISCAL YEAR 2012/2013 (UZA: PALO VERDE).	\$886
RIVERSIDE	TRANSIT	RIV130616	0	IN EASTERN RIVERSIDE COUNTY FOR PALO VERDE VALLEY TRANSIT AGENCY - OPERATING ASSISTANCE FOR FIX ROUTE AND PARATRANSIT SERVICES (NON-UZA) (FTA 5317 FY 11/12)	\$913
RIVERSIDE	TRANSIT	RIV140803	0	IN EASTERN RIVERSIDE COUNTY FOR PALO VERDE TRANSIT AGENCY: OPERATING ASSISTANCE FOR FIXED ROUTE AND PARATRANSIT SERVICE FOR FY15. (5317 FY11 & FY12 - \$7K)	\$936
RIVERSIDE	TRANSIT	RIV061143	0	RCTC'S SHARE OF OCTAS FY 07 REHAB AND RENOVATION (FY 07 5307) (UZA: RV-SAN)	\$75

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	TRANSIT	RIV090301	0	METROLINK POSITIVE TRAIN CONTROL (PTC); SYSTEM WIDE IMPLEMENTATION OF PTC - JOINT PROJECT FUNDED BY LACMT, OCTA, SANBAG, AND VCTC (RCTC PROGRAMMING ONLY ITS SHARE OF THE PROJECT COST) (FY09 - ARRA FTA 5307).	\$4,786
RIVERSIDE	TRANSIT	RIV090601	0	REHABILITATION/RENOVATION OF METROLINK TRACK, SIGNALS, COMMUNICATIONS, STRUCTURES, FACILITIES, SYSTEMS, & ROLLING STOCK, INC. REPLACEMENT OF LOCOMOTIVES WITH TIER-4 TECH. UTILIZATION OF TOLL DEVELOPMENT CREDITS TO MATCH FTA 5307 & FTA 5309(A) IN CONSTRUCTION IS AS FOLLOWS: \$245 IN FY11 FOR FTA 5307 & 5309(A); \$251 IN FY12 FOR FTA 5307.	\$3,377
RIVERSIDE	TRANSIT	RIV10914	0	IN RIVERSIDE AND SAN BERNARDINO COUNTY - FOR RIVERSIDE - SAN BERNARDINO COUNTY/INDIAN HEALTH, INC.; PURCHASE OF FIVE MINI-VANS FOR SERVICE EXPANSION (FTA 5310 - FFY10 & 11) (\$25 TDC USED TO MATCH FTA 5310 IN CONS).	\$220
RIVERSIDE	TRANSIT	RIV11207	0	IN WESTERN RIVERSIDE COUNTY - CONTINUE THE IMPLEMENTATION OF PARK-N-RIDE FACILITIES THROUGH PROPERTY LEASES (VARIOUS LOCATIONS THROUGHOUT THE WESTERN COUNTY).	\$690
RIVERSIDE	TRANSIT	RIV20101	0	RCTC COMMUTER RAIL SYSTEMATIC IMP. OF FACILITIES AND EQUIPMT: REHAB OF RCTC'S COMM. RAIL IN COORDINATION W/METROLINK, INCLUDING REHAB OF TRACK, SIGNALS, COMMUNICATION, MECHANICAL & LAYOVER FACILITIES; ROLLING STOCK (LOCOMOTIVES/PASSENGER RAIL CARS), TVMS, DEV. OF PTC IN SO. CA., & IMPS, EXPANSION, AND REHAB OF METROLINK STATION PARKING AND FACILITIES (\$2,073 TC USED IN FY14 AND \$2,783 TC IN FY15)	\$24,281
RIVERSIDE	TRANSIT	RIV30803	0	IN RIVERSIDE CO - GROUPED PROJECTS FOR PURCHASE OF NEW BUSES & RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET; PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET (FTA 5310 - FFY12) (\$37 TDC USED TO MATCH FTA 5310 IN CONS).	\$289
RIVERSIDE	TRANSIT	RIV30804	0	IN RIVERSIDE CO - GROUPED PROJECTS FOR PURCHASE OF NEW BUSES & RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET; PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET (FTA 5310 - FFY12) (\$54 TDC USED TO MATCH FTA 5310 IN CONS).	\$421
RIVERSIDE	TRANSIT	RIV30806	0	IN RIVERSIDE COUNTY - GROUPED PROJECTS FOR PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES; PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES (FTA 5310 - FFY 12) (IK TRANSPORTATION DEVELOPMENT CREDITS USED TO MATCH FTA 5310 IN CONS).	\$1
RIVERSIDE	TRANSIT	RIV40202	0	IN WESTERN RIVERSIDE COUNTY FOR CAR-A-VAN TRANSIT: MOBILITY MANAGEMENT TO ENHANCE TRANSPORTATION DELIVERY SERVICES FOR CAR-A-VAN'S HOPE BUS FROM JARC.	\$97
RIVERSIDE	TRANSIT	RIV41203	0	RCTC COMMUTER RAIL UPGRADES: IN COORDINATION W/ METROLINK TO IMPROVE PASSENGER ACCESS (STATION PLATFORMS, PED BRIDGES, WALKWAYS, BIKE PATHS & STORAGE); TRACK AND LAYOVER FACILITIES; TECHNOLOGY UPGRADES (TIX VENDING MACHINES, INFO KIOSKS, SIGNAGE); & SAFETY/ SECURITY IMPROVEMENTS (FENCING & ACCESS CONTROL TO THE PLATFORMS, LIGHTING); (\$3,579K TC FOR FY15)	\$17,895
RIVERSIDE	TRANSIT	RIV50301	0	IN RIVERSIDE COUNTY - GROUPED PROJECTS FOR PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES; PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES (FTA FFY12/13 AND FFY13/14 - 5310) (\$1K IN TRANSPORTATION DEVELOPMENT CREDIT UTILIZATION IN CONSTRUCTION).	\$1
RIVERSIDE	TRANSIT	RIV50302	0	IN RIVERSIDE CO - GROUPED PROJECTS FOR PURCHASE OF NEW BUSES & RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET; PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET (FTA 5310 - FFY 12/13 AND 13/14) (\$152K TDC UTILIZ IN CONS).	\$761
RIVERSIDE	TRANSIT	RIV50303	0	IN RIVERSIDE COUNTY FOR INDEPENDENT LIVING PARTNERSHIP - CONTINUATION OF TRIP PROGRAM (FTA 5310 - FFY 12/13 AND FFY13/14) (\$441K TRANSPORTATION DEVELOPMENT CREDIT UTILIZATION IN CONSTRUCTION).	\$882
RIVERSIDE	TRANSIT	RIV50304	0	IN WESTERN RIVERSIDE COUNTY FOR EXCEED - OPERATIONS FOR THE SUPPORTED EMPLOYMENT PROGRAM FOR ADULTS WITH DISABILITIES (FTA 5310 - FFY 12/13 AND FFY 13/14) (\$25K IN TRANSPORTATION DEVELOPMENT CREDITS UTILIZATION IN CONSTRUCTION).	\$49
RIVERSIDE	TRANSIT	RIV50305	0	IN THE COACHELLA VALLEY FOR ANGEL VIEW - TO PROVIDE DOOR TO DOOR TRANSPORTATION TO CLIENTS WITH DEVELOPMENTAL AND PHYSICAL DISABILITIES (FTA 5310 - FFY 12/13 AND FFY 13/14) (\$29K IN TRANSPORTATION DEVELOPMENT CREDIT UTILIZATION IN CONSTRUCTION).	\$58
RIVERSIDE	TRANSIT	RIV50310	0	IN THE COACHELLA VALLEY FOR DESERT BLIND AND HANDICAPPED ASSOCIATION - TO PROVIDE DOOR TO DOOR TRANSPORTATION TO CLIENTS WITH DISABILITIES (FTA 5310 - FFY 12/13 AND FFY 13/14) (\$24K IN TRANSPORTATION DEVELOPMENT CREDIT UTILIZATION IN CONSTRUCTION).	\$48
RIVERSIDE	TRANSIT	RIV51002	0	IN EASTERN RIVERSIDE COUNTY FOR CVAG - FEASIBILITY STUDY TO DETERMINE LOCATIONS FOR PROPOSED INTERCITY RAIL CORRIDOR FROM DOWNTOWN LOS ANGELES TO INDIO. (PA&ED ONLY)	\$4,200

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	TRANSIT	RIV520109	0	RECONSTRUCT & UPGRADE SAN JACINTO BRANCH LINE FOR RAIL PASSENGER SERVICE (RIVERSIDE TO PERRIS) (PERRIS VALLEY LINE) (FY 07 5307) (UZA: RIV-SAN).	\$2,48,251
RIVERSIDE	TRANSIT	RIV520111	0	REGIONAL RIDESHARE - CONTINUING PROGRAM (\$115.73 IN FY12/13 AND \$193.96 IN FY13/14 IN TOLL CREDITS UTILIZED TO MATCH CMAQ IN CONS).	\$12,857
RIVERSIDE	TRANSIT	RIV041021	0	BUS RAPID TRANSIT (BRT) ENHANCEMENTS: TRANSIT SIGNAL PRIORITIZATION, ADVERTISING, MARKETING, PLACEMENT/LOGISTICS OF BRT INFRASTRUCTURE, STUDIES, ETC. FOR BRT DEVELOPMENT & IMPLEMENTATION (FY 05 5307)	\$99
RIVERSIDE	TRANSIT	RIV041028	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - BUS RAPID TRANSIT (BRT) AMENITIES (E.G. SIGNS, ATIS KIOSKS, SHELTER MATERIALS, ETC.) FOR VARIOUS BRT STOPS.	\$1,460
RIVERSIDE	TRANSIT	RIV041030	0	IN WESTERN RIVERSIDE COUNTY FOR RTA IN THE CITY OF HEMET: CONSTRUCT NEW HEMET TRANSIT FACILITY ON KIRBY ST BETWEEN DEVONSHIRE AVE AND W. LATHAM AVE. THE IMPROVEMENTS WILL ACCOMMODATE NINE BUS ROUTES AND WILL INCLUDE PASSENGER SHELTERS AND ITS ELEMENTS. (5309C FY04 + 05 EARMARKS)	\$1,442
RIVERSIDE	TRANSIT	RIV050553	0	IN TEMECULA FOR RIVERSIDE TRANSIT AGENCY - CONSTRUCT NEW TEMECULA/MURRIETA TRANSIT CENTER (04, 05, 06, 07, E-2006-191, E-2007-0131, & 2008-BUSP-0131, SAFETEA-LU).	\$9,135
RIVERSIDE	TRANSIT	RIV061142	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PURCHASE DIRECT TV & WIFI ON COMMUTER LINK FOR ENHANCED COMMUTER TRAVEL (FY 08 5307) (UZA: RIV-SAN)	\$290
RIVERSIDE	TRANSIT	RIV071218	0	PURCHASE SCHEDULING AND RUNCLUTTING SOFTWARE FOR IMPROVED OPERATIONS COST/BENEFIT ANALYSIS OF TRIP TIMES, REVENUE HOURS, HEADWAYS, OPERATOR PAY SHEETS, ETC. (FY 07 5307 & FY 09 5307).	\$350
RIVERSIDE	TRANSIT	RIV080928	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: UPGRADE AND REPLACE ORACLE SERVERS AND IMPLEMENT A DATA CENTER SERVER VIRTUALIZATION SYSTEM IN RIVERSIDE CONNECTED WITH A LIVE REPLICATED DISASTER RECOVERY SITE IN HEMET (FY 09 5307).	\$379
RIVERSIDE	TRANSIT	RIV090606	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - REVENUE VEHICLE SYSTEMS: PURCHASE OF FAREBOX UPGRADE (BY-8) (FY 10 5307) (UZA: RIV/SAN).	\$65
RIVERSIDE	TRANSIT	RIV090608	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - INFORMATION SYSTEMS: REPLACEMENT AND UPGRADES OF TELEPHONE SYSTEM AND MICROSOFT EXCHANGE SERVER IN THE RIVERSIDE AND HEMET FACILITIES (FY 10 5307) (UZA: RIV/SAN).	\$70
RIVERSIDE	TRANSIT	RIV090609	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: INSTALL ADVANCE TRAVELER INFORMATION SYSTEMS (ATIS) ON VARIOUS FIXED ROUTE VEHICLES AND INSTALLATION OF ELECTRONIC MESSAGE SIGNS AT APPROX. 60 BUS STOPS (FY'S 05, 07, 08, 09, AND 10 - 5309).	\$740
RIVERSIDE	TRANSIT	RIV091211	0	GROUPED PROJECTS FOR PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OF THE FLEET; PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET.	\$66,050
RIVERSIDE	TRANSIT	RIV10402	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - JOB ACCESS & REVERSE COMMUTE PROGRAM: EXTENDED SERVICE PROGRAM (FTA 5316, FY'S 09 AND 10).	\$1,264
RIVERSIDE	TRANSIT	RIV10403	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - JOB ACCESS AND REVERSE COMMUTE PROGRAM OPERATING ASSISTANCE: COMMUTER LINK SERVICES - ROUTES 212 AND 217 (UZAs: HEM/SAN JAC + TEM/MURR) (FTA 5316, FY'S 09 AND 10).	\$1,399
RIVERSIDE	TRANSIT	RIV10404	0	IN WESTERN RIVERSIDE COUNTY OPERATING ASSISTANCE FOR RIVERSIDE COUNTY REGIONAL MEDICAL CENTER FOR DIRECTLY OPERATED TRANSPORTATION SERVICES - SPECIALIZED NON-EMERGENCY MEDICAL TRANSPORTATION PROGRAM (FTA 5317, FY'S 09 AND 10).	\$820
RIVERSIDE	TRANSIT	RIV10405	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: MOBILITY MANAGEMENT AND TRAVEL TRAINING PROGRAM (FTA 5316 AND 5317, FY'S 09 AND 10).	\$616
RIVERSIDE	TRANSIT	RIV10410	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: DRIVER SENSITIVITY TRAINING FOR CARE CONNEXUS, INC. (FTA 5317, FY'S 09 AND 10).	\$30
RIVERSIDE	TRANSIT	RIV10818	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - REPLACEMENT REVENUE VEHICLES FOR CONTRACTED OPERATIONS: PURCHASE OF NINE (9) BUSES - THREE (3) COMMUTER LINK SERVICE AND SIX (6) FOR CONTRACTED FIXED ROUTES. THE BUSES ARE MED-SIZE, MED-DUTY, APPROX. 30-FT IN LENGTH AND HAVE ESTIMATED SERVICE LIFE OF SEVEN YEARS OR 200,000 MILES (FY 12 - 5307) (UZA: RIV-SB).	\$1,577
RIVERSIDE	TRANSIT	RIV10819	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - REPLACEMENT REVENUE VEHICLES FOR DIAL-A-RIDE OPERATIONS: PURCHASE OF 38 TYPE II VEHICLES FOR DIAL-A-RIDE OPERATIONS. (FY 12 - 5307 & FY5309C STATE OF GOOD REPAIR DISCRETIONARY FUNDING) (UZA: RIV-SB).	\$2,788
RIVERSIDE	TRANSIT	RIV10822	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITAL MAINTENANCE SPARES: PURCHASE OF SPARE PARTS FOR ROLLING STOCK UNDER THE BUS MAINTENANCE PROGRAM (FY 12 - 5307) (UZA: RIV-SB).	\$1,679

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	TRANSIT	RIV10824	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - IMPROVEMENTS TO THE HEMET AND RIVERSIDE FACILITIES, INCLUDING FLOORING REPLACEMENT, LIGHTING RETROFIT, RESURFACING OF MAINTENANCE SHOP FLOORS, PAINTING OF THE INTERIOR AND EXTERIOR, CONCRETE REPAIR/REPLACEMENT, ROOF REPAIRS, PURCHASE OF ERGONOMICALLY DESIGNED FURNITURE, AND CONVERSION OF UNDERGROUND STORAGE TANKS TO ABOVE-GROUND STORAGE.	\$2,797
RIVERSIDE	TRANSIT	RIV20819	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - REVENUE VEHICLES FOR CONTRACTED OPERATIONS; PURCHASE OF SEVEN (7) MID-SIZE VEHICLES; REPLACING VEHICLES THAT HAVE REACHED THEIR SERVICE LIFE PER FTA GUIDELINES. REPLACEMENT VEHICLES WILL BE USED FOR CONTRACT OPERATED FIXED ROUTE SERVICE (FTA 5307 - FY 13) (UZA: RIV-SB).	\$1,176
RIVERSIDE	TRANSIT	RIV20820	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - SUPPORT VEHICLE; PURCHASE OF ONE (1) VEHICLE TO REPLACE A VEHICLE THAT HAS MET ITS USEFUL LIFE REQUIREMENT (FTA 5307 - FY 13) (UZA: RIV-SB).	\$24
RIVERSIDE	TRANSIT	RIV20821	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITAL MAINTENANCE SPARES; PURCHASE OF SPARE PARTS FOR ROLLING STOCK UNDER THE BUS MAINTENANCE PROGRAM (FTA 5307 - FY 13) (UZA: RIV-SB).	\$1,241
RIVERSIDE	TRANSIT	RIV20822	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITALIZED COST OF TIRE LEASE (FTA 5307 - FY 13) (UZA: RIV-SB).	\$264
RIVERSIDE	TRANSIT	RIV20823	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - TRANSIT ENHANCEMENTS; PURCHASE AND INSTALLATION OF TRANSIT ENHANCEMENTS FOR BUS STOP SYSTEM SUCH AS INSTALLATION OF BUS SHELTERS AND BENCHES, KIOSKS, SIGNAGE, AND LIGHTING TO ENHANCE SECURITY AND SAFETY OF THE RIDING PUBLIC (FTA 5307 - FY 13) (UZA: RIV-SB).	\$150
RIVERSIDE	TRANSIT	RIV20824	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - SUPPORT EQUIPMENT; PURCHASE OF MISCELLANEOUS MAINTENANCE AND SUPPORT EQUIPMENT FOR ROUTINE MAINTENANCE (E.G., VEHICLE JACKS, WHEELCHAIRS FOR OPERATOR TRAINING, POINJAR, AIR COMPRESSORS/GENERATORS, AND FLOOR SCRUBBERS) (FTA 5307 - FY 13) (UZA: RIV-SB).	\$146
RIVERSIDE	TRANSIT	RIV20825	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - INFORMATION SYSTEMS; PURCHASE OF COMPUTERS AND SOFTWARE SYSTEM FOR FIXED ROUTE VEHICLES, HEMET TRAINING ROOM EQUIPMENT, AND RIVERSIDE CONFERENCE ROOM MONITORS - NON-ITS COMPONENTS (FTA 5307 - FY 13) (UZA: RIV-SB).	\$36
RIVERSIDE	TRANSIT	RIV20826	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - OPERATING ASSISTANCE; FIXED ROUTE AND DIAL-A-RIDE OPERATING ASSISTANCE FOR FISCAL YEAR 2012/2013 (FTA 5307 - FY 13) (UZA: HEMET)	\$43,446
RIVERSIDE	TRANSIT	RIV20827	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITALIZED PREVENTIVE MAINTENANCE FOR FY 12-13 (FTA 5307 - FY 13) (UZA: RIV-SB, TEM/MURR/MEN).	\$6,875
RIVERSIDE	TRANSIT	RIV20828	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITAL COST OF CONTRACTING FOR FY 12-13 (FTA 5307 - FY 13) (UZA: RIV-SB).	\$5,500
RIVERSIDE	TRANSIT	RIV30201	0	IN WESTERN RIVERSIDE COUNTY FOR RTA WITHIN THE CITY LIMITS OF RIVERSIDE - REGIONAL TRANSIT CENTER FOR MASS TRANSIT SERVICE IN WESTERN RIVERSIDE COUNTY. LOCATION TO BE DETERMINED (PA&ED ONLY)	\$3,499
RIVERSIDE	TRANSIT	RIV30501	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - JOB ACCESS AND REVERSE COMMUTE PROGRAM OPERATING ASSISTANCE; COMMUTER LINK SERVICES - ROUTES 212 AND 217 (UZAs: HEM/SAN JAC + TEM/MURR) (FTA 5316, FY 12)	\$743
RIVERSIDE	TRANSIT	RIV30502	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - TRAVEL TRAINING PROGRAM (FTA 5317, FY'S 11 AND 12).	\$595
RIVERSIDE	TRANSIT	RIV30503	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - JOB ACCESS & REVERSE COMMUTE PROGRAM; EXTENDED SERVICE PROGRAM (FTA 5316, FY 12).	\$762
RIVERSIDE	TRANSIT	RIV30504	0	IN WESTERN RIVERSIDE COUNTY OPERATING ASSISTANCE FOR RIVERSIDE COUNTY REGIONAL MEDICAL CENTER FOR DIRECTLY OPERATED TRANSPORTATION SERVICES - SPECIALIZED NON-EMERGENCY MEDICAL TRANSPORTATION PROGRAM (FTA 5317, FY'S 11 AND 12).	\$1,057
RIVERSIDE	TRANSIT	RIV30601	0	GROUPED PROJECTS FOR OPERATING ASSISTANCE TO TRANSIT AGENCIES IN WESTERN RIVERSIDE COUNTY; PROJECTS ARE CONSISTENT WITH 40 CFR PART 19.3126 EXEMPT TABLE 2 AND TABLE 3 CATEGORIES - OPERATING ASSISTANCE TO TRANSIT AGENCIES (UZA HEMET)	\$48,166
RIVERSIDE	TRANSIT	RIV30602	0	GROUPED PROJECTS FOR PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OF THE FLEET. PROJECTS ARE CONSISTENT WITH 40 CFR PART 19.3126 EXEMPT TABLE 2 AND TABLE 3 CATEGORIES - PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET.	\$2,737
RIVERSIDE	TRANSIT	RIV30603	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITALIZED COST OF TIRE LEASE (FTA 5307 - FY 14) (UZA: TEMECULA-MURRIETA-MENEFEE).	\$400
RIVERSIDE	TRANSIT	RIV30604	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - ENHANCEMENT OF THE BUS STOP SYSTEM SUCH AS: INSTALLATION OF BUS SHELTERS AND BENCHES, KIOSKS, SIGNAGE, AND LIGHTING TO ENHANCE SECURITY OF THE RIDING PUBLIC, AND ENHANCE ACCESS FOR PERSONS WITH DISABILITIES (UZA TEM-MUR-MEN)	\$250
RIVERSIDE	TRANSIT	RIV30605	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - PURCHASE OF SUPPORT EQUIPMENT ITEMS INCLUDING, BUT NOT LIMITED TO, BODY SHOP HEATER, SHOP AIR COMPRESSORS, SCISSORS LIFT, MOBILITY DEVICES FOR TRAINING, PORTABLE CRANE, HAND JACKS (UZA TEM-MUR-MEN)	\$35

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	TRANSIT	RIV130618	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITALIZED PREVENTIVE MAINTENANCE (UZA RIVERSIDE-SAN BERNARDINO AND TEMECULA-MURRIETA-MENIFEE)	\$7,020
RIVERSIDE	TRANSIT	RIV130619	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITAL COST OF CONTRACTING (UZA'S RIVERSIDE-SAN BERNARDINO AND TEMECULA-MURRIETA-MENIFEE)	\$5,200
RIVERSIDE	TRANSIT	RIV140823	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - OPERATING ASSISTANCE FOR FIXED ROUTE AND PARATRANSIT OPERATING ASSISTANCE FOR FY 2014/15. (5307 FY14 - HEMET UZA - \$1,800K) (5309 FY06 - \$25K) (5316 FY11 & FY12 - \$587K) (5317 FY11 & FY12 - \$308)	\$53,974
RIVERSIDE	TRANSIT	RIV140824	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - PREVENTATIVE MAINTENANCE AND CAPITAL COST OF CONTRACTING. (FY14 5307) (UZA: LA - \$156K, RS - \$5,644K, MT - \$2,600K) (5307 CARRYOVER - \$2,000K)	\$13,000
RIVERSIDE	TRANSIT	RIV140825	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - PURCHASE OF FOUR REPLACEMENT TROLLEY BUSES AND EIGHT REPLACEMENT MID-SIZED BUSES FOR USE ON CONTRACT-OPERATED FIXED-ROUTE SERVICE. (FY14 5307) (UZA: HEMET - \$2,073K)	\$2,439
RIVERSIDE	TRANSIT	RIV140826	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - REPLACEMENT OF 26 PARATRANSIT BUSES THAT HAVE REACHED THE END OF THEIR SERVICE LIFE. (FY14 5307) (UZA: RS - \$1,604K)	\$1,887
RIVERSIDE	TRANSIT	RIV140827	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - PURCHASE OF TEN EXPANSION PARATRANSIT BUSES TO MEET SERVICE DEMAND. (FY14 5307) (UZA: RS - \$714K)	\$840
RIVERSIDE	TRANSIT	RIV140828	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - REPLACEMENT OF TEN SUPPORT CARS AND NINE SUPPORT TRUCKS THAT HAVE MET THEIR USEFUL LIFE. (FY14 5307) (UZA: MT - \$588K)	\$735
RIVERSIDE	TRANSIT	RIV140829	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - REPLACEMENT OF FAREBOXES ON DIRECTLY-OPERATED BUSES THAT ARE EXPERIENCING INCREASED FAILURES AND CONTRACT-OPERATED BUSES THAT HAVE MET THEIR USEFUL LIFE. (FY14 5307) (UZA: RS - \$2,717K)	\$3,396
RIVERSIDE	TRANSIT	RIV140830	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - TRANSIT ENHANCEMENTS INCLUDING BUT NOT LIMITED TO BUS SHELTERS AND BENCHES, KIOSKS, SIGNAGE, AND LIGHTING TO ENHANCE SECURITY AND SAFETY AND ADA ACCESS. (FY14 5307) (UZA: MT - \$80K, HEMET - \$40K)	\$150
RIVERSIDE	TRANSIT	RIV140831	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITAL COST OF LEASING BUS TIRES. (FY14 5307) (UZA: MT - \$242K)	\$302
RIVERSIDE	TRANSIT	RIV140832	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - SUPPORT EQUIPMENT INCLUDING BUT NOT LIMITED TO BODY SHOP HEATER, SHOP AIR COMPRESSORS, SCISSORS LIFT, MOBILITY DEVICES FOR TRAINING, PORTABLE CRANE, AND HAND JACKS. (FY14 5307) (UZA: MT - \$79K)	\$99
RIVERSIDE	TRANSIT	RIV140833	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - FACILITY MAINTENANCE IN RIVERSIDE, HEMET, AND CORONA INCLUDING BUT NOT LIMITED TO FURNITURE, FLOORING, PAINT, PLUMBING, ELECTRICAL, LIGHTING, HVAC, PARKING LOT, AND CONCRETE. (FY14 5307) (UZA: RS - \$266K)	\$333
RIVERSIDE	TRANSIT	RIV140834	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - INFORMATION SYSTEMS INCLUDING BUT NOT LIMITED TO THE PURCHASE OF COMPUTERS, PRINTERS, SERVERS, AUDIO-VISUAL EQUIPMENT, COPIES, AND SOFTWARE. (FY14 5307) (UZA: RS - \$374K)	\$467
RIVERSIDE	TRANSIT	RIV140835	0	IN WESTERN RIVERSIDE COUNTY FOR RTA GROUP LISTING FOR TRANSPORTATION ENHANCEMENT ACTIVITIES - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 TABLES 2 AND TABLE 3 CATEGORIES - TRANSPORTATION ENHANCEMENT ACTIVITIES (EXCEPT REHABILITATION AND OPERATION OF HISTORIC TRANSPORTATION BUILDINGS, STRUCTURES, OR FACILITIES)	\$4,452
RIVERSIDE	TRANSIT	RIV150306	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - FOR CONTINUATION OF TRAVEL TRAINING PROGRAM (FTA 5310 - FFY 12/13 AND FFY 13/14) (\$191K TRANSPORTATION DEVELOPMENT CREDIT UTILIZATION IN CONSTRUCTION)	\$953
RIVERSIDE	TRANSIT	RIV080926	0	FOR RIVERSIDE SPECIAL SERVICES - CONSTRUCT FLEET BAY FOR PARATRANSIT VEHICLES, PER APPROVED 2008/2009 SRTP, TABLE 4 - CAPITAL PROJECT NO. FY09-3 (FY 09 5307) (UZA: RIV-SAN)	\$1030
RIVERSIDE	TRANSIT	RIV090121	0	IN RIVERSIDE FOR RIVERSIDE SPECIAL SERVICES - PURCHASE FAREBOX SYSTEM (FY 10 -ARRA FTA 5307)	\$530
RIVERSIDE	TRANSIT	RIV090611	0	IN RIVERSIDE FOR RIVERSIDE SPECIAL SERVICES - CAPITALIZED PREVENTATIVE MAINTENANCE (FY 10 - 5307) (UZA: RIV-SB)	\$300
RIVERSIDE	TRANSIT	RIV090612	0	IN WESTERN RIVERSIDE COUNTY FOR RIVERSIDE SPECIAL SERVICES -PURCHASE OFFICE EQUIPMENT FOR ADMINISTRATIVE OFFICES, CONFERENCE ROOM, TRAINING ROOM AND FOR THE CNG VEHICLE MAINTENANCE FACILITY, PER APPROVED 2009/2010 SRTP - TABLE 4A - PROJECT NO. 10-1 (FY 10 5307) (UZA:RIV-SAN)	\$20
RIVERSIDE	TRANSIT	RIV090613	0	IN WESTERN RIVERSIDE COUNTY FOR RIVERSIDE SPECIAL SERVICES -INSTALLATION OF ADDITIONAL CNG SLOW FILL STATIONS, ACCOMMODATING FUTURE FLEET EXPANSION (FROM 20 TO 29 FILL STATIONS), PER APPROVED 2009/2010 SRTP - TABLE 4A PROJECT NO. 10-4 (FY 10 5307) (UZA: RIV-SAN)	\$500
RIVERSIDE	TRANSIT	RIV10101	0	IN RIVERSIDE FOR RIVERSIDE SPECIAL SERVICES - CAPITALIZED PREVENTATIVE MAINTENANCE (FY 11 - 5307) (UZA: RIV-SB)	\$300

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	TRANSIT	RV110807	0	IN RIVERSIDE FOR RIVERSIDE SPECIAL SERVICES - CAPITALIZED PREVENTATIVE MAINTENANCE (FY 12 - 5307) (UZA: RIV-SB).	\$350
RIVERSIDE	TRANSIT	RV110826	0	IN RIVERSIDE FOR RIVERSIDE SPECIAL SERVICES - REPLACEMENT VEHICLES; PURCHASE OF FOUR (4) REPLACEMENT ALT-FUEL (CNG) DIAL-A-RIDE PARATRANSIT VEHICLES W/LIFTS, TIEDOWNS, FAREBOXES, RADIOS, CAMERAS, AND ACCESSORIES (FY12 - 5307) (UZA: RIV-SAN).	\$475
RIVERSIDE	TRANSIT	RV120801	0	IN RIVERSIDE FOR RIVERSIDE SPECIAL SERVICES - CAPITALIZED PREVENTATIVE MAINTENANCE (FY 12 - 5307) (UZA: RIV-SB).	\$400
RIVERSIDE	TRANSIT	RV120802	0	IN WESTERN RIVERSIDE COUNTY FOR RIVERSIDE SPECIAL SERVICES - LEASE OF XEROX MACHINE TO SUPPORT TRANSIT DIVISION NEEDS, PER APPROVED 2012/2013 SRTP - TABLE 4, PROJECT NO. FY13-4 (FY 13 - 5307) (UZA: RIV-SAN).	\$20
RIVERSIDE	TRANSIT	RV130614	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF RIVERSIDE - CAPITALIZED PREVENTATIVE MAINTENANCE (UZA'S RIVERSIDE - SAN BERNARDINO)	\$400
RIVERSIDE	TRANSIT	RV130615	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - CAPITAL LEASE OF OFFICE SUPPORT EQUIPMENT (UZA RIVERSIDE-SAN BERNARDINO)	\$20
RIVERSIDE	TRANSIT	RV140802	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF RIVERSIDE - CAPITALIZED PREVENTATIVE MAINTENANCE. (FY14 5307 - \$320K) (UZA: RS)	\$400
RIVERSIDE	TRANSIT	RV140836	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF RIVERSIDE - CAPITAL LEASE OF OFFICE SUPPORT EQUIPMENT (FY14 5307 - \$10K) (UZA: RS)	\$12
RIVERSIDE	TRANSIT	RV07232	0	IN COACHELLA VALLEY AT EXISTING SUNLINE FACILITIES/MAINTENANCE BUILDING; MAINTENANCE BUILDING CAPABILITY EXPANSION AND REHABILITATION/ ENHANCEMENTS OF THE EXISTING MAINTENANCE BUILDING. (FY 09 - ARRA 5307).	\$3,250
RIVERSIDE	TRANSIT	RV07263	0	IN COACHELLA VALLEY - FRED WARING CORRIDOR EXPRESS SERVICE DEMONSTRATION PROJECT; PROVIDE LIMITED EXPRESS SERVICE FROM THE INDIO TRANSFER LOCATION TO THE TRANSFER LOCATION ON TOWN CENTER WAY WITH SERVICE TO COLLEGE OF THE DESERT AND LIMITED STOPS ALONG THE CORRIDOR.	\$350
RIVERSIDE	TRANSIT	RV07266	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT - CONSTRUCTION OF NEW ADMINISTRATIVE OFFICE AND TRANSIT HUB AT 32-505 HARRY OLIVER TR., IN THOUSAND PALMS, CA. THE NEW ADMINISTRATIVE OFFICE WILL REPLACE THE 24-YR. OLD TEMPORARY TRAILER FACILITIES THAT HAVE EXCEEDED THEIR USEFUL LIFE BY 4 YEARS (FTA 5309C - E-2009-BUSP-171; 2009 HR1105, PUBLIC LAW 11-8).	\$16,980
RIVERSIDE	TRANSIT	RV090620	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - JOINT PARTNERSHIP WITH CALSTART/WEST START FOR FUEL CELL BUS RESEARCH & DEMONSTRATION PROJECT TO DEVELOP AND OPERATE A ZERO EMISSION BUS (E-2008-BUSP-0102).	\$282
RIVERSIDE	TRANSIT	RV110102	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - PURCHASE EIGHT REPLACEMENT PARATRANSIT VEHICLE (CNG, 30 FT. TO 35 FT. - APPROX. 12 PASSENGER), WITH LIFT, RADIO, FARE BOX, AND ACCESSORIES (FY11 - 5309).	\$938
RIVERSIDE	TRANSIT	RV110103	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - FURNITURE REPLACEMENT; PURCHASE NEW FURNITURE TO REPLACE EXISTING FURNITURE FOR STAFF IN VARIOUS DEPARTMENTS (FY 11 - 5307) (UZA: INCCPS).	\$300
RIVERSIDE	TRANSIT	RV110104	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT - PURCHASE OF MAJOR REPLACEMENT TOOLS, EQUIPMENT AND PARTS USED IN ROUTINE VEHICLE MAINTENANCE (E.G., MULTI-METERS, TORQUE WRENCHES, IMPACT SOCKETS, SOFTWARE UPDATES, SERVICE JACKS, MISC. AIR AND HAND TOOLS AND DRILL BITS) (FY11 - 5307) (UZA: INCCPS).	\$200
RIVERSIDE	TRANSIT	RV110107	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY; REHABILITATION OF SUNLINE'S FLEET OLDER BUSES, INCLUDING RESTORATION OF COLORS ON BOTH THE INTERIOR AND EXTERIOR, AND PURCHASE OF EQUIPMENT NEEDED TO REPAIR/REHAB BUSES (FY 11 - 5307) (UZA: INCCPS).	\$300
RIVERSIDE	TRANSIT	RV110109	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - PURCHASE TRANSIT ENHANCEMENT BUS STOP AMENITIES (E.G., BUS SHELTERS, KIOSK LEXANS, LEXAN SCHEDULES, SOLAR BATTERIES, AND MISC. SUPPLIES) FOR VARIOUS BUS STOPS (FY 11 - 5307) (UZA: INCCPS).	\$300
RIVERSIDE	TRANSIT	RV110111	0	IN COACHELLA VALLEY AT EXISTING SUNLINE FACILITY - FACILITY IMPROVEMENTS; IMPROVE EXISTING FACILITIES, INCLUDING ROOF REPAIR, CARPET REPLACEMENT, BLIND REPLACEMENT, PARKING LOT REPAIRS, ETC., AT THE THOUSAND PALMS AND INDIO FACILITIES (FY 11 - 5307) (UZA: INCCPS).	\$451
RIVERSIDE	TRANSIT	RV110407	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - JOB ACCESS & REVERSE COMMUTE AND NEW FREEDOM PROJECT; EXPRESS SERVICE TO THE PASS AREA WITH SERVICE TO CABAZON, BANNING AND BEAUMONT, MORENO VALLEY, AND RIVERSIDE, CONNECTING COACHELLA VALLEY COMMUTERS TO WESTERN RIVERSIDE COUNTY (FTA 5316 AND FTA 5317, FY***** S 09 AND 10).	\$535
RIVERSIDE	TRANSIT	RV110408	0	IN COACHELLA VALLEY - RIDESHARE PROGRAM (FTA 5316, FY'S 09 AND 10).	\$165
RIVERSIDE	TRANSIT	RV110409	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - TAXI VOUCHER PROGRAM FOR COACHELLA VALLEY RESIDENTS AGE 60 AND OVER AND /OR DISABLED. PROGRAM OFFERS A FIFTY PERCENT DISCOUNT FOR INTERCITY AND INTRA CITY TRAVEL, WITHIN THE COACHELLA VALLEY (FTA 5317, FY'S 09 AND 10).	\$332

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	TRANSIT	RV110801	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - CAPITALIZED PREVENTIVE MAINTENANCE (FY12 - 5307 & CARRY OVER) (UZA: INCCPS).	\$1,967
RIVERSIDE	TRANSIT	RV110803	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - FIXED ROUTE AND DIAL-A-RIDE OPERATING ASSISTANCE FOR FISCAL YEAR 2011/2012 (FTA 5307 - FY 12 AND C/O FY 11) (UZA: INCCPS).	\$20,077
RIVERSIDE	TRANSIT	RV110804	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: REHABILITATION OF SUNLINE'S FLEET OLDER BUSES, INCLUDING RESTORATION OF COLORS ON BOTH THE INTERIOR AND EXTERIOR, AND PURCHASE OF EQUIPMENT NEEDED TO REPAIR/REHAB BUSES (FY12 - 5307) (UZA: INCCPS).	\$160
RIVERSIDE	TRANSIT	RV110805	0	IN COACHELLA VALLEY AREA - PURCHASE SEVEN (7) REPLACEMENT CNG PARATRANSIT BUSES (FTA 5307 - FY 12) (UZA: INCCPS).	\$665
RIVERSIDE	TRANSIT	RV110806	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - PURCHASE TRANSIT ENHANCEMENT BUS STOP AMENITIES FOR CONTINUED IMPROVEMENTS TO BUS STOPS FOR THE SAFETY AND COMFORT OF PASSENGERS AS RECOMMENDED IN THE COMPREHENSIVE OPERATIONAL ANALYSIS (FY 12 - 5307) (UZA: INCCPS).	\$66
RIVERSIDE	TRANSIT	RV110808	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - FACILITY IMPROVEMENTS: IMPROVE THE THOUSAND PALMS AND INDIO FACILITIES, INCLUDING ROOF REPAIR, BUILDING ROOF, REPLACEMENT OF CARPETING AND BLINDS, AND REPAIR OF PARKING FACILITIES FOR STAFF USE (FTA 5307 - FY 12) (UZA: INCCPS).	\$550
RIVERSIDE	TRANSIT	RV110809	0	IN COACHELLA VALLEY AT EXISTING SUNLINE FACILITIES - TRANSIT SECURITY ENHANCEMENT PROJECT, INCLUDING REPLACEMENT VEHICLES FOR STAFF IN THE SAFETY/SECURITY DEPARTMENT AND TO ENHANCE BUS STOPS THROUGHOUT THE VALLEY (PROP 1B FUNDED PROJECT).	\$395
RIVERSIDE	TRANSIT	RV110810	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - PURCHASE OF TICKET VENDING MACHINE (TYM) FOR INSTALLATION AT A SELECTED BUS TRANSFER LOCATION (FY 12 - 5307) (UZA: INCCPS).	\$75
RIVERSIDE	TRANSIT	RV110812	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - TECHNICAL TRANSIT PLANNING AND FACILITY FEASIBILITY STUDIES (FY12 - 5307) (UZA: INCCPS).	\$450
RIVERSIDE	TRANSIT	RV110813	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT - PURCHASE MISCELLANEOUS MAINTENANCE TOOLS AND EQUIPMENT: PURCHASE OF MAJOR REPLACEMENT TOOLS, EQUIPMENT AND PARTS USED IN ROUTINE VEHICLE MAINTENANCE (FY 12 - 5307) (UZA: INCCPS).	\$100
RIVERSIDE	TRANSIT	RV110827	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - FURNITURE REPLACEMENT; PURCHASE OF OFFICE FURNITURE TO REPLACE AND ADD FURNITURE AS THE FURNITURE REACHES THE END OF ITS CYCLE LIFE (FY 12 - 5307) (UZA: INCCPS).	\$120
RIVERSIDE	TRANSIT	RV111206	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - AMERICAN FUEL CELL HYBRID BUSES: PURCHASE OF TWO FUEL CELL HYBRID (ZERO EMISSION) REPLACEMENT BUSES (FTA FY 2011 SUSTAINABILITY AWARDS - TRIGGER FTA 5308).	\$5,464
RIVERSIDE	TRANSIT	RV120804	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - FIXED ROUTE AND DIAL-A-RIDE OPERATING ASSISTANCE FOR FISCAL YEAR 2012/2013 (FTA 5307 - FY 13) (UZA: INCCPS).	\$20,182
RIVERSIDE	TRANSIT	RV120805	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - CAPITALIZED PREVENTIVE MAINTENANCE FOR FISCAL YEAR 2012/2013 (FTA 5307 - FY 13) (UZA: INCCPS).	\$2,250
RIVERSIDE	TRANSIT	RV120806	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: REHABILITATION OF SUNLINE'S FLEET OF OLDER BUSES, INCLUDING RESTORATION OF COLORS ON BOTH THE INTERIOR AND EXTERIOR, AND PURCHASE OF EQUIPMENT NEEDED TO REPAIR/REHAB BUSES (FY 13 - 5307) (UZA: INCCPS).	\$50
RIVERSIDE	TRANSIT	RV120807	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - PURCHASE TWO REPLACEMENT SERVICE TRUCKS AND FOUR REPLACEMENT CNG RELIEF CARS (FTA 5307 - FY 13) (UZA: INCCPS).	\$220
RIVERSIDE	TRANSIT	RV120808	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - FACILITY IMPROVEMENTS: REPAIR THE EXISTING BUS YARD AND STAFF PARKING AREA AT THE THOUSAND PALMS OPERATING FACILITY (FTA 5307 - FY 13) (UZA: INCCPS).	\$900
RIVERSIDE	TRANSIT	RV120809	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - PURCHASE TRANSIT STOP ENHANCEMENTS FOR CONTINUED IMPROVEMENTS TO BUS STOPS FOR THE SAFETY AND COMFORT OF PASSENGERS; PER COMPREHENSIVE OPERATIONAL ANALYSIS RECOMMENDATION (CA PROP 1B SECURITY FUNDED PROJECT).	\$395
RIVERSIDE	TRANSIT	RV120810	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - FACILITY IMPROVEMENTS: IMPROVE THE THOUSAND PALMS AND INDIO FACILITIES, INCLUDING ROOF REPAIR AND REPLACEMENT, NEW CARPETING AND BLINDS, AND REPAIR OF PARKING FACILITIES FOR STAFF USE (FTA 5307 - FY 13) (UZA: INCCPS).	\$200
RIVERSIDE	TRANSIT	RV120811	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - FURNITURE REPLACEMENT; PURCHASE OF OFFICE FURNITURE TO REPLACE AND ADD FURNITURE AS THE FURNITURE REACHES THE END OF ITS CYCLE LIFE (FTA 5307 - FY 13) (UZA: INCCPS).	\$100

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	TRANSIT	RIV20812	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - PURCHASE OF VARIOUS IT EQUIPMENT, SOFTWARE AND HARDWARE FOR EXISTING AGENCY SYSTEM NEEDS AND TO STREAMLINE OPERATIONS AND PRODUCE REPORTS FOR SUNLINE SERVICES (FTA 5307 - FY 13) (UZA: INCCPS).	\$105
RIVERSIDE	TRANSIT	RIV20813	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT - PURCHASE NEW MODERN, STATE OF THE ART TELEPHONE SYSTEM, IMPROVING THE COMMUNICATION SYSTEM FOR SUNLINE TRANSIT AGENCY (FTA 5307 - FY 13) (UZA: INCCPS).	\$115
RIVERSIDE	TRANSIT	RIV20814	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT - PURCHASE FIVE (5) NEW SPARE FAREBOXES TO ALLOW EXISTING UNITS TO BE REPAIRED WITHOUT BUS SERVICE INTERRUPTION (FTA 5307 - FY 13) (UZA: INCCPS).	\$60
RIVERSIDE	TRANSIT	RIV20815	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT - CONDUCT A SAMPLE SURVEY OF SUNLINE TRANSIT AGENCY RIDERS, PROVIDING USEFUL INFORMATION TO SUPPORT SUNLINE PLANNING AND MARKETING EFFORTS. SURVEY WILL ALSO INCLUDE NTD SECTION 15 RIDECHECKS (FTA 5307 - FY 13) (UZA: INCCPS).	\$100
RIVERSIDE	TRANSIT	RIV20816	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT - PURCHASE MAJOR REPLACEMENT MAINTENANCE TOOLS AND EQUIPMENT FOR ROUTINE VEHICLE MAINTENANCE (FTA 5307 - FY 13) (UZA: INCCPS).	\$50
RIVERSIDE	TRANSIT	RIV20817	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT - SPECIAL FUEL PROVISION ALLOWING A PORTION OF AGENCY FUEL COSTS TO BE TREATED AS A CAPITAL MAINTENANCE (FTA 5307 - FY 13) (UZA: INCCPS).	\$439
RIVERSIDE	TRANSIT	RIV20829	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - SOLAR PANEL REPLACEMENT: REPLACEMENT OF EXISTING SOLAR PANELS, PROVIDING 33 PERCENT OF SUNLINE ENERGY NEEDS FOR OPERATING OFFICES AND FACILITIES (PROJECT FUNDED BY FY 12 STATE OF GOOD REPAIR, BUS LIVABILITY AND TRANSIT ASSET MANAGEMENT).	\$1,820
RIVERSIDE	TRANSIT	RIV30505	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - JOB ACCESS & REVERSE COMMUTE PROJECT: REALIGNMENT AND EXPANSION OF SERVICE FROM INDIOS TO COACHELLA, MECCA AND THE NORTH SHORE, CONNECTING COMMUTERS TO OTHER EASTERN RIVERSIDE COUNTY COMMUNITIES (FTA 5316 FY 12).	\$218
RIVERSIDE	TRANSIT	RIV30506	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - JOB ACCESS & REVERSE COMMUTE AND NEW FREEDOM PROJECT: EXPRESS SERVICE TO THE PASS AREA WITH SERVICE TO CABAZON, BANNING AND BEAUMONT, MORENO VALLEY, AND RIVERSIDE, CONNECTING COACHELLA VALLEY COMMUTERS TO WESTERN RIVERSIDE COUNTY (FTA 5316 AND FTA 5317, FY 12).	\$108
RIVERSIDE	TRANSIT	RIV30507	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - GROUPED PROJECTS FOR OPERATING ASSISTANCE TO TRANSIT AGENCIES: PROJECTS ARE CONSISTENT WITH 40CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - OPERATING ASSISTANCE TO TRANSIT AGENCIES (FY 11 & 12 - 5317).	\$326
RIVERSIDE	TRANSIT	RIV30508	0	IN THE COACHELLA VALLEY FOR CVAG - JOB ACCESS & REVERSE COMMUTE PROGRAM: PROVIDE SHUTTLE SERVICE FOR THE HOMELESS SEEKING EMPLOYMENT - SHUTTLE SERVICE WILL PROVIDE CONNECTIONS TO SUNLINE BUS HUBS AND TO AREAS WHERE SUNLINE DOES NOT CURRENTLY SERVE. PROGRAM ALSO INCLUDES MOBILITY MANAGER (FTA 5316, FY 12).	\$118
RIVERSIDE	TRANSIT	RIV30606	0	IN EASTERN RIVERSIDE COUNTY FOR SUNLINE - OPERATING ASSISTANCE FOR FIXED ROUTE AND PARATRANSIT SERVICES (UZA INDIOS-CATHEDRAL CITY-PALM SPRINGS) (FTA 5307 FY 11/12 & FY 12/13)	\$22,350
RIVERSIDE	TRANSIT	RIV30607	0	IN EASTERN RIVERSIDE COUNTY FOR SUNLINE - REHABILITATE 15 BUSES. REHABILITATION INCLUDES: REPLACING ENGINES, TRANSMISSIONS, SEAT COVERS, DECALS AS WELL AS PURCHASE OF OTHER BUS EQUIPMENT TO REPAIR/REHABILITATE BUSES. (UZA INDIOS-CATHEDRAL CITY-PALM SPRINGS) (FTA 5307 FY 12/13)	\$825
RIVERSIDE	TRANSIT	RIV30608	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: PURCHASE OF FOUR (TYPE 4 30FT) REPLACEMENT PARATRANSIT BUSES. (FTA 5307 - FY 13 \$168K, FY 14 - \$71K) (FTA 5310 - FY 14 \$105K) (UZA: INCCPS)	\$440
RIVERSIDE	TRANSIT	RIV30609	0	IN EASTERN RIVERSIDE COUNTY FOR SUNLINE - TRANSIT STOP ENHANCEMENTS. ENHANCEMENTS INCLUDE BUT NOT LIMITED TO: PURCHASE AND INSTALLATION OF 38 NEW BUS SHELTERS AND BUS STOP SITE IMPROVEMENTS SAFETY AND SECURITY (UZA INDIOS-CATHEDRAL CITY-PALM SPRINGS) (FTA 5307 FY 12/13)	\$532
RIVERSIDE	TRANSIT	RIV30610	0	IN EASTERN RIVERSIDE COUNTY FOR SUNLINE - CNG FUELING STATION REPLACEMENT (UZA INDIOS-CATHEDRAL CITY-PALM SPRINGS) (FTA 5307 FY 12/13)	\$5,200
RIVERSIDE	TRANSIT	RIV30612	0	IN EASTERN RIVERSIDE COUNTY FOR SUNLINE - PURCHASE VARIOUS IT EQUIPMENT, SOFTWARE AND HARDWARE FOR EXISTING AGENCY SYSTEM NEEDS (UZA INDIOS-CATHEDRAL CITY-PALM SPRINGS) (FTA 5307 FY 12/13)	\$300
RIVERSIDE	TRANSIT	RIV30613	0	IN EASTERN RIVERSIDE COUNTY FOR SUNLINE - PURCHASE 3 REPLACEMENT AND 2 NEW EXPANSION CNG SUPPORT VEHICLES AND 6 REPLACEMENT SERVICE VEHICLES (UZA INDIOS-CATHEDRAL CITY-PALM SPRINGS) (FTA 5307 FY 12/13)	\$440
RIVERSIDE	TRANSIT	RIV30801	0	IN EASTERN RIVERSIDE COUNTY FOR SUNLINE - PREVENTIVE MAINTENANCE (UZA INDIOS-CATHEDRAL CITY-PALM SPRINGS) (FTA 5307 FY 11/12)	\$2,346

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
RIVERSIDE	TRANSIT	RIV130805	0	IN RIVERSIDE CO - GROUPED PROJECTS FOR PURCHASE OF NEW BUSES & RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET (FTA 5310 - FFY 12) (\$211TD USED TO MATCH FTA 5310 IN CONS).	\$161
RIVERSIDE	TRANSIT	RIV130807	0	IN RIVERSIDE COUNTY - GROUPED PROJECTS FOR PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES (FTA 5310 - FFY 12) (IK TRANSPORTATION DEVELOPMENT CREDITS USED TO MATCH FTA 5310 IN CONS).	\$2
RIVERSIDE	TRANSIT	RIV140502	0	IN EASTERN RIVERSIDE COUNTY FOR SUNLINE: PURCHASE ONE NEW BATTERY DOMINATE HYDROGEN HYBRID ELECTRIC FUEL CELL BUS. (FTA 5309C - \$4,251)	\$5,151
RIVERSIDE	TRANSIT	RIV140801	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: PURCHASE FOUR (TYPE 4 30FT) EXPANSION PARATRANSIT BUSES. (FY14 5307 - FY13 \$168K, FY14 \$71K) (FTA 5310 - FY 14 \$105K) (UZA: INDCPCS)	\$440
RIVERSIDE	TRANSIT	RIV140804	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: OPERATING ASSISTANCE FOR FIXED ROUTE AND PARATRANSIT OPERATING ASSISTANCE FOR FY 2014/15. (5307 FHWA CMAQ XFER FY15 - \$150K) (5316 FY11 & FY12 - \$33K) (5317 FY11 & FY12 - \$66K) (5307 UZA INDCPCS FY14 - \$3,000K)	\$28,011
RIVERSIDE	TRANSIT	RIV140806	0	IN EASTERN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: PURCHASE TRANSIT ENHANCE. BUS STOP AMENITIES (E.G. BENCHES, TRASH CONTAINERS, KIDSK LEXANS & SCHEDULES, SHELTERS, SUPPLIES, ETC.) FOR VARIOUS STOPS (FY14 5307 - \$100K) (UZA: INDCPCS) (TE)	\$312
RIVERSIDE	TRANSIT	RIV140807	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: PURCHASE VARIOUS IT EQUIPMENT, SOFTWARE AND HARDWARE FOR EXISTING AND EXPANSION SERVICE, AS WELL AS FOR PLANNING RELATED ACTIVITIES ON BUS STOP IMPROVEMENT PROJECTS (FY13 5307 - \$240K) (UZA: INDCPCS).	\$270
RIVERSIDE	TRANSIT	RIV140808	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: PURCHASE ONE TRUCK, ONE SUPERVISOR SUV, AND TWO REPLACEMENT CNG RELIEF CARS. (FY14 5307 - \$130K) (UZA: INDCPCS).	\$170
RIVERSIDE	TRANSIT	RIV140809	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: REPLACEMENT OF TWO BUS LIFTS. (FY14 5307 - \$320K) (UZA: INDCPCS)	\$400
RIVERSIDE	TRANSIT	RIV140811	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: PURCHASE OF A NEW ASSET MANAGEMENT TOOL. (FY14 5307 - \$400K) (UZA: INDCPCS)	\$500
RIVERSIDE	TRANSIT	RIV140812	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: MASTER PLAN UPDATE FOR THE THOUSAND PALMS SITE. (FY14 5307 - \$80K) (UZA: INDCPCS)	\$100
RIVERSIDE	TRANSIT	RIV140813	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: PRIMARILY FOR THE DEMOLITION OF THE REDEVELOPMENT OF THE ADMINISTRATIVE OFFICE THOUSAND PALMS SITE. (FY14 5307 - \$160K) (UZA: INDCPCS)	\$200
RIVERSIDE	TRANSIT	RIV140821	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: VANPOOL PILOT PROGRAM THAT WILL TARGET EASTERN COACHELLA VALLEY AGRICULTURAL WORKERS, LARGE EMPLOYERS SUCH AS GOVERNMENT AGENCIES, STUDENTS AND OTHER GROUPS. PURCHASE OF 50 VANS. THE PROGRAM WILL PROVIDE A THREE YEAR START-UP PROJECT FOR A BROKERAGE SERVICE AND FIRST YEAR SUBSIDIES FOR UP TO 70 VANS. (CMAQ - \$1,762K)	\$1,990
RIVERSIDE	TRANSIT	RIV140822	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: PURCHASE OF TWO NEW BUSES AND OPERATIONS OF NEW BUS SERVICE THAT WILL DIRECTLY LINK DESERT HOT SPRINGS AND PALM DESERT. SERVICE TO OPERATE ON WEEKDAYS AND WILL INCLUDE FOUR TRIPS IN THE MORNING (HOURLY) FROM DESERT HOT SPRINGS TO PALM DESERT AND FOUR TRIPS IN THE AFTERNOON (HOURLY) FROM PALM DESERT TO DESERT HOT SPRINGS. (CMAQ - \$1,536K)	\$1,735
RIVERSIDE	TRANSIT	RIV150307	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT - CONTINUATION OF TAXI VOUCHER PROGRAM (FTA 5310 - FFY 12/13 AND FFY 13/14) (\$28K IN TRANSPORTATION DEVELOPMENT CREDIT UTILIZATION IN CONSTRUCTION).	\$56
RIVERSIDE	TRANSIT	RIV150308	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT - PURCHASE OF ONE (1) MEDIUM BUS FOR EXPANSION OF SERVICE (FTA 5310 - FFY12/13 AND FFY13/14) (\$19K IN TRANSPORTATION DEVELOPMENT CREDIT UTILIZATION IN CONSTRUCTION).	\$93
RIVERSIDE	TRANSIT	RIV150309	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT - PURCHASE OF ONE (1) MOBILE RADIO (FTA 5310 - FFY 12/13 AND FFY 13/14) (\$1K IN TRANSPORTATION DEVELOPMENT CREDIT UTILIZATION IN CONSTRUCTION).	\$1
SAN BERNARDINO	LOCAL HIGHWAY	200201	0	IN ADELANTO, EL MIRAGE RD. FROM SR. 395 TO 1 MILE EAST TO ADELANTO RD. AND ON ADELANTO RD. FROM EL MIRAGE RD. TO 1 MILE SOUTH-AUBURN AVE. PAVE EXISTING 2 LANERD.	\$560
SAN BERNARDINO	LOCAL HIGHWAY	200049	0	MOJAVE RIVER BRIDGE CROSSING FROM TERMINUS OF YUCCA LOMA RD TO TERMINUS OF GREEN TREE BLVD - INCLUDES WIDENING YATES RD. 2-4 LANES FROM .24 MILE NORTH OF CHINUAPIN TO .02 MILES SOUTH OF FORTUNA (1.5 MILES) - PRE- ENVIRONMENTAL REVIEW FOR CONSTRUCTION OF NEW 4 LANE BRIDGE- INCLUDES A BRIDGE OVER THE BNSF RR TO HESPERIA ROAD	\$46,477

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
SAN BERNARDINO	LOCAL HIGHWAY	20150003	0	IN APPLE VALLEY: YUCCA LOMA ROAD FROM WESTERN TERMINUS OF YUCCA LOMA ROAD TO APPLE VALLEY ROAD; WIDEN 2-4 LANES. (INCLUDES AV SRTS ATP CYCLE I PROJECT 0540)	\$4,129
SAN BERNARDINO	LOCAL HIGHWAY	SBD055011	0	YUCCA LOMA RD. FROM APPLE VALLEY RD. TO NAVAJO RD. WIDEN EXISTING 2 LANE RD. TO 4 LANE RD. (2 LANES IN EACH DIRECTION) (3 MILES)	\$6,500
SAN BERNARDINO	LOCAL HIGHWAY	200202	0	IN CHINO - ON CHINO AVENUE FROM MONTE VISTA TO SIXTH STREET-WIDEN EXISTING 2 LANES TO 4 LANES AND INSTALL SIGNAL AT INTERSECTION OF CHINO AVE. AND MONTE VISTA	\$584
SAN BERNARDINO	LOCAL HIGHWAY	200207	0	IN CHINO - ON PINE AVE EXTENSION FROM SR 71 TO EUCLID IN THE CITY OF CHINO - WIDEN BRIDGE FROM 2-4 LANES	\$100,000
SAN BERNARDINO	LOCAL HIGHWAY	SBD031118	0	EDISON AVENUE RAMONA TO CENTRAL WIDEN FROM 4 LANES TO 6 LANES & REHABILITATION (SPOT WIDENING)	\$2,000
SAN BERNARDINO	LOCAL HIGHWAY	SBD031152	0	RIVERSIDE DRIVE AT SAN ANTONIO FLOOD CONTROL CHANNEL WIDEN BRIDGE FROM 4 LANES TO 6 LANES	\$20,000
SAN BERNARDINO	LOCAL HIGHWAY	200401	0	FAIRFIELD RANCH RD. CONSTRUCT BOX CULVERT (APPROX. 0.40 MILES SOUTH OF STANFIELD CT.) TO RE-OPEN 0.76 MILES OF FAIRFIELD RANCH RD AT CURRENT CLOSURE SOUTH TO PINE AVE. CONSTRUCT RD IMPROVEMENTS AND ADD MARKED BIKE LANES IN BOTH DIRECTIONS.	\$45,810
SAN BERNARDINO	LOCAL HIGHWAY	20083402	0	PEYTON DRIVE FROM EUCALYPTUS TO SR42, WIDEN PEYTON 2-4 LANES WITH MARKED BIKE LANES IN EACH DIRECTION; CONSTRUCT EUCALYPTUS AVE FROM PEYTON DRIVE TO CHINO HILLS COMMUNITY PARK ENTRANCE. CONSTRUCT 2 LN RD; IMPROVE ENGLISH CHANNEL	\$11,942
SAN BERNARDINO	LOCAL HIGHWAY	200064	0	WASHINGTON ST FROM RECHE CANYON TO HUNTS LN - ELIMINATE BOTTLENECK BY ADDING NB TURN POCKET AT RECHE CANYON RD. (EXCLUSIVE LEFT AND RIGHT) THROUGH RESTRIPING AND WIDENING WITHIN R/W; MODIFY TRAFFIC SIGNALS	\$570
SAN BERNARDINO	LOCAL HIGHWAY	200856	0	MT. VERNON BRIDGE OVER UPRR(54C0101) - ON MT. VERNON AVE. FROM "M" ST. TO I-10 ON RAMP. WIDENING BRIDGE FROM 2-4 LANES (CA338)	\$81,342
SAN BERNARDINO	LOCAL HIGHWAY	2010601	0	LA CADENA DR OVER SANTA ANA RIVER, 1.5 MI SOUTH OF I-10 - REPLACE EXISTING 4 LANE BRIDGE WITH 6 LANE BRIDGE (54C0077)	\$27,535
SAN BERNARDINO	LOCAL HIGHWAY	201157	0	WASHINGTON ST. FROM 0.90 MILES WEST OF MT. VERNON AVE TO LA CADENA. CONSTRUCT NEW 4 LANE ROADWAY (PA&ED ONLY)	\$28,000
SAN BERNARDINO	LOCAL HIGHWAY	201158	0	AGUA MANSA FROM RIALTO CHANNEL TO RANCHO AVE. 2-4 LANE WIDENING	\$6,652
SAN BERNARDINO	LOCAL HIGHWAY	201107	0	CHERRY AVENUE FROM SOUTH HIGHLAND TO I-15 WIDEN (2-6 LANES)	\$2,625
SAN BERNARDINO	LOCAL HIGHWAY	201139	0	CASA GRANDE AVENUE FROM LITTLE CREEK ROAD TO MANGO AVENUE CONSTRUCT 4 LANES	\$10,500
SAN BERNARDINO	LOCAL HIGHWAY	201140	0	CITRUS AVENUE FROM SUMMIT AVENUE TO I-15 WIDEN FROM 2 TO 4 LANES	\$2,625
SAN BERNARDINO	LOCAL HIGHWAY	201141	0	CYPRESS AVENUE FROM SLOVER TO JURUPA AVENUE WIDEN FROM 2-4 LANES	\$2,498
SAN BERNARDINO	LOCAL HIGHWAY	201142	0	CYPRESS AVENUE FROM DUNCAN CANYON ROAD TO FRONTAGE ROAD (I-15)-CONSTRUCT NEW 2 LANE ROAD	\$3,200
SAN BERNARDINO	LOCAL HIGHWAY	201143	0	DUNCAN CANYON ROAD FROM CITRUS AVENUE TO SIERRA AVENUE CONSTRUCT 4 LANES.	\$5,251
SAN BERNARDINO	LOCAL HIGHWAY	201144	0	JURUPA AVENUE FROM TAMARIND AVENUE TO ALDER AVENUE WIDEN FROM 2 TO 4 LANES	\$958

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
SAN BERNARDINO	LOCAL HIGHWAY	201146	0	SIERRA LAKES PARKWAY FROM BEECH AVENUE TO CITRUS AVENUE WIDEN FROM 2 TO 4 LANES.	\$4,290
SAN BERNARDINO	LOCAL HIGHWAY	201147	0	SLOVER AVENUE FROM ETIWANDA AVENUE TO 800 FEET EAST OF ETIWANDA AVENUE WIDEN FROM 2-4 LANES	\$2,095
SAN BERNARDINO	LOCAL HIGHWAY	201148	0	SOUTH HIGHLAND AVENUE FROM CHERRY AVENUE TO CITRUS AVENUE WIDEN FROM 2 TO 4 LANES	\$5,250
SAN BERNARDINO	LOCAL HIGHWAY	201149	0	VALLEY BOULEVARD FROM CHERRY AVENUE TO BEECH AVENUE WIDEN FROM 4-6 LANES	\$2,418
SAN BERNARDINO	LOCAL HIGHWAY	201162	0	VALLEY BOULEVARD FROM BEECH AVENUE TO CITRUS AVENUE WIDEN FROM 4-6 LANES	\$2,418
SAN BERNARDINO	LOCAL HIGHWAY	201163	0	VALLEY BOULEVARD FROM CITRUS AVENUE TO SIERRA AVENUE WIDEN FROM 4-6 LANES	\$2,418
SAN BERNARDINO	LOCAL HIGHWAY	201164	0	VALLEY BOULEVARD FROM SIERRA AVENUE TO ALDER AVENUE WIDEN FROM 4-6 LANES	\$724
SAN BERNARDINO	LOCAL HIGHWAY	201166	0	DUNCAN CANYON ROAD FROM I-15 TO CITRUS AVENUE-WIDEN FROM 2-4 LANES	\$1,312
SAN BERNARDINO	LOCAL HIGHWAY	20131506	0	IN FONTANA, SAN SEVAINNE TRAIL CONNECTIVITY; FROM JUST N OF I-15/CHERRY/C ALONG THE SAN SEVAINNE FLOOD CONTROL BASIN S TO COUNTY LINE (PA&ED ONLY)	\$770
SAN BERNARDINO	LOCAL HIGHWAY	20150005	0	CITRUS AVENUE FROM JURUPA TO SLOVER - WIDEN FROM 2-4 LANES W/LEFT TURN LANES AT INTERSECTIONS (SLOVER, SANTA ANA AVE & JURUPA-3 INTERSECTIONS)	\$1,865
SAN BERNARDINO	LOCAL HIGHWAY	SBDD031217	0	BEECH AVENUE FOOTHILL TO MILLER AVE WIDEN FROM 2 LANES TO 4 LANES	\$4,630
SAN BERNARDINO	LOCAL HIGHWAY	SBDD031218	0	ALDER AVENUE BASELINE TO FOOTHILL BOULEVARD WIDEN 2 LANES TO 4 LANES W/TURN LANES	\$2,624
SAN BERNARDINO	LOCAL HIGHWAY	SBDD031227	0	JURUPA AVENUE ETIWANDA TO SIERRA AVENUE CONSTRUCT 6 LANE ROAD	\$24,462
SAN BERNARDINO	LOCAL HIGHWAY	SBDD031228	0	ETIWANDA AVENUE RIVERSIDE COUNTY LINE TO INTERSTATE 10 WIDEN FROM 4 TO 6 LANES	\$2,635
SAN BERNARDINO	LOCAL HIGHWAY	SBDD031233	0	ARROW BOULEVARD ALDER TO MAPLE AVENUE WIDEN 2 LANES TO 4 LANES	\$5,830
SAN BERNARDINO	LOCAL HIGHWAY	SBDD031235	0	ARROW HIGHWAY ALMERIA TO CITRUS AVENUE WIDEN 2 LANES TO 4 LANES	\$1,265
SAN BERNARDINO	LOCAL HIGHWAY	SBDD031246	0	FOOTHILL BOULEVARD CITRUS AVENUE TO MAPLE AVENUE WIDEN TO STATE STANDARDS FROM 4 TO 6 LANES	\$7,218
SAN BERNARDINO	LOCAL HIGHWAY	SBDD031254	0	MERRILL AVENUE ALDER TO MAPLE AVENUE WIDEN FROM 2 TO 4 LANES	\$2,065
SAN BERNARDINO	LOCAL HIGHWAY	SBDD031266	0	SIERRA AVENUE FOOTHILL BOULEVARD TO BASELINE AVENUE- WIDEN FROM 4 TO 6 LANES	\$8,129
SAN BERNARDINO	LOCAL HIGHWAY	201105	0	MICHIGAN AVENUE WIDENING (2-4 LANES) FROM COMMERCE WAY TO MAIN STREET	\$1,423

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
SAN BERNARDINO	LOCAL HIGHWAY	201106	0	COMMERCE WAY FROM MICHIGAN AVENUE TO BARTON ROAD AT VIVIENDA AVENUE. NEW ROAD - 4 LANE ROAD EXTENSION	\$1,553
SAN BERNARDINO	LOCAL HIGHWAY	20084104	0	JOSHUA STREET PARK & RIDE EXPANSION - ON JOSHUA STREET WEST OF US 395, CITY OF HESPERIA. EXISTING P&R HAS 188 SPACES AND NEEDS TO ADD 200 SPACES, TO INCLUDE LANDSCAPING, LIGHTING AND VARIOUS NON-CAPACITY STREET IMPROVEMENTS TO FACILITATE ADDITIONAL SPACES (M003)	\$743
SAN BERNARDINO	LOCAL HIGHWAY	201500008	0	IN HESPERIA: MAIN ST FROM I-15 TO MAPLE (PHASE 1) / MAPLE TO 11TH (PHASE 2) / I-15 TO SR 395 (PHASE 3); WIDEN AND RECONSTRUCT FROM 4-6 LANES, INCLUDING WIDENING OF BRIDGE OVER CALIFORNIA AQUEDUCT (2.75 MILES)	\$17,950
SAN BERNARDINO	LOCAL HIGHWAY	5BD55030	0	RANCHERO RD. FROM TOPAZ AVE TO 7TH ST. - WIDEN FROM 2 TO 5 LANES (6 MILES)(INCLUDES BRIDGE OVER CALIFORNIA AQUEDUCT)	\$180,000
SAN BERNARDINO	LOCAL HIGHWAY	200019	0	BRIDGE NO. 54C0035 (PREVIOUSLY SHOWN AS 00L0028), BASE LINE, OVER CITY CREEK. REPLACE 4 LANE BRIDGE WITH 4 LANE BRIDGE.	\$22,810
SAN BERNARDINO	LOCAL HIGHWAY	200213	0	ON 3RD ST. FROM PALM AVE. TO 5TH ST. WIDEN 3RD ST. E/O PALM AVE. FROM 2 TO 3 LANES AND EXTEND 3RD ST. EASTERLY TO CONNECT 5TH ST.	\$1,571
SAN BERNARDINO	LOCAL HIGHWAY	20061015	0	GREENSPOT ROAD BRIDGE AT SANTA ANA RIVER - GREENSPOT RD. CONSTRUCT NEW 4 LANE BRIDGE (STRIPING FOR 2 LANES) AT SAR W/ CHANNEL IMPROVEMENTS- REALIGN APPROX 2400 FT OF 2 LANE RD. (54C0368) - EXISTING BRIDGE WILL BE PRESERVED AND REHABILITATED FOR PEDESTRIAN, BICYCLE, AND EQUESTRIAN USES. (TOLL CREDITS: HBRR-L IN R/W & CON/ TEA IN CON)	\$14,464
SAN BERNARDINO	LOCAL HIGHWAY	20082402	0	WIDEN BASE LINE BETWEEN CHURCH AVE. BUCKEYE ST. FROM 4-6 LANES	\$2,400
SAN BERNARDINO	LOCAL HIGHWAY	201104	0	VICTORIA AVE FROM 3RD ST. TO 6TH ST. - SHOULDER IMPROVEMENTS (NO WIDENING)	\$3,075
SAN BERNARDINO	LOCAL HIGHWAY	201105	0	PALM AVE. FROM 3RD ST. TO 5TH ST. - SHOULDER IMPROVEMENTS (NO WIDENING)	\$818
SAN BERNARDINO	LOCAL HIGHWAY	201153	0	WIDEN 5TH ST FROM CITY CRK TO SR210; RESTRIPE 5TH ST FROM 4-6 LNS BTW CHURCH AVE & SR210; WIDEN AND RESTRIPE 210 UNDERCROSSING 4-5 LNS BTW RAMPS AND ADDITIONAL TURN LN.	\$10,140
SAN BERNARDINO	LOCAL HIGHWAY	201156	0	GREENSPOT RD. FROM SANTA PAULA ST. TO SOUTH CITY LIMIT - WIDEN FROM 2-4 LANES WITH MEDIAN (2.2 MILES)	\$22,530
SAN BERNARDINO	LOCAL HIGHWAY	201180	0	DEL ROSA DRIVE FROM 5TH STREET TO 6TH STREET-WIDEN FROM 2 TO 4 LANES (0.2 MILES) FORMERLY PART OF PROJECT ID 200852	\$673
SAN BERNARDINO	LOCAL HIGHWAY	201182	0	TIPPECANOE AVENUE FROM 3RD STREET TO 5TH STREET - WIDEN FROM 2-4 LANES (0.3 MILES) FORMERLY PART OF PROJECT ID 200852	\$2,394
SAN BERNARDINO	LOCAL HIGHWAY	201183	0	5TH ST FROM TIPPECANOE AVENUE TO DEL ROSA DR.-WIDEN FROM 2-4 LANES	\$15,765
SAN BERNARDINO	LOCAL HIGHWAY	201185	0	3RD STREET FROM VICTORIA AVENUE TO PALM AVENUE - SHOULDER IMPROVEMENTS AND STORM DRAIN IMPROVEMENTS (REMAINS 4 LANES) (1 MILE) FORMERLY PART OF PROJECT ID 200430	\$3,456
SAN BERNARDINO	LOCAL HIGHWAY	201191	0	BASELINE FROM SEINE AVENUE TO STONEY CREEK DRIVE - WIDEN FROM 4-6 LANES (0.2 MILES)	\$583
SAN BERNARDINO	LOCAL HIGHWAY	20130401	0	BRIDGE NO. 54C0592, ORANGE ST OVER PLUNGE CREEK OVERFLOW, 1.5 MI N OF PIONEER AVE. REPLACE EXISTING TWO LANE BRIDGE WITH FOUR LANE BRIDGE.	\$4,630
SAN BERNARDINO	LOCAL HIGHWAY	20131501	0	IN HIGHLAND: ON BOULDER AVE FROM SAN MANUEL VILLAGE ENTRANCE TO GREENSPOT ROAD; STREET AND LANDSCAPING IMPROVEMENTS (NON-CAPACITY ENHANCEMENTS)	\$2,500
SAN BERNARDINO	LOCAL HIGHWAY	20131502	0	IN HIGHLAND: ALONG 5TH STREET FROM VICTORIA AVE TO PALM AVE; SHOULDER IMPROVEMENTS (NO ADDITIONAL LANES)	\$4,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
SAN BERNARDINO	LOCAL HIGHWAY	20150306	0	ON PACIFIC ST FROM PALM AVE TO CHURCH AVE: SHOULDER IMPROVEMENTS (CURB, GUTTER & SIDEWALK IMPROVEMENTS) (NON-CAPACITY ENHANCING)	\$1,100
SAN BERNARDINO	LOCAL HIGHWAY	20150401	0	HIGHLAND: DEL ROSA DR SHOULDER IMPROVEMENTS; FROM 3RD ST TO 5TH ST (CURB, GUTTER & SIDEWALK IMPROVEMENTS) (NON-CAPACITY)	\$680
SAN BERNARDINO	LOCAL HIGHWAY	SBD55031	0	ALABAMA STREET FROM 3RD STREET TO SOUTH CITY LIMITS - WIDEN FROM 2 TO 3 S/B LANES (0.25 MILES)	\$1,078
SAN BERNARDINO	LOCAL HIGHWAY	SBD55033	0	BOULDER AVE. FROM GREENSPOT TO SOUTH CITY LIMITS - WIDEN FROM 2-4 LANES (0.70 MILES)	\$2,350
SAN BERNARDINO	LOCAL HIGHWAY	SBD031294	0	REDLANDS BOULEVARD AT CALIFORNIA STREET WIDEN INTERSECTION AND INSTALL TRAFFIC SIGNALS AND DRAINAGE AND CURB AND GUTTERS	\$5,000
SAN BERNARDINO	LOCAL HIGHWAY	SBD31876	0	CALIFORNIA STREET BARTON ROAD TO REDLANDS BOULEVARD WIDEN FROM 2 TO 4 LANES	\$1,090
SAN BERNARDINO	LOCAL HIGHWAY	20010195	0	MONTE VISTA AVENUE @ UNION PACIFIC RAILROAD CROSSING - GRADE SEPARATION PART OF ALAMEDA CORRIDOR GRADE SEPARATION PROJECTS FUNDED WITH TCP#55:ICAS52(TOLL CREDITS: CMAQ FY14/15, DEMO FY14/15, PNRS FY14/15)	\$20,262
SAN BERNARDINO	LOCAL HIGHWAY	20150001	0	BRIDGE NO. 54C0112, CENTRAL AVE OVER UP RR AMTRAK METROLINK, 0.2 MI HOLT AVE. BRIDGE REHABILITATION/WIDENING, 4-6 LANE BRIDGE WITH SIDEWALKS.	\$103,002
SAN BERNARDINO	LOCAL HIGHWAY	2012007	0	I-40 NEEDLES CONNECTOR: RDWAY/SIDEWALK IMPRVMTS ALONG 6.300FT; J ST FROM I-40 OFF/RMPS TO W BROADWAY; W BROADWAY FROM J ST TO NEEDLES HWY; NEEDLES HWY FROM W BROADWAY TO K ST; N K ST TO S/ABUTMENT OF CO RVR BRDGE INTRCST IMPRVMTS AT J ST/W BROADWAY, W BROADWAY/NEEDLES HWY, NEEDLES HWY/N K ST W/ INCL TRAFFIC SIGS, TURN LNS, STRIPING/SIGNAGE/SIDEWALK/TOLL CREDITS; STPL14/15 \$277; CBIP14/15 \$190	\$5,521
SAN BERNARDINO	LOCAL HIGHWAY	20150109	0	PEDESTRIAN & BICYCLE ACCESS IMPROVEMENTS WITHIN 1/2 MILE OF RAPID TRANSIT STATIONS, INCLUDING SIDEWALK AND CURB RAMP REPLACEMENT & BIKE PARKING AT STATIONS (TERMINI AT POMONA DOWNTOWN METROLINK STATION & KAISER MEDICAL CENTER FONTANA, FOLLOWING HOLT AVE/BLVD, ARCHIBALD AVE, MILLIKEN AVE, FOOHILL BLVD, & SIERRA AVE).	\$25,125
SAN BERNARDINO	LOCAL HIGHWAY	200405	0	S. MILLIKEN AVE: GRADE SEPARATION - ON MILLIKEN FROM UPR TO NORTH OF MISSION BLVD. RR GRADE SEP-CONSTRUCT O/C/U/C AT RR-REALIGNMENT OF STS TO MEET O/CROSSING & INTERSTN IMPROVMTS	\$81,986
SAN BERNARDINO	LOCAL HIGHWAY	200805	0	NORTH VINEYARD AVE: GRADE SEPARATION - BETWEEN HOLT BLVD AND AIRPORT DR. BUILDING RR BRIDGE FLYOVER-NO LANES ADDED TO ARTERIALS. THE GRADE SEP IS AT THE UP RR ALHAMBRA LINE	\$55,195
SAN BERNARDINO	LOCAL HIGHWAY	20150201	0	GROVE AVE CORRIDOR: WIDEN GROVE AVE FROM I-10 TO AIRPORT DRIVE (4-6 LNS) CONCURRENT W I-10/GROVE AVE IC PRJ (2002160)	\$2,293
SAN BERNARDINO	LOCAL HIGHWAY	20150004	0	I-10/ALABAMA AND REDLANDS BLVD (OLD STATE ROUTE 66) BETWEEN GROVE AVENUE AND SAN BERNARDINO RD: WIDEN 4-6 LNS INCLUDES RAISED MEDIANS, SIDEWALKS, STREET LIGHTS, LANDSCAPING AND AN ARCH SPANNING FOOHILL BLVD AS A MONUMENT TO THE HISTORIC ROUTE 66.	\$6,006
SAN BERNARDINO	LOCAL HIGHWAY	200035	0	WABASH AV FROM 5TH ST TO I-10 - CONSTRUCT NEW 2 LANE STREET TO I-10 TO MATCH ON AND OFF RAMP-S-CONSTRUCT MISSING LINK (2 LANE IN EACH DIRECTION)-1 MILE	\$1,900
SAN BERNARDINO	LOCAL HIGHWAY	20020202	0	REDLANDS PARK ONCE PROGRAM - NEW PARKING STRUCTURE BETWEEN EUREKA AND 3RD ST. S/O STUART AND N/O RR APPROX. 200 SPACES (NOT PNR) (THIS PROJECT REPLACES 200421)	\$7,600
SAN BERNARDINO	LOCAL HIGHWAY	200419	0	ALABAMA STREET WIDENING - WIDEN FROM 2-4 LANES FROM NORTH CITY LIMITS TO 3,000 FT. NORTH PALMETTO	\$21,600
SAN BERNARDINO	LOCAL HIGHWAY	20081704	0	I-10/ALABAMA AND REDLANDS BLVD AND ALABAMA COLTON INTERSECTION IMPROVEMENTS - WIDEN INTERSECTION APPROACHES ON ALL FOUR LEGS OF REDLANDS/ALABAMA BLVD. ST. INTERSECTION ADD DUAL LEFT TURN LANES. REALIGN ALABAMA ST ON NORTH SIDE OF INTERSECTION TO ELIMINATE THE 23IN HORIZONTAL OFFSET AT INTERSECTION	\$13,317

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
SAN BERNARDINO	LOCAL HIGHWAY	201113	0	ORANGE STREET FROM LUGONIA TO SAN BERNARDINO AVE. -WIDEN THE EAST SIDE OF THE STREET TO REMOVE A RESTRICTION IN THE ROADWAY TRAVEL AREA. PROJECT INCLUDES ROAD PAVING, CURB AND GUTTER, SIDEWALK, STREET LIGHTING, STRIPING AND MARKING, AND LANDSCAPE IMPROVEMENTS. THE PROJECT WILL IMPROVE PEDESTRIAN AND VEHICULAR SAFE TRAVEL AND CIRCULATION.	\$540
SAN BERNARDINO	LOCAL HIGHWAY	SBD0031361	0	AYALA DRIVE BASELINE ROAD TO SR210 WIDEN FROM 2 LANES TO 4 LANES (2 LNS EACH DIR)	\$3,431
SAN BERNARDINO	LOCAL HIGHWAY	20040210	0	SUMMIT VALLEY ROAD - FROM SH138 TO RANCHERO ROAD-WIDEN FROM 2-4 LANES	\$21,000
SAN BERNARDINO	LOCAL HIGHWAY	200408	0	CUMBERLAND DRIVE EXTENSION - SH 18 NORTH TO CUMBERLAND DRIVE -PAVE NEW ROAD - 1 LANE IN EACH DIRECTION	\$3,000
SAN BERNARDINO	LOCAL HIGHWAY	20040626	0	GLEN HELEN PARKWAY AT UPRR AND BNSF- GRADE SEPARATION	\$25,885
SAN BERNARDINO	LOCAL HIGHWAY	200409	0	CHERRY AVE. AT SCRRA RR CROSSING - WIDEN BRIDGE FROM 4-6 LANES ON CHERRY OVER RR CROSSING (FROM MERRILL TO WHITTRAM)	\$8,829
SAN BERNARDINO	LOCAL HIGHWAY	200619	0	GLEN HELEN PARKWAY - FROM 0.2 MILES WEST OF CAJON CREEK TO 0.2 MILES EAST OF CAJON CREEK-REPLACE 36 FT WIDE 48 FT LONG 2 LN BRIDGE OVER CAJON CREEK W/ 102 FT, 526 FT LONG 4 LN BRIDGE (54C0025)(FUNDS IN 2015/16 FOR LOCA A/C PAYBACK - COMPLETION DATE REMAINS THE SAME)	\$28,600
SAN BERNARDINO	LOCAL HIGHWAY	200810	0	BAKER BLVD. BRIDGE - OVER MOJAVE RIVER, 0.2 MI SW OF DEATH VALLEY RD REPLACE 2 LANE BRIDGE W 4 LANE BRIDGE (BRIDGE NO 54C0127)	\$13,516
SAN BERNARDINO	LOCAL HIGHWAY	200815	0	RANCHERO ST. FROM .3 M E/O MARIPOSA TO HESPERIA CL (3 MILES)-WIDEN 2-4 LANES	\$12,450
SAN BERNARDINO	LOCAL HIGHWAY	200816	0	ROCK SPRINGS RD. FROM 0.1 MILE WEST OF GLENDALE AVE. TO 0.3 MILES EAST OF DEEP CREEK RD. (1.4 MILE) WIDEN FROM 2-4 LANES (INCLUDING BRIDGE)	\$20,000
SAN BERNARDINO	LOCAL HIGHWAY	200835	0	SAN BERNARDINO AVE. FROM CHERRY AVE. TO FONTANA CITY LIMITS (LIME AVE.) (1.25 MILES)-WIDEN 2-4 LANES	\$4,065
SAN BERNARDINO	LOCAL HIGHWAY	200843	0	RECHE CANYON RD. FROM 1.20 MILES OF S. BARTON ROAD TO 0.42 MILES SOUTH OF BARTON RD (0.78 MILES)-WIDEN FROM 2-4 LANES	\$5,650
SAN BERNARDINO	LOCAL HIGHWAY	2010603	0	ROCK SPRINGS ROAD OVER MOJAVE RIVER, .9 MILES EAST ARROWHEAD LAKE RD, REPLACE TWO LANE LOW WATER CROSSING WITH NEW 4 LANE BRIDGE (REFER TO PROEJCT 200816 BECAUSE THIS IS PART OF THAT PROJECT)	\$16,563
SAN BERNARDINO	LOCAL HIGHWAY	20130402	0	RESTRIPE EXISTING STRUCTURAL SECTION OF BAKER BLVD BETWEEN I-15 RAMPS AND SH127 FROM 2 - 4 LANE CONFIGURATION IN CONJUNCTION WITH PROJECT TO REPLACE EXISTING 2 LANE BRIDGE 54C0127 WITH 4 LANE BRIDGE	\$25
SAN BERNARDINO	LOCAL HIGHWAY	20150002	0	ON DUNCAN ROAD FROM WILSON RANCH ROAD TO BALDY MESA PAVE DIRT ROAD IN 4 ONE MILE SEGMENTS 1 LANE IN EACH DIRECTION	\$6,600
SAN BERNARDINO	LOCAL HIGHWAY	20150009	0	SHADOW MT RD FROM HELENDALE RD EAST TO NTH; CONSTRUCT AND EXTEND FROM 2-4 LNS - INCLUDING 4 LANE BRIDGE OVER MOJAVE RIVER & GRADE SEP OVER RAIL TRACKS WITH ADDITIONAL CONNECT TO VISTA RD ON W SIDE OF TRACKS (PA&ED ONLY)	\$3,970
SAN BERNARDINO	LOCAL HIGHWAY	20150010	0	SLOVER AVE PHASE II: TAMARIND AVE TO ALDER / LINDEN AVE TO CEDAR AVE; WIDEN 2-4 LNS	\$2,577
SAN BERNARDINO	LOCAL HIGHWAY	20150102	0	PAVEMENT PRESERVATION/REHABILITATION MORONGO BASIN- JOSHUA TREE AREA ROADS: YUCCA TRAIL, ALTA LOMA DR, OJUAL SPRINGS RD, ABERDEEN DR (TOLL CREDITS USED TO MATCH: FY14/15 \$21, FY15/16 \$189)	\$1,834
SAN BERNARDINO	LOCAL HIGHWAY	20150103	0	PHASE 1 OF NEEDLES HIGHWAY (PROJECT ID# SBD031426): RESURFACE ROADWAY FROM 600' NORTH OF BALBOA PLACE TO "N" STREET, L-6056' (1:15MI).	\$585
SAN BERNARDINO	LOCAL HIGHWAY	200609	0	MT.VIEW WIDENING/EXTENSION PROJECT- WIDEN S/B FROM 2-4LNS- FROM COULSTON TO RIVERVIEW (SOUTH OF SANTA ANA RIVER) (PROJECT IS SPLIT INTO 2 SEPARATE PROJECTS AS OF THE 2011 ENTRY)	\$22,500

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
SAN BERNARDINO	LOCAL HIGHWAY	201169	0	H STREET FROM KENDALL DRIVE TO 40TH STREET WIDENING FROM 2-4 LANES	\$918
SAN BERNARDINO	LOCAL HIGHWAY	201170	0	5TH STREET FROM STERLING AVE TO VICTORIA AVE WIDEN FROM 2-4 LANES.	\$5,800
SAN BERNARDINO	LOCAL HIGHWAY	201181	0	3RD STREET FROM TIPPECANOE AVENUE TO LELAND/NORTON WAY AND FROM LELAND/NORTON WAY TO VICTORIA AVENUE SHOULDER WIDENING AND MEDIANS- 1.25 MILES(ND THROUGH LANE WIDENING)TOTAL LENGTH 1.95 MILES FORMERLY PART OF PROJECT ID 200852	\$3,200
SAN BERNARDINO	LOCAL HIGHWAY	201184	0	STERLING AVE FROM 3RD STREET TO 5TH STREET - WIDEN FROM 2-4 LANES (0.13 MILES)FORMERLY PART OF PROJECT ID 200852	\$400
SAN BERNARDINO	LOCAL HIGHWAY	20150012	0	FOOTHILL BOULEVARD (STATE ROUTE 66) AT FOURTH MODIFY SIGNALS, CHANNELIZE TRAFFIC SIGNAL, INTERSECTION IMPROVEMENTS/REALIGN INTERSECTION (0.11 MILE)	\$1,137
SAN BERNARDINO	LOCAL HIGHWAY	SBD31905	0	MT. VERNON AVENUE BRIDGE (OVERHEAD) AT BNSF REPLACE GRADE SEPARATION, REPLACE 4 LANE BRIDGE WITH 4 LANE BRIDGE FROM 2ND TO 5TH STREETS (0.2 MILES SOUTH OF RTE. 66)(BRIDGE NO 54C0066)	\$72,235
SAN BERNARDINO	LOCAL HIGHWAY	SBD41316	0	MT. VIEW AVE. RAILWAY GRADE CROSSING, 1500 FT. NORTH OF I-10 WIDEN RAILWAY GRADE CROSSING FROM 1 LANE NORTH & SOUTH TO 2 LANES NORTH & SOUTH & UP GRADE GATES (0.75 MILES)	\$1,589
SAN BERNARDINO	LOCAL HIGHWAY	SBD41317	0	MT. VIEW AVE. BRIDGE AT MISSION CREEK CHANNEL WIDEN ROADWAY & SHOULDER WORK AND EXISTING BRIDGE AT MT. VIEW -1 LN. NO. & SO. TO 2 LNS N/S & LEFT TURNS TO MAKE A TOTAL OF 4 LANES (2 IN EACH DIRECTION)	\$1655
SAN BERNARDINO	LOCAL HIGHWAY	SBD59019	0	40TH ST. FROM JOHNSON LANE TO ELECTRIC AVENUE; ACQUIRE ROW AND WIDEN ROAD FROM 2 TO 4 LANES (1,200 FT.)	\$13,056
SAN BERNARDINO	LOCAL HIGHWAY	SBD59021	0	STATE STREET FROM HANFORD ST TO FOOTHILL BLVD.; EXTEND AND CONSTRUCT (4) LANES OF ROADWAY (1.5 MILES) TO CONNECT STATE STREET TO RANCHO AVENUE (NEW ROAD) 4 PHASES TOTAL IN PROJECT	\$17,628
SAN BERNARDINO	LOCAL HIGHWAY	SBD59023	0	CAMPUS PKWY-PEPPER/LINDEN DRIVE EXTENSION FROM KENDALL TO I-215 FWY - CONSTRUCT (4) LANE ROADWAY - BETWEEN KENDALL DRIVE AND I-215, PARTIAL DIAMOND INTERCHANGE FOR N/B (2,000 FT)	\$22,000
SAN BERNARDINO	LOCAL HIGHWAY	200622	0	LEWOOD GRADE SEPARATION - NORTH OF WEST MAIN ST; APPROX. 400 FT. N/O TO 600 FT. S/O BNSF AND SANTA FE RR RIGHT-OF-WAY-4 TRAVEL LANE GRADE SEPARATION (CA627)	\$31,590
SAN BERNARDINO	LOCAL HIGHWAY	200850	0	PALM AVE. GRADE SEPARATION , PALM AVE. APPROX. 530 FT S/O I-215 PALM AVE. INTERCHANGE TO APPROX. 1450 FT S/O CAJON BLVD.- CONSTRUCT AT GRADE RR SEPARATION - BUILD BRIDGE OVERCROSSING SEPARATING TRAFFIC FROM RR CROSSING (NO ADDITIONAL LANES) 2-2 LANES (CA615)	\$26,398
SAN BERNARDINO	LOCAL HIGHWAY	20110109	0	CONSTRUCT NEW RAILROAD GRADE-SEPARATED CROSSING BETWEEN LAUREL STREET AND THE BNSF RAILROAD IN THE CITY OF COLTON. WORK ALONG LAUREL STREET BEGINS APPROXIMATELY 420 FT EAST OF PENNSYLVANIA AVE AND 195FT WEST OF 9TH ST. NO ADDITIONAL LANES ARE PROPOSED.	\$59,855
SAN BERNARDINO	LOCAL HIGHWAY	201150	0	SOUTH COAST AIR BASIN RIDESHARE PROGRAM (TOLL CREDITS ARE BEING USED AS MATCH FOR CMAQ IN FY14/15 FOR \$233)	\$6,571
SAN BERNARDINO	LOCAL HIGHWAY	201151	0	MOJAVE DESERT AIR BASIN RIDESHARE PROGRAM(TOLL CREDITS ARE BEING USED AS MATCH FOR CMAQ IN FY14/15 FOR \$133)	\$3,746
SAN BERNARDINO	LOCAL HIGHWAY	20150108	0	BICYCLE AND PEDESTRIAN ACCESSIBILITY IMPROVEMENTS ALONG SIX METROLINK TRANSIT STATIONS (MONTCLAIR, UPLAND, RANCHO CUCAMONGA, FONTANA, RIALTO, AND SAN BERNARDINO) PHASE I. (TOLL CREDIT TO MATCH ATP IN ALL PHASES)	\$4,679
SAN BERNARDINO	LOCAL HIGHWAY	SBD031505	0	GROUPED PROJECTS FOR I/F ARTICLE 3 PROJECTS I/F, ARTICLE 3 BICYCLE/PEDESTRIAN PROJECTS AT VARIOUS LOCATIONS (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127,128, EXEMPT TABLES 2 & 3)	\$14,727
SAN BERNARDINO	LOCAL HIGHWAY	SBD41427	0	AMBOY ROAD - LEAR AVE TO ADOBE RD. (5.5 MILES) CONSTRUCT NEW 2 LANE ROAD (ONE LANE IN EACH DIRECTION)(PA&ED ONLY)	\$40
SAN BERNARDINO	LOCAL HIGHWAY	201101	0	ARROW ROUTE WIDENING FROM 2 TO 4 LANES. BRIDGE AND STREET WIDENING FOR ARROW ROUTE, FROM MONTE VISTA AVENUE TO CENTRAL AVENUE	\$2,200

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
SAN BERNARDINO	LOCAL HIGHWAY	201103	0	FOOTHILL BOULEVARD BOTTLENECK AND SAFETY IMPROVEMENTS - FROM CENTRAL TO GROVE AVE. INSTALL RIGHT TURN LANES AT MAJOR INTERSECTIONS; ELONGATE LEFT TURNS FOR SAFE TURNING, CURB, GUTTER DRAINAGE, ROADWAY REHAB.	\$5,300
SAN BERNARDINO	LOCAL HIGHWAY	SBD88086	0	EUCUID AVENUE FROM D ST TO FOOTHILL BOULEVARD - STORM DRAIN EXTENSION	\$4,250
SAN BERNARDINO	LOCAL HIGHWAY	20131103	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES FUNDED BY RECREATIONAL TRAILS PROGRAM; PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED)	\$1,267
SAN BERNARDINO	LOCAL HIGHWAY	20150104	0	GROUPED PROJECTS FOR SAFETY IMPRMENTS (STATE); SAFE ROUTES TO SCHOOL PROGRAM (SR2S) - PROJECTS ARE CONSISTENT W/40 CFR PART 93.126 EXEMPT TABLES 2 & TABLE 3 CATEGORIES - RR/HW CROSSING, SAFER NON-FEDERAL-AID SYSTEM RDS, SHOULDER IMPRMENTS, TRAFFIC CTRL DEVICES & OPERATING ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS @ INDIVIDUAL INTERSECTIONS; PAVEMENT MARKING	\$2,012
SAN BERNARDINO	LOCAL HIGHWAY	20150105	0	GROUPED PROJECTS FOR PLANNING AND TECHNICAL STUDIES (STATE) - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PLANNING AND TECHNICAL STUDIES	\$3,279
SAN BERNARDINO	LOCAL HIGHWAY	20150106	0	GROUPED PROJECTS FOR SAFETY IMPRMENTS (REGIONAL); SAFE ROUTES TO SCHOOL PROGRAM (SR2S) - PROJECTS ARE CONSISTENT W/40 CFR PART 93.126 EXEMPT TABLES 2 & TABLE 3 CATEGORIES - RR/HW CROSSING, SAFER NON-FEDERAL-AID SYSTEM RDS, SHOULDER IMPRMENTS, TRAFFIC CTRL DEVICES & OPERATING ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, INTERSECTION SIGNALIZATION PROJECTS @ INDIVIDUAL INTERSECTIONS, PAVEMENT MARKING	\$8,416
SAN BERNARDINO	LOCAL HIGHWAY	SBDLS08	0	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127, 128 EXEMPT TABLES 2 & 3	\$135,476
SAN BERNARDINO	LOCAL HIGHWAY	200866	0	BRIDGE NO 54C0547 BEAR VALLEY RD. OVER BNSF RAILWAY, AMTRAK & UP RR, 3.8 MILES E. OF I-15. WIDEN 6 LANE BRIDGE TO 7 LANE BRIDGE FOR MEDIAN TURN LANE AND SEISMICALLY RETROFITTING BRIDGE	\$5,849
SAN BERNARDINO	LOCAL HIGHWAY	201111	0	NATIONAL TRAILS HIGHWAY AND MOJAVE RIVER - BRIDGE REHAB. REPLACE EXISTING RAILING TO MEET CURRENT STANDARDS	\$1,375
SAN BERNARDINO	LOCAL HIGHWAY	201179	0	NATIONAL TRAILS HIGHWAY BETWEEN INTERSTATE 15 & AIR EXPRESSWAY WIDEN FROM 2-4 LANES (1.9 MILES)	\$4,000
SAN BERNARDINO	LOCAL HIGHWAY	201155	0	YUCAIPA BLVD. IMPROVEMENTS - YUCAIPA BLVD FRIN 15TH ST. TO I-10 FREEWAY. WIDEN FROM 4-6 LANES (PHASED PROJECT)	\$7,250
SAN BERNARDINO	LOCAL HIGHWAY	201157	0	AVENUE E IMPROVEMENTS FROM BRYANT ST. TO 5TH STREET, WIDEN 2-4 LANES (PHASED PROJECT)	\$3,174
SAN BERNARDINO	LOCAL HIGHWAY	20150303	0	IN YUCAIPA - WILDWOOD CANYON RD; FROM OAKVIEW TO OAKGROVE (183048), AND FROM 100 FT EAST & WEST OF OAKGROVE (183049) - POST DISASTER ROADWAY REHAB. (NON-CAPACITY ENHANCING)	\$500
SAN BERNARDINO	LOCAL HIGHWAY	20131503	0	IN HIGHLAND: PALM AVE HISTORIC DISTRICT IMPROVEMENTS: PALM AVE (BASE LINE TO HIGHLAND AVE) & PACIFIC ST (CHURCH AVE TO 350FT WEST OF PAM) SHOULDER IMPROVEMENTS (CURB, GUTTER AND SIDEWALK IMPROVEMENTS), NEW ROUNDABOUT AT PALM/PACIFIC INT., BIKE LANES (PA&ED ONLY) (INTERSECTION IMPROVEMENTS - NO NEW LANES)	\$79
SAN BERNARDINO	LOCAL HIGHWAY	SBD97147	0	GREEN TREE BLVD AT T&SF RAILROAD CONSTRUCT 4-LANE BR & CONNECT TO HESPERIA & RIDGECREST RD	\$40,048
SAN BERNARDINO	STATE HIGHWAY	20159906	10	I-10/MONTE VISTA AVE IMPROVEMENTS: UNDERCROSSING WIDENING 4-6 LNS AND RAMP IMPROVEMENTS	\$46,920
SAN BERNARDINO	STATE HIGHWAY	2002160	10	I-10 AT GROVE AVE AND 4TH ST: RELOCATE IC FROM 4TH ST TO GROVE AVE. WIDEN THE EXISTING 4TH ST UNDERCROSSING (2-4 LNS) TO MATCH REST OF 4TH STREET. CONCURRENT W GROVE AVE WIDENING (20150201).	\$13,034
SAN BERNARDINO	STATE HIGHWAY	200803	10	I-10 AT VINEYARD AVE. INTERCHANGE. INTERCHANGE WIDENING FROM 4-6 LANES AND WIDEN ON AND OFF RAMP TO TWO LANES, INTERSECTION IMPROVEMENTS AND ENHANCE EXISTING LANDSCAPING	\$504,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
SAN BERNARDINO	STATE HIGHWAY	20159903	10	I-10 CORRIDOR EXPRESS LANE WIDENING (PHASE 2): IMPLEMENT 2 EXPRESS LANES IN EACH DIRECTION FROM I-10/I-15 INTERCHANGE TO CALIFORNIA ST; IMPLEMENT 1 EXPRESS LANE IN EACH DIRECTION FROM CALIFORNIA ST TO FORD STREET IN REDLANDS FOR A TOTAL OF 10-12 LANES, AND AUX LANES, UNDERCROSSINGS, OVERCROSSINGS; RAMP RECONSTRUCTION AND LANE TRANSITIONS WHERE NEEDED.	\$26,179,482
SAN BERNARDINO	STATE HIGHWAY	20150302	10	IN FONTANA: I-10 @ BEECH AVE; CONSTRUCT NEW 4 LANE INTERCHANGE (2 LNS EACH DIRECTION)(PA&ED ONLY)	\$426
SAN BERNARDINO	STATE HIGHWAY	34090	10	IN FONTANA AT ALDER AVENUE CONSTRUCT 4 LANE INTERCHANGE (2 LANES IN EACH DIRECTION)	\$99,105
SAN BERNARDINO	STATE HIGHWAY	1830	10	I-10 AT CEDAR AVE: BETWEEN SLOVER AND VALLEY - RECONSTRUCT I/C - WIDEN FROM 4-6 LANES WITH LEFT AND RIGHT TURN LANES. ADD AUX LANE ON E/B ON AND OFF RAMP	\$503,440
SAN BERNARDINO	STATE HIGHWAY	SBD41339	10	I-10/PEPPER IC: WIDEN BRIDGE FROM FIVE TO SIX LANES TO PROVIDE FOR ONE ADDITIONAL SOUTHBOUND TURN LANE AND ADD AUXILIARY LANES TO FREEWAY	\$39,815
SAN BERNARDINO	STATE HIGHWAY	44811	10	I-10 TIPPECANOE INTERCHANGE ADD EASTBOUND OFF-RAMP AUXILIARY LN FROM WATERMAN ON-RAMP TO TIPPECANOE OFF-RAMP AND WIDEN BRIDGE (NON-CAPACITY) FORMERLY PART OF RTP ID 44810)	\$21,503
SAN BERNARDINO	STATE HIGHWAY	44812	10	I-10 TIPPECANOE RECONFIGURE INTERCHANGE & LOCAL RD IMP/MOD (HP 1366)(WESTBOUND - PHASE II) FORMERLY PART OF RTP ID 44810)	\$57,358
SAN BERNARDINO	STATE HIGHWAY	20159907	10	I-10/ALABAMA ST IC: WIDEN OVERCROSSING TO 2-3 LANES EACH DIRECTION AND RECONFIGURE RAMPS. (PA&ED ONLY)	\$65,808
SAN BERNARDINO	STATE HIGHWAY	20131504	10	I-10 @ UNIVERSITY ST INTERCHANGE: INTERSECTION IMPROVEMENTS WITH ON/OFF RAMP WIDENING. (NO CAPACITY ENHANCEMENTS)	\$5,100
SAN BERNARDINO	STATE HIGHWAY	200432	10	AT I-10 AND FORD ST. ON RAMP TO THE FREEWAY - SIGNAL AND INTERSECTIONS IMPROVEMENTS	\$700
SAN BERNARDINO	STATE HIGHWAY	20159902	10	I-10 CORRIDOR EXPRESS LANE WIDENING (PHASE 1): FROM SAN ANTONIO AVE TO I-10/I-15 IC; IMPLEMENT 2 EXPRESS LANES IN EACH DIRECTION FOR A TOTAL OF 4 GENERAL PURPOSE AND 2 EXPRESS LANES IN EACH DIRECTION AND AUX LANE WIDENING, UNDERCROSSINGS, OVERCROSSINGS, AND RECONSTRUCTION OF RAMPS AND LANE TRANSITIONS WHERE NEEDED.	\$11,592,623
SAN BERNARDINO	STATE HIGHWAY	35556	15	IN THE CITY OF VICTORVILLE FROM 0.5 MILES NORTH OF MOJAVE DRIVE TO 1.5 NORTH OF EXISTING STODDARD WELLS ROAD OVERCROSSING. RECONSTRUCT D/E/STODDARD WELLS RDS ICs. WIDEN BRIDGES (NO NEW LANES). CONSTRUCT NEW COLLECTOR DISTRIBUTOR RD OVER D/E/AND BNSF RR TO PARALLEL I-15 NB INCLUDES ITS OWN BRIDGE. RECONSTRUCT/REALIGN EAST/WEST FRONTAGE RDS. CONST NEW AUX LN. (REFER TO MODELING DETAILS) (CA061)	\$119,325
SAN BERNARDINO	STATE HIGHWAY	20159901	15	I-15 EXPRESS LANES: CONST 2 NEW EXPRESS LANES IN EACH DIRECTION FROM CANTU GALLEANO RANCH RD TO SR-210. CONST 1 EXPRESS LANE EACH DIRECTION FROM SR-210 TO DUNCAN CANYON RD. ADDITIONAL IMPROVEMENTS TO, AUX LN WIDENING, UNDERCROSSINGS, OVERCROSSINGS, AND RECONSTRUCTION OF RAMPS AND LANE TRANSITIONS WHERE NEEDED.	\$1,906,360
SAN BERNARDINO	STATE HIGHWAY	200048	15	I-15 AT BASELINE INTERCHANGE - FROM 1,800 N/O BASELINE TO 2,400 FT S/O; 1800 FT W/O EAST AVE. TO 1500 FT E/O EAST AVE-WIDEN RAMPS (INCLUDING BRIDGES); WIDEN BASELINE RD. FROM 4-6 LANES; WIDEN EAST AVE. FROM 2-4 LANES. REALIGN AND WIDEN S/B AND N/B DIAMOND RAMPS FROM I-2 LNS (INCLUDING BRIDGES, AD S/B LOOP ON-RAMP (INCL BRIDGES) ADD I-15 ACCEL/DECEL LNS, AND OPERATIONAL IMPRYMNTS (EA-497100)(CA435)	\$57,504
SAN BERNARDINO	STATE HIGHWAY	20061201	15	I-15/I-215 I/C IMPROVMTS-DEVORE I/C S/O GLEN HELEN PARKWAY TO N/O KENWOOD & I-215 FROM S/O DEVORE RD. I/C TO I-15 (16.0-17.8) ADD 1M/F LN IN EA DIR TO EXISTG 3 M/F LNS FROM 3800 FT S/O GLEN HELEN PARKWAY TO 3100 FT N/O I-215 I/C ADD 1 DECEL LN FROM 3200 FTS/O 15/215/C OFFRMP TO S/B DEVORE ON I-215, CONSTRUCT TRUCK BYPASS LNS.	\$324,669
SAN BERNARDINO	STATE HIGHWAY	SBD031279	15	IN HESPERIA AT I-15 AND RANCHERO ROAD - CONSTRUCT 6 LANE INTERCHANGE WITH LEFT AND RIGHT TURN LANES, INCLUDING 1300 FT. AUX LANE PRIOR TO N/B OFF RAMP AND 3200 FT. AUX LANE FROM TO S/B LOOP ON RAMP	\$64,346
SAN BERNARDINO	STATE HIGHWAY	35558	15	IN SAN BERNARDINO CO. - GATEWAY ENHANCEMENTS ON I-15 FROM MOJAVE DR. IN VICTORVILLE TO STODDARD WELLS RD. IN BARSTOW - RETENTION WALL ENHANCMENTS AND LANDSCAPING (PPND0175N)	\$2,446

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
SAN BERNARDINO	STATE HIGHWAY	SBD55026	15	EUCALYPTUS STREET FROM I-15 TO PEACH AVENUE - RECONSTRUCT AND WIDEN FROM 2 TO 4 LANES AND CONSTRUCT RAILROAD CROSSING	\$3,546
SAN BERNARDINO	STATE HIGHWAY	20150015	15	IN BARSTOW: I-15/MORTON STREET INTERCHANGE: CONSTRUCT NEW INTERCHANGE. INCLUDES A 6 LN BRIDGE OVER I-15, 2 THROUGH LNS EACH WAY, TURN LANES, AND EMERGENCY LANE. CONSTRUCTION OF NEW 4 LN ROADWAY FROM 100 FT WEST OF I-15 TO OUTLET CENTER DRIVE (PA&E ONLY)	\$43,000
SAN BERNARDINO	STATE HIGHWAY	06841	15	C.V. KANE SCRRRA INTERPRETIVE DISPLAYS (NEAR THE CITY OF BARSTOW, AT THE C.V. KANE SAFETY ROADSIDE REST AREA (SCRRRA) INSTALL INTERPRETIVE DISPLAYS	\$260
SAN BERNARDINO	STATE HIGHWAY	2010602	18	SR18 AT APPLE VALLEY ROAD INTERSECTION REALIGNMENT WITH TURN AND APPROACH LANES	\$4,650
SAN BERNARDINO	STATE HIGHWAY	4351	58	SR58 EXPRESSWAY-REALIGN AND WIDEN FROM 2-4 LANE EXPRESSWAY. NEW INTERCHANGES AT LENWOOD RD AND HINKLEY RD, 2.4 MILES WEST OF HIDDEN RIVER RD. TO 0.7 MILES EAST OF LENWOOD ROAD -- REALIGN AND WIDEN TO 4 LANE EXPRESSWAY (2-4 LANES) (PHASE 2)	\$194,925
SAN BERNARDINO	STATE HIGHWAY	34770	58	0.4 MILES WEST OF KERN CO LINE TO 7.5 MI EAST OF JCT RTE 395 - CONSTRUCT 4 LANE EXPRESS WAY ON NEW ALIGNMENT, NEW INTERCHANGE AT US 395 AND SR 58	\$194,838
SAN BERNARDINO	STATE HIGHWAY	201114	60	WIDENING OF CENTRAL AVENUE BRIDGE CROSSING SR-60 TO ACCOMMODATE WIDENING OF RAMPS AND THE DESIGNATED FREEWAY LANES.	\$222,260
SAN BERNARDINO	STATE HIGHWAY	200604	60	SR60 AT GROVE AVENUE INTERCHANGE RECONSTRUCTION AND GROVE AVE. +/-300 FT. N/S OF SR 60-WIDEN FROM 4-6 LANES	\$30,484
SAN BERNARDINO	STATE HIGHWAY	200602	60	SR 60 AND VINEYARD AVE. INTERCHANGE RECONSTRUCTION-LENGTHEN BRIDGE TO ACCOMMODATE VINEYARD AVE WIDENING AND RAMP WIDENING 4-6 LANES	\$7,621
SAN BERNARDINO	STATE HIGHWAY	201132	60	SR-60 AT ARCHIBALD AVENUE WIDEN ON AND OFF RAMPS (2-3 LANES EACH WAY); ADD ADDITIONAL LEFT TURN POCKETS FROM ARCHIBALD TO SR-60 ON RAMPS (NON-CAPACITY ENHANCING ALONG ARCHIBALD).	\$7,900
SAN BERNARDINO	STATE HIGHWAY	20150301	62	SR-62 TRAFFIC CONTROL SYNCHRONIZATION: 10 TRAFFIC SIGNALS FROM SR-62/SAGE AVE THROUGH SR-62/YUCCA MESA-LA CONTENTA ROAD	\$227
SAN BERNARDINO	STATE HIGHWAY	34011	138	NEAR WRIGHTWOOD FROM PHELAN RD TO I-15 WIDEN FROM 2 TO 4 LANES WITH MEDIAN (EA 34011) (BRIDGE WIDENING IN FTIP ID 20150601)	\$87,181
SAN BERNARDINO	STATE HIGHWAY	0P240	138	CONSTRUCT A NEW VISTA POINT AT ROUTE 138 WITH PAVED AREA FOR 10 PARKING SPACES INCLUDING 2 SPACES FOR ADA DRIVERS WITH DECORATIVE FENCE AND INTERPRETIVE SIGNS.	\$575
SAN BERNARDINO	STATE HIGHWAY	20150601	138	NEAR THE I-15/SR-138 CAJON JUNCTION: ABOUT 1/2 A MILE WEST ALONG SR-138; WIDEN 2 BNSF BRIDGE STRUCTURES 2-4 LANES. (SURROUNDING ROADWAY WIDENED IN FTIP 34011) (TOLL CREDIT: TO MATCH STPLFYH/15 ENG)	\$13,550
SAN BERNARDINO	STATE HIGHWAY	34013	138	NEAR THE I-215/SR-138 CAJON JUNCTION: ABOUT 1/2 A MILE WEST ALONG SR-138; WIDEN 2 BNSF BRIDGE STRUCTURES 2-4 LANES.	\$135,000
SAN BERNARDINO	STATE HIGHWAY	20084106	210	ON SR 210 LANDSCAPING SEGMENTS 8-11 - PROVIDE PLANTING, IRRIGATION AND INERT GROUND COVER ALONG SR 210 FROM WEST OF SIERRA AVE IN THE CITY OF FONTANA TO SR 210/I-215 I.C. IN SAN BERNARDINO	\$8,499
SAN BERNARDINO	STATE HIGHWAY	2010110	210	CONSTRUCT NEW FULL-SERVICE INTERCHANGE WITH DIAMOND CONFIGURATION AT SR-210 AND PEPPER AVENUE IN THE CITY OF RIALTO. ADD WB AND EB ACCEL AND DECEL LANES AND WIDEN PEPPER FROM 2-4 LANES FROM HIGHLAND AVE. TO EXISTING 4 LANE SECTION S/O INTERCHANGE	\$23,770
SAN BERNARDINO	STATE HIGHWAY	2011625	210	SR210 LANE ADDITION - ADD 1 MIXED FLOW LANE IN EACH DIRECTION FROM HIGHLAND AVE. TO SAN BERNARDINO AVE (REDLANDS) INCLUDES AUX. LANES BETWEEN BASE LINE AND 5TH STS AND AN ACCELERATION LANE AT 5TH ST. E/B ON RAMP AND DECELERATION LANE AT HIGHLAND AVE E/B OFF RAMP. (UNDER 1/4 MILES LENGTH)	\$1,208,403
SAN BERNARDINO	STATE HIGHWAY	201186	210	AT SR-210/BASE LINE I.C. RECONSTRUCT/WIDEN BASE LINE BETWEEN CHURCH AVE AND BOULDER AVE FROM 4 TO 6 THROUGH LANES AND EXTEND LEFT TURN LANES, WIDEN RAMPS -- WB EXIT TO 3 LANES, WB AND EB ENTRANCES TO 3 LANES INCLUDING HOV/PREFERENTIAL LANES (EA 1C970)	\$25,448
SAN BERNARDINO	STATE HIGHWAY	201154	210	SR 210 AT 5TH ST/GREENSPOT RD; ON AND OFF RAMPS WIDENING; PROJECT ADDS 1 LANE TO THE TERMINI (2-3 LNS) TO THE N/B ON RAMP, AND BOTH S/B ON/OFF RAMPS. ALL RAMPS REMAIN 1 LN AT THE MAINLINE.	\$12,450

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
SAN BERNARDINO	STATE HIGHWAY	SBD31850	215	IN GRAND TERRACE @ I-215 BARTON RD I/C RECONSTRUCT OC & RAMPS W/ PARTIAL CLOVERLEAF CONFIG. NW OF I-215 WORK INCL. ADD OF NB AUX LN LOCAL ST WORK TO INCL. WIDENING OF BARTON RD, REMOVAL OF LA CROSSE AVE E/W VIVENDA AVE & BARTON RD, RPLCMT W/ NEW LOCAL RD, IMPRVMTS TO BARTON RD & MICHIGAN WAY/VIVENDA AVE INTERSEC & REALIGNMT OF COMMERCE WY (TOLL CREDITS USED TO MATCH DEMO: ROW)	\$78,600
SAN BERNARDINO	STATE HIGHWAY	20150305	215	I-215 LANDSCAPING (SEGMENTS 1-3 & 5) IN THE CITY OF SAN BERNARDINO (TOLL CREDITS: PNRS CON)	\$14,670
SAN BERNARDINO	STATE HIGHWAY	713	215	I-215 CORRIDOR NORTH - IN SAN BERNARDINO, ON I-215 FROM RTE 10 TO RTE 210 - ADD 2 HOV & 2 MIXED FLOW LNS (1 IN EA. DIR.) AND OPERATIONAL IMP INCLUDING AUX LANES AND BRAIDED RAMP (M003)	\$724,444
SAN BERNARDINO	STATE HIGHWAY	200614	215	I-215 BI-COUNTY HOV LANE GAP CLOSURE PROJECT-ADD 1 HOV LANE IN EACH DIRECTION FROM SPRUCE ST. ON RIV 91 TO ORANGE SHOW RD;(ALSO INCLUDES RTP 4M0803 (STIP 2010 \$24881 RCTC AND \$45089 SANBAG)(M003)	\$187,249
SAN BERNARDINO	STATE HIGHWAY	SBD59204	215	I-215 AT UNIVERSITY PARKWAY INTERCHANGE - RECONSTRUCT INTERCHANGE	\$31,143
SAN BERNARDINO	STATE HIGHWAY	200453	395	US-395 (HESPERIA, VICTORVILLE, & ADELANTO) FROM 0.16 MI N/O INTERSTATE ROUTE 15 JUNCTION TO SR18 - INTERIM WIDENING - WIDEN FROM 2-4 LANES AND ADD LEFT TURN CHANNELIZATION AT INTERSECTIONS (EA OF 633)	\$7,223
SAN BERNARDINO	STATE HIGHWAY	34040	395	REALIGN & WIDEN US-395 TO A 6 LANE FREEWAY FROM I-15 TO SR-18 (PH 1) & A 4 LN FRWY FROM SR-18 TO PURPLE SAGE (PH 2) & WIDEN TO 4 LN EXPWY FROM PURPLE SAGE TO 0.5 MI S/O FARMINGTON RD (PH 3), (PA&ED ONLY)	\$2,629
SAN BERNARDINO	STATE HIGHWAY	200451	395	US-395 (HESPERIA, VICTORVILLE, & ADELANTO) FROM SR18 TO CHAMBERLAINE WAY - INTERIM WIDENING-WIDEN FROM 2-4 LANES AND ADD LEFT TURN CHANNELIZATION AT INTERSECTIONS (EA OF 631)(TOLL CREDITS: FY15/16 \$683 FOR STP, FY14/15 \$72 FOR DEMO)	\$55,191
SAN BERNARDINO	STATE HIGHWAY	200452	395	US-395 (HESPERIA, VICTORVILLE, & ADELANTO) FROM CHAMBERLAINE WAY TO 1.8 MI S/O DESERT FLOWER ROAD - INTERIM WIDENING-WIDEN FROM 2-4 LANES AND ADD LEFT TURN CHANNELIZATION AT INTERSECTIONS (EA OF 632)	\$28,838
SAN BERNARDINO	STATE HIGHWAY	34042	395	US 395 - NEW ALIGNMENT CONSTRUCT 4-LANE EXPRESSWAY FROM 1.8 MILES SOUTH OF DESERT FLOWER ROAD TO 0.5 MILES SOUTH OF FARMINGTON ROAD (NORTHERLY ALIGNMENT)	\$459,978
SAN BERNARDINO	STATE HIGHWAY	SBDLS011	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MANDATES PROGRAM-PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND 3 CATEGORIES-RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL AID SYSTEM ROADS, SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES AND OPERATING ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS. INTERSECTION SIGNALIZATION PROJECTS AT INDIVIDUAL INTERSECTIONS, PAVEMENT MARKING	\$20,314
SAN BERNARDINO	STATE HIGHWAY	SBDLS04	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MOBILITY PROGRAM-PROJECTS ARE CONSISTENT W/40 CFR PART 93.126 EXEMPT TABLES 2 & 3-RAILROAD/HWAY XING, SAFER NON-FED AID SYSTEM ROADS, SHOULDER IMPRVMTS, TRAFFIC CONTROL DEV. & OPERATING ASSIST OTHER THAN SIGNALIZATION PROJECTS, INTERSECT SIGNALIZATION PROJCS AT INDIVIDUAL INTERSECTS, PAVEMENT MARKING DEMOS, TRUCK CLIMBING LNS OUTSIDE URBAN AREA, LIGHT	\$3,616
SAN BERNARDINO	STATE HIGHWAY	SBDLS05	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS, SHOULDER IMPROVEMENTS, PAVEMENT RESURF AND/OR OTHER REHAB - (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 & 3) R/R/HWAY XING, SAFER NON FED-AD SYSTEM ROADS, SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES & OPERATING ASSIST OTHER THAN SIGNALIZATION PROJECTS OR PROJECTS AT INDIVIDUAL SIGNALS, PAVEMENT, MARK DEMOS, TRUCK CLIMBING LNS OUTSIDE UR	\$9,402
SAN BERNARDINO	STATE HIGHWAY	SBD59303	999	---SET ASIDES/RESERVATIONS FOR FUTURE SB45 - PLANNING, PROGRAMMING, & MONITORING	\$11,010
SAN BERNARDINO	TRANSIT	20040701	0	PARATRANSIT - VEHICLES 22 PASSENGER REPLACEMENT - GAS 08-15-2010,2-2011;	\$533
SAN BERNARDINO	TRANSIT	20060606	0	BARSTOW - OPERATING EXPENSES	\$24,950
SAN BERNARDINO	TRANSIT	20130306	0	CITY CREEK LEVEE TRAILS - CONSTRUCT NON-MOTORIZED TRAILS ALONG THE EASTERLY AND WESTERLY CITY CREEK FLOOD CONTROL LEVEES BETWEEN HIGHLAND AVE AND BASE LINE	\$42

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
SAN BERNARDINO	TRANSIT	2010104	0	DISPATCH & MAINTENANCE. OFFICE EQUIPMENT	\$85
SAN BERNARDINO	TRANSIT	2010105	0	REPLACE CUMMINS ENGINES AT MIDLIFE TO ENSURE THEY ARE KEPT IN TOP PERFORMING ORDER. THE ENGINE OVERHAULS ARE FOR 28-33 PASSENGER VEHICLES ONLY.	\$180
SAN BERNARDINO	TRANSIT	SBD31037	0	BUS SYSTEM - OPERATING ASSISTANCE	\$22,060
SAN BERNARDINO	TRANSIT	20010120	0	TRANSIT SERVICE/REHAB. EQUIPMENT - PURCHASE OF VARIOUS MAINTENANCE EQUIPMENT (ON-GOING PROJECT)	\$63
SAN BERNARDINO	TRANSIT	20150013	0	REHAB./REPAIR/RETROFIT TRANSIT FACILITIES	\$729
SAN BERNARDINO	TRANSIT	SBD41055	0	BUS SYSTEM - OPERATING ASSISTANCE	\$21,753
SAN BERNARDINO	TRANSIT	R589TA	0	INTERSTATE - LOS ANGELES/CHICAGO AT EL GARCES STATION MULTIMODAL - STATION - FACILITY	\$8,290
SAN BERNARDINO	TRANSIT	SBD31612	0	BUS SYSTEM - OPERATING ASSISTANCE	\$3,684
SAN BERNARDINO	TRANSIT	SBD44003	0	PARATRANSIT VEHICLE REPLACEMENT (10/11-1-18 PAX AND 1/12 1-18 PAX	\$387
SAN BERNARDINO	TRANSIT	20020806	0	TRANSIT - FACILITIES - IMPROVEMENT/UPKEEP OF EXISTING FACILITIES	\$10,279
SAN BERNARDINO	TRANSIT	20040211	0	REPLACEMENT PARATRANSIT VEHICLES REPLACING PARATRANSIT VEHICLES ON OMNITRANS ACCESS FLEET;08-50;2011-50;2013-15;2014-15 VEHICLES (TOLL CREDITS: FY14/15 5310 \$87)	\$12,321
SAN BERNARDINO	TRANSIT	20060601	0	CAPITALIZATION OF LEASES - FOR CONTRACTORS, RADIO SITES, APC, TIRE LEASES	\$5,359
SAN BERNARDINO	TRANSIT	20060603	0	PASSENGER FACILITIES - STOPS AND ZONES - SAN BERNARDINO VALLEY -PURCHASE EQUIPMENT FOR STOP AND ZONE IMPROVEMENTS	\$972
SAN BERNARDINO	TRANSIT	20061701	0	JOBS ACCESS AND REVERSE COMMUTE ADMINISTRATION OPERATIONS AND CAPITAL SECTION 5316 JOB ACCESS REVERSE COMMUTE (JARC) VARIOUS PROJECTS (C/O PROJECT FROM PRIOR YEAR)(UZA FY12/13: LA/LB/SA \$906; RIV/SB \$1242)	\$5,227
SAN BERNARDINO	TRANSIT	20061901	0	NEW FREEDOM PROGRAM ADMINISTRATION, OPERATIONS AND CAPITAL (UZA FY12/13: LA/LB/SA \$394; RIV/SB \$526)	\$1,395
SAN BERNARDINO	TRANSIT	20080206	0	CHINO TRANSIT CENTER PHASE II - PHASE II WILL CONSIST OF BUILDING ADDITIONAL BUS BAYS FOR FUTURE INTER-COUNTY ROUTES	\$2,527
SAN BERNARDINO	TRANSIT	20111201	0	OPERATIONS OF THE ACCESS SERVICE (OMNITRANS WILL UTILIZE PART OF ITS ALLOCATED FTAS307 FORMULA FUNDS TO HELP PAY FOR THESE OPERATIONS)	\$9,999
SAN BERNARDINO	TRANSIT	981114	0	TRANSIT - SECURITY CAPITALIZATION OF SECURITY COSTS	\$1,493
SAN BERNARDINO	TRANSIT	981122	0	CAPITALIZATION OF PREVENTIVE MAINT	\$90,153
SAN BERNARDINO	TRANSIT	SBD31084	0	BUS SYSTEM-SERVICE VEHICLES; PURCHASE SEVERAL REPLACEMENT SERVICE VEHICLES FY15 - 45	\$2,862

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
SAN BERNARDINO	TRANSIT	SBD90105	0	BUS SYSTEM-BUSES BUS REPLACEMENTS ALT FUEL, 2010-15 AND 15 COACHES PER YEAR AFTER 2010 (TOLL CREDITS ARE BEING USED AS MATCH FOR CMAQ IN FY14/15 \$591, TOLL CREDITS USED TO MATCH 5339 IN FY14/15 \$722)	\$63,012
SAN BERNARDINO	TRANSIT	200450	0	RIALTO METROLINK STATION - INCREASE PARKING SPACES FROM 225-775	\$3,356
SAN BERNARDINO	TRANSIT	20061009	0	METROLINK-SEALED CORRIDOR-SAN GABRIEL SUB-THS PROJECTS CONSISTS OF A COMPREHENSIVE CORRIDOR SAFETY ENHANCEMENT PROGRAM ALONG SANBAG OWNED ROW (TOLL CREDITS TO MATCH: FY14/15: \$250)	\$4,573
SAN BERNARDINO	TRANSIT	20061012	0	DOWNTOWN S.B. PASSENGER RAIL - FROM SAN BERNARDINO METROLINK STATION TO APPROX. 1 MILE EAST TO A NEW TRANSIT STATION AT RIALTO AVE AND E ST. IN DOWNTOWN SAN BERNARDINO	\$63,713
SAN BERNARDINO	TRANSIT	20150016	0	METROLINK ROLLING STOCK - SANBAG'S SHARE OF PURCHASE OF METROLINK CARS & LOCOM UP TO 47 CARS/CABS AND IN FUTURE YEARS UP TO 22 CARS/CABS & UP TO 8 LOCOM (CO-OP LAOC8231, RIV 010214)(TOLL CREDITS TO MATCH: FY14/15: \$375, FY17/18: \$375)	\$3,000
SAN BERNARDINO	TRANSIT	20150307	0	COUNTY-WIDE VANPOOL PROJECT (DEMONSTRATION PROJECT)(TOLL CREDIT: FY16/17 FOR CMAQ CON)	\$4,000
SAN BERNARDINO	TRANSIT	990602	0	METROLINK CAPITAL MAINTENANCE (REHABILITATION/RENOVATION OF METROLINK TRACK, SIGNALS, COMMUNICATIONS, STRUCTURES, FACILITIES, SYSTEMS, AND ROLLING STOCK INCLUDING THE PURCHASE OF 20 REPLACEMENT LOCOMOTIVES WITH TIER-4 TECHNOLOGY)(\$2,713 TRANSPORTATION DEVELOPMENT CREDITS USED TO MATCH: \$1,270 FY12/13, \$841 FY13/14)(TOLL CREDITS USED TO MATCH: FY14/15 \$1,741)	\$37,847
SAN BERNARDINO	TRANSIT	SBD41109	0	METROLINK OPERATING ASSISTANCE SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY (METROLINK)	\$61,951
SAN BERNARDINO	TRANSIT	20040825	0	UPLAND METROLINK STATION - ADDITIONAL PARKING FROM 200 TO 500 SPACES	\$3,665
SAN BERNARDINO	TRANSIT	20131301	0	GROUPED PROJECTS FOR OPERATING ASSISTANCE TO TRANSIT AGENCIES: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - OPERATING ASSISTANCE TO TRANSIT AGENCIES (CALTRANS CYCLE 6 AND 7: JARC & NEW FREEDOM PROJECTS)	\$356
SAN BERNARDINO	TRANSIT	20150602	0	GROUPED PROJECTS FOR TRANSIT 5310 GRANT PROGRAM (SCAB): PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES (TOLL CREDITS: 5310 FY14/15 CON \$422)	\$1,214
SAN BERNARDINO	TRANSIT	20150603	0	GROUPED PROJECTS FOR TRANSIT 5310 GRANT PROGRAM (MDAB): PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES (TOLL CREDITS: 5310 FY14/15 CON \$109)	\$260
SAN BERNARDINO	TRANSIT	20150604	0	GROUPED PROJECTS: CALTRANS 5310 PROGRAM SMALL URBAN/RURAL PROJECTS. (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES)(TOLL CREDITS: 5310 FY14/15 CON \$369)	\$947
SAN BERNARDINO	TRANSIT	20061704	0	FTA5316 JOBS ACCESS REVERSE COMMUTE (JARC) VARIOUS PROJECTS TO INCREASE TRANSPORTATION ACCESS TO JOBS FOR LOW INCOME INDIVIDUALS, INCLUDING VOUCHER PROGRAMS AND VANPOOLS	\$1,282
SAN BERNARDINO	TRANSIT	20110302	0	CAPITAL - BUS FACILITY - CAPITAL LEASE PAYMENTS	\$29,439
SAN BERNARDINO	TRANSIT	20111301	0	BUS SYSTEM-OPERATING ASSISTANCE-LIFELINE CONNECTIVITY BUS SERVICE BETWEEN VICTOR VALLEY AND SAN BERNARDINO VALLEY	\$1,250
SAN BERNARDINO	TRANSIT	20111806	0	TRANSIT BUS STOP ACCESS IMPROVEMENTS - PATH OF TRAVEL FOR EXISTING BUS STOPS	\$73
SAN BERNARDINO	TRANSIT	20111808	0	INLAND EMPIRE VANPOOL PROGRAM - VICTOR VALLEY PHASE LIVABILITY GRANT	\$1,864
SAN BERNARDINO	TRANSIT	20112006	0	PURCHASE 3 EXPANSION 40' BUSES ALT FUEL	\$1,800
SAN BERNARDINO	TRANSIT	20130302	0	BUS REHABILITATION: FY12/13-5, FY13/14-11	\$685

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
SAN BERNARDINO	TRANSIT	2013102	0	COMMUTER BUS REPLACEMENT: FY13/14-5 (M003)	\$4,000
SAN BERNARDINO	TRANSIT	20150101	0	PARATRANSIT VEHICLE EXPANSION FY14/15(2)	\$245
SAN BERNARDINO	TRANSIT	SBD31581	0	BUS SYSTEM - OPERATING ASSISTANCE	\$82,128
SAN BERNARDINO	TRANSIT	SBD41084	0	BUS SYSTEM - BUSES REPLACEMENT - ALT FUEL, FY 12 FIXED ROUTE TRANSIT COACHES (2); 2013 PREMIUM PARATRANSIT BUSES (8); FY13/14 REGIONAL BUS REPLC(2); FY14/15 REGIONAL BUS REPLC(5)	\$11,745
SAN BERNARDINO	TRANSIT	SBD4114	0	PARATRANSIT - VEHICLE REPLACEMENT ALT. FUEL, 2012-3; 2013 VEHICLE REPLACEMENT (2); FY14/15 PARATRANSIT BUS REPLC(2); FY14/15 PARATRANSIT BUS REPLC(8); UNLEADED BARSTOW AREA TRANSIT: (TOLL CREDIT: 14/15 CMAQ \$80, FY14/15 \$310 \$39)	\$3,737
SAN BERNARDINO	TRANSIT	SBD4117	0	BUS SYSTEM - PURCHASE SERVICE VEHICLES 2012- ONE (1) SERVICE TRUCK; 2013 SERVICE VEHICLES (3)	\$780
SAN BERNARDINO	TRANSIT	200416	0	SCLA RAIL SERVICE FROM AIR EXPRESSWAY APPROX. 5 MILES NO TO COLLUSA RD. BETWEEN PHANTOM EAST & MOJAVE RIVER- PUT IN NEW RAIL LINE FROM BNSF TO SCLA (FOR FREIGHT) PROJECT IN CONNECTION WITH NEW INTERMODAL/MULTIMODAL FACILITY ON SCLA PROPERTY	\$250,000
SAN BERNARDINO	TRANSIT	200423	0	PARATRANSIT VEHICLES - REPLACEMENT - GAS/DIESEL 2013-3, FY14 - 3 (TOLL CREDITS TO MATCH: 531IF FY14/15 \$42, FY15/16 \$64, FY16/17 \$64, FY17/18 \$64)	\$4,223
SAN BERNARDINO	TRANSIT	981111	0	TRANSIT - ENHANCEMENTS: % TRANSIT ENHANCEMENTS TO INCREASE ACCESSIBILITY TO BUS STOPS (ONGOING)	\$1,748
SAN BERNARDINO	TRANSIT	SBD31055	0	TRANSIT ADMINISTRATION EQUIPMENT PURCHASE COMPUTER HARDWARE & SOFTWARE FOR MIS	\$33,759
SAN BERNARDINO	TRANSIT	200086	0	BUS SYSTEM - PASSENGER FACILITIES, FY12-10 BUS SHELTERS INCLUDING UPGRADES FOR ACCESSIBILITY AND AMENITIES FOR THESE AND OTHER BUS STOPS; FY13-10 BUS SHELTERS AND AMENITIES; FY14-12 BUS SHELTERS AND AMENITIES; BUS SHELTERS INCLUDES BUS STOP LIGHTING EVERY YEAR; FY15-20 BUS SHELTERS/BENCHES & AMENITIES; FY15 BAT BUS STOP AMENITIES	\$1,175
SAN BERNARDINO	TRANSIT	981104	0	TRANSIT - SECURITY	\$1,135
VARIOUS	LOCAL HIGHWAY	SCAGATP_RP1	0	GROUPED PROJECTS FOR PLANNING ACTIVITIES: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PLANNING ACTIVITIES CONDUCTED PURSUANT TO TITLES 23 AND 49 U.S.C. GROUPED LISTING OF CYCLE 1 ACTIVE TRANSPORTATION PROGRAM NON-INFRASTRUCTURE GRANTS.	\$3,970
VARIOUS	LOCAL HIGHWAY	SCAGATP1	0	REGIONAL ACTIVE TRANSPORTATION SAFETY AND ENCOURAGEMENT CAMPAIGN DESIGNED TO REDUCE BICYCLE AND PEDESTRIAN COLLISIONS. INCLUDES A MEDIA CAMPAIGN, TACTICAL URBANISM CAMPAIGN AND TRAININGS.	\$2,333
VARIOUS	LOCAL HIGHWAY	SCAG016	0	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SAFE ROUTES TO SCHOOL PROGRAM (SRTS) PROJECTS CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HWY CROSSING, SAFER NON-FEDERAL-AID SYSTEM RDS, SHOULDER IMP, TRAFFIC CONTROL DEVICES, INTERSECTION SIGNALIZATION & INDIVIDUAL INTERSECTIONS, PAVEMENT MARKING DEMO.	\$49,169
VENTURA	LOCAL HIGHWAY	VEN131203	0	SANTA CLARA RIVER RIPARIAN MITIGATION FOR ROUTE 101 SANTA CLARA BRIDGE PROJECT.	\$1,864
VENTURA	LOCAL HIGHWAY	VEN040502	0	SANTA ROSA ROAD FROM UPLAND ROAD TO WOODCREEK ROAD WIDEN FROM TWO TO FOUR LANES AND ADD BIKE LANES	\$2,904
VENTURA	LOCAL HIGHWAY	VEN051211	0	LAS POSAS ROAD FROM VENTURA BLVD TO PLEASANT VALLEY ROAD WIDEN FROM 2 TO 6 LANES	\$4,417
VENTURA	LOCAL HIGHWAY	VEN07104	0	CONSTRUCT PONDEROSA EXTENSION FROM LAS POSAS RD TO SPRINGVILLE (0.9 MI) INCLUDING BIKE LANES (SPLIT FROM PROJECT 07-VEN990305)	\$5,114
VENTURA	LOCAL HIGHWAY	VEN10105	0	CALLEGUAS CREEK BIKE TRAIL PHASE 3 - CONSTRUCT 3800 FOOT BIKE PATH ALONG WEST SIDE OF CALLEGUAS CREEK FROM ROUTE 101 TO PLEASANT VALLEY ROAD	\$700
VENTURA	LOCAL HIGHWAY	VEN10106	0	CALLEGUAS CREEK BIKE PATH PHASE 4 - SOUTH SIDE OF ROUTE 101 FROM PETTIT STREET TO CALLEGUAS CREEK / VILLAGE AT THE PARK DRIVE - CONSTRUCT APPROXIMATELY 3500 FOOT CLASS 1 BIKE PATH	\$400

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
VENTURA	LOCAL HIGHWAY	VEN130105	0	ON PANCHO RD FROM ADOHR LN TO HOWARD RD IN CAMARILLO, RECONSTRUCT 5100 FT OF ROADWAY INCLUDING CONCRETE, ACCESS RAMPS, AND OTHER IMPROVEMENTS.	\$1,695
VENTURA	LOCAL HIGHWAY	VEN131204	0	ON LEWIS ROAD FROM VENTURA BLVD TO CITY LIMITS (NORTH). WIDEN FROM 2 TO 4 LANES, 13,000 FT LENGTH.	\$3,000
VENTURA	LOCAL HIGHWAY	VEN131205	0	LAS POSAS RD AND PLEASANT VALLEY RD INTERSECTION WIDENING. WIDEN LAS POSAS RD FROM 4 TO 6 LANES AND PLEASANT VALLEY FROM 2 TO 4 LANES.	\$1,500
VENTURA	LOCAL HIGHWAY	VEN131207	0	CENTRAL AVE FROM US-101 TO CITY LIMITS (1700 FEET), WIDEN FROM 2 TO FOUR LANES AND ADD BIKE LANE.	\$2,000
VENTURA	LOCAL HIGHWAY	VEN54019	0	IN CAMARILLO ADOLFO RD EXTENSION EXTEND ROAD EASTERLY TO CAMARILLO SPRINGS RD/US 101 (TWO-LANE UNDIVIDED ROAD)	\$11,358
VENTURA	LOCAL HIGHWAY	VEN051401	0	ROUTE 126 AND SANTA PAULA BRANCH RAILROAD AT POLE CREEK - CLASS I BIKE PATH UNDERCROSSING 0.2 MILES IN LENGTH (CMAQ INCLUDES \$8 TOLL CREDITS FOR PE)	\$1,395
VENTURA	LOCAL HIGHWAY	VEN010203	0	OJAI VALLEY BIKE TRAIL EXTENSION/FULTON ST EXTENSION (STP INCLUDES TOLL CREDITS OF \$54 FOR FY 2010/11 CON AND \$11 FOR FY 13/14 CON.)	\$714
VENTURA	LOCAL HIGHWAY	VEN30601	0	OVER FOX CANYON BARRANCA IN OJAI CONSTRUCT BIKE BRIDGE. LESS THAN 1 MILE IN LENGTH. CMAQ IN FY 14/15 INCLUDES \$12 TOLL CREDITS FOR CONSTRUCTION.	\$103
VENTURA	LOCAL HIGHWAY	VEN20402	0	ROSE AVE IN OXNARD, FROM AUTO CENTER DRIVE TO EAST COLLINS ST (0.2 MILES). INSTALL NEW SIDEWALK, CURB, AND GUTTER ON WEST SIDE OF STREET.	\$491
VENTURA	LOCAL HIGHWAY	VEN20403	0	VENTURA BLVD, ON 0.5 MILES BETWEEN BALBOA ST AND ROSE AVE IN THE CITY OF OXNARD. INSTALL NEW SIDEWALK, CURB, AND GUTTER ON NORTH SIDE OF STREET, PAVE EXISTING SHOULDER, ADD STRIPING FOR BIKE LANES.	\$1032
VENTURA	LOCAL HIGHWAY	VEN20424	0	OXNARD BLVD BIKE PATH FROM GONZALEZ RD TO 1250 FT SOUTH OF GONZALEZ RD. INCLUDES LIGHTING AND LANDSCAPING (SPLIT FROM VEN990317).	\$970
VENTURA	LOCAL HIGHWAY	VEN20601	0	AT RICE/101 INTERCHANGE, LANDSCAPING AND IRRIGATION IMPROVEMENTS. LIMITS ARE AUTO CENTER DR, SANTA CLARA AVE, AND VENTURA BLVD.	\$687
VENTURA	LOCAL HIGHWAY	VEN20802	0	IN OXNARD, CITYWIDE SIDEWALK SURVEY. TAKE INVENTORY OF SIDEWALKS AND PRIORITIZE PEDESTRIAN PROJECTS. CONDUCT ADA SURVEY TO IDENTIFY IMPROVEMENTS.	\$200
VENTURA	LOCAL HIGHWAY	VEN130101	0	IN THE NORTHEAST COMMUNITY OF THE CITY OF OXNARD, NORTHEAST OF OXNARD TRANSPORTATION CENTER. INSTALL 1.9 MI CLASS II BIKE LANES, 6.3 MI CLASS III BIKE LANES AND IMPROVEMENTS TO 3.69 MI OF EXISTING BIKE LANES.	\$728
VENTURA	LOCAL HIGHWAY	VEN130102	0	ON C STREET FROM VINEYARD AVE TO CHANNEL ISLANDS BLVD, CONSTRUCT 4.9 MI OF CLASS II BIKE LANES. CONSTRUCT CLASS III BIKE LANES ON GUAVA ST/HEMLOCK AVE AND ALONG HILL ST.	\$346
VENTURA	LOCAL HIGHWAY	VEN141201	0	ON OXNARD BLVD BETWEEN US-101 AND GONZALES RD, PRELIMINARY ENGINEERING FOR INSTALLATION OF CLASS II BIKE LANES IN BOTH DIRECTIONS (PE ONLY).	\$102
VENTURA	LOCAL HIGHWAY	VEN34094	0	IN OXNARD HUENEME RD SAVERS TO ARCTURUS WIDEN AND CONSTRUCT FROM 2 TO 4 LANES (SAFETEA-LU PROJECT #735 TIP)	\$2,924
VENTURA	LOCAL HIGHWAY	VEN34095	0	IN OXNARD COLONIA RD/CAMINO DEL SOL OXNARD BOULEVARD (RT 1) TO ENTRADA DR CONSTRUCT 4 LANES	\$10,269
VENTURA	LOCAL HIGHWAY	VEN031230	0	ROUTE 126 BIKE PATH PHASE III BIKE PATH (CLASS I) PARALLEL AND SOUTH OF ROUTE 126 0.3 MILES FROM PARRISH TO BACH (ADJACENT TO IMPERIAL MOBILE HOME PARK) - TOLL CREDITS OF \$102 FOR CON IN 15/16.	\$1046
VENTURA	LOCAL HIGHWAY	VEN140804	0	IN SAN BUENAVENTURA, CONSTRUCT SIDEWALK AND CLASS II AND III BIKE LANES ON CEDAR ST BETWEEN PROSPECT AND POL ST (0.3 MI). VARIOUS SIDEWALK, CURB IMPROVEMENTS ON VENTURA AVE BETWEEN KELLOGG ST AND SHOSHONE ST (0.9 MI). FLASHING BEACONS TO BE INSTALLED ON VENTURA AVE. EXISTING BEACONS TO BE UPDATED.	\$1,500
VENTURA	LOCAL HIGHWAY	VEN990319	0	CALIFORNIA ST BRIDGE OVER RT 101 PEDESTRIAN ENHANCEMENTS	\$1,756
VENTURA	LOCAL HIGHWAY	VEN990341	0	OMER RAINS BIKE PATH RESTORATION RESTORE 0.8 KM BIKEWAY SEGMENT DESTROYED BY STORMS (STPE-R IN FY 13/14 INCLUDES \$113 IN TOLL CREDITS FOR CONSTRUCTION).	\$1,444
VENTURA	LOCAL HIGHWAY	VEN11102	0	SANTA PAULA BIKE TRAIL IMPROVEMENTS INCLUDING BIKE/PEDESTRIAN IMPROVEMENTS AT 16 ADJACENT INTERSECTIONS AND CONSTRUCTION OF ONE REST AREA SHADE STRUCTURE	\$1,110

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
VENTURA	LOCAL HIGHWAY	VEN051201	0	WEST LOS ANGELES AVENUE FROM WEST CITY LIMIT TO EASY STREET 0.4 MILE CLASS II BIKE LANES - CMAQ INCLUDES \$228 OF TOLL CREDITS FOR 11/12 CON.	\$1,986
VENTURA	LOCAL HIGHWAY	VEN120103	0	WIDEN EASTBOUND MADERA ROAD FROM TWO TO THREE LANES FROM COUNTRY CLUB DRIVE WEST TO WOOD RANCH PARKWAY (3,400'). (STPL-R IN FY 14/15 INCLUDES \$102 TOLL CREDITS FOR CONSTRUCTION).	\$885
VENTURA	LOCAL HIGHWAY	VEN120604	0	ERPINGER RD AT COCHRAN ST INSTALL RIGHT TURN LANE AND CONSTRUCT CURB, GUTTER, AND SIDEWALK. (STPL-R IN FY 13/14 INCLUDES \$63 TOLL CREDITS FOR CONSTRUCTION).	\$575
VENTURA	LOCAL HIGHWAY	VEN121201	0	MADERA RD IN SIMI VALLEY, WIDEN EASTSIDE FROM SIMI VILLAGE DR TO LOS ANGELES AVE TO ADD THIRD LANE AND RIGHT-TURN LANE. (STPL-R INCLUDES TOLL CREDITS OF \$61 IN FY 14/15 FOR CON).	\$531
VENTURA	LOCAL HIGHWAY	VEN140805	0	IN SIMI VALLEY, ARROYO SIMI GREENWAY BIKE TRAIL PHASE 3. PAVE CLASS I BIKE TRAIL ON SOUTH SIDE OF ARROYO SIMI FROM MADERA RD TO FIRST ST (0.9 MI). INCLUDES LANDSCAPING ALONG FIFTH ST TRAIL AND PEDESTRIAN/BIKE BRIDGE OVER ARROYO SIMI NEAR FIFTH ST.	\$1,330
VENTURA	LOCAL HIGHWAY	VEN056407	0	HILLCREST DRIVE FROM TELLER ROAD TO DUESENBERG DRIVE - CLASS II BIKE LANES (CMAQ IN FY 14/15 INCLUDES \$30 IN TOLL CREDITS FOR CONSTRUCTION).	\$284
VENTURA	LOCAL HIGHWAY	VEN10308	0	ERBES ROAD FROM FALMOUTH TO THOUSAND OAKS BLVD (3900') CONSTRUCT CLASS II BIKE LANES, SIDEWALK/DRAINAGE IMPROVEMENTS, EXTEND TURN LANES AT INTERSECTION OF ERBES/HILLCREST (CMAQ IN FY 14/15 INCLUDES \$30 TOLL CREDITS).	\$7,852
VENTURA	LOCAL HIGHWAY	VEN1S07	0	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES)	\$20,975
VENTURA	LOCAL HIGHWAY	VEN011202	0	HUENEME RD FROM OXNARD CITY LIMITS TO RICE RD - WIDEN FROM 2 TO 4 LANES	\$6,953
VENTURA	LOCAL HIGHWAY	VEN120422	0	MULTI-MODAL SHORESIDE POWER PROJECT. UPGRADE ONE BERTH WITH ELECTRICAL SHORESIDE POWER UNITS. CMAQ IN FY 13/14 INCLUDES TOLL CREDITS OF \$196 IN CON.	\$10,101
VENTURA	LOCAL HIGHWAY	VEN121006	0	ON RICE AVE AT WOOLEY RD IN VENTURA COUNTY IMPROVE SIGNAL AND SIGNAL TIMING.	\$250
VENTURA	LOCAL HIGHWAY	VEN130401	0	ON PLEASANT VALLEY ROAD BETWEEN RICE AVE AND LAS POSAS RD (5 CENTERLINE MILES) INSTALL CLASS III BIKE LANES. INCLUDES RESTRIPING AND SIGNAGE.	\$450
VENTURA	LOCAL HIGHWAY	VEN93017	0	REGIONAL RIDESHARE PROGRAM FOR 14/15, 15/16, 16/17, 17/18.	\$3,703
VENTURA	LOCAL HIGHWAY	VEN54032	0	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - LOCAL STREETS & ROADS SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION, EMERGENCY RELIEF (23 U.S.C. 125), WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADD TRAVEL LANES)	\$31,167
VENTURA	LOCAL HIGHWAY	VEN130104	0	PLEASANT VALLEY AT FIFTH ST. SIGNALIZATION OF INTERSECTION AND CONSTRUCT SECOND NORTHBOUND AND SECOND SOUTHBOUND THROUGH LANES ON PLEASANT VALLEY RD. (STP IN FY 14/15 \$9 TOLL CREDITS, AND IN FY 15/16 \$167 TOLL CREDITS).	\$1,760
VENTURA	STATE HIGHWAY	VEN051213	23	IN MOORPARK RTE 23 MOORPARK AVE FROM THIRD ST TO CASEY RD WIDEN FROM 1 LANE IN EACH DIRECTION TO 1 LANE NB AND 2 LANES SB. REALIGN FIRST ST/POINDEXTER INTERSECTION AND UPGRADE RAIL CROSSING.	\$2,095
VENTURA	STATE HIGHWAY	VEN040401	34	IN OXNARD AT RICE AVE. RAILROAD GRADE SEPARATION	\$35,000
VENTURA	STATE HIGHWAY	VEN10114	34	IN CAMARILLO LEWIS ROAD FROM PLEASANT VALLEY ROAD TO DAWSON DRIVE LANDSCAPING ENHANCEMENT. STPE-R IN FY 12/13 INCLUDES TOLL CREDITS OF \$132 FOR CONSTRUCTION.	\$1,240
VENTURA	STATE HIGHWAY	VEN131201	101	ROUTE 101 WIDENING PAED ONLY. STUDY WIDENING ALTERNATIVES SUCH AS ONE OR TWO HOT OR HOV LANES OR OPERATIONAL IMPROVEMENTS.	\$14,000
VENTURA	STATE HIGHWAY	VEN011205	101	IN T.O. IMPROVEMENTS AT VAR LOCATIONS LA CNTY LINE- MOORPARK RD: CONV AUX LANES TO MF LANES, ADD 1 LANE EACH DIRECTION BY SHIFTING CL NORTHWARDS & WIDENING ON NB SIDE. REALIGN & WIDEN RAMPS, CONSTR SOUNDWALLS (EA 19521, 19522). WIDEN 3 BRIDGES ON NORTH-SIDE (HAMPSHIRE UC, CONEJO SCHOOL UC, & MOORPARK UC); IMPROVE 101/23 CONNECTORS. (STP-FY 2010 APPROPRIATE EARMARK) (INCL RT 23 PM 3.3/3.8) STPL-R FY15/16.1	\$46,660
VENTURA	STATE HIGHWAY	VEN031226	101	IN CAMARILLO ROUTE 101 AT PLEASANT VALLEY ROAD IMPROVE INTERSECTION WITH SOUTHBOUND RAMPS - WIDEN ON RAMP ENTRANCE FROM 1 TO 2 LANES AND ADD TURN LANES	\$1,053

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
VENTURA	STATE HIGHWAY	VENLS13	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS, SHOULDER IMPROVEMENTS, PAVEMENT RESURFACING AND/OR REHAB-MINOR PROGRAM, PROJECTS CONSISTENT WITH 40CFR PART 93.126 EXEMPT TABLES 2 AND 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NONFEDERAL AID SYSTEM ROADS, SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES & OPERATING ASSIST OTHER THAN SIGNALIZATION, INTERSECTION SIGNALIZATION AT INDIVIDUAL INTERSECTIONS.	\$3,537
VENTURA	STATE HIGHWAY	VEN54187	999	5% FOR PLANNING, PROGRAMMING, & MONITORING	\$2,887
VENTURA	TRANSIT	VEN120411	0	VENTURA COUNTY SEALED CORRIDOR	\$8,000
VENTURA	TRANSIT	VEN141202	0	VENTURA COUNTY SEACLIFF SIDING UPGRADE AND EXTENSION	\$9,870
VENTURA	TRANSIT	VEN050401	0	OPERATING ASSISTANCE - CAMARILLO AREA TRANSIT	\$5,010
VENTURA	TRANSIT	VEN120603	0	CAMARILLO METROLINK STATION PEDESTRIAN UNDERCROSSING.	\$1,800
VENTURA	TRANSIT	VEN121005	0	PURCHASE ONE (1) REPLACEMENT DIAL-A-RIDE BUS	\$188
VENTURA	TRANSIT	VEN40801	0	ADA PARATRANSIT SERVICE IN CAMARILLO	\$644
VENTURA	TRANSIT	VEN40802	0	PURCHASE TWO (2) EXPANSION 16-PASSENGER BUSES FOR GENERAL DIAL A RIDE SERVICE.	\$250
VENTURA	TRANSIT	VEN40803	0	ADA UPGRADES TO TRANSIT VEHICLES AND FACILITIES	\$50
VENTURA	TRANSIT	VEN057404	0	PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES - REPLACE MAINTENANCE EQUIPMENT	\$270
VENTURA	TRANSIT	VEN057414	0	MIS EQUIPMENT REPLACE/UPGRADE	\$112
VENTURA	TRANSIT	VEN10108	0	OPERATING ASSISTANCE - VINEYARD AVENUE LINE THREE YEAR DEMONSTRATION (CMAQ INCLUDES TRANSPORTATION DEVELOPMENT CREDIT OF \$195.). SERVICE ENDS 2014/15.	\$1,701
VENTURA	TRANSIT	VEN120105	0	REPLACE (7) CNG SERVICE VEHICLES	\$175
VENTURA	TRANSIT	VEN120404	0	OPERATING ASSISTANCE - THREE YEAR DEMONSTRATION PROJECT. SERVICE ENDS FY2014/15.	\$2,354
VENTURA	TRANSIT	VEN130801	0	OPERATING ASSISTANCE FOR TRANSIT	\$4,200
VENTURA	TRANSIT	VEN131001	0	REPLACE ELEVEN (11) CNG BUSES. CMAQ INCLUDES TOLL CREDITS OF \$608 IN FY 15/16 IN CON.	\$6,600
VENTURA	TRANSIT	VEN131103	0	BUSINESS SYSTEMS UPGRADE INCLUDING SOFTWARE AND HARDWARE.	\$1,000
VENTURA	TRANSIT	VEN131104	0	OPERATING ASSISTANCE	\$8,000
VENTURA	TRANSIT	VEN54056	0	PLANNING/IMPLEMENTATION OF COORDINATED PARATRANSIT	\$1,218
VENTURA	TRANSIT	VEN54095	0	OPERATING ASSISTANCE - ADA PARATRANSIT CAPITAL	\$11,449
VENTURA	TRANSIT	VEN990602	0	TRANSIT PLANNING & PROGRAMMING (PLANNING: PROGRAM SUPPORT & ADM)	\$869
VENTURA	TRANSIT	VEN030608	0	CAPITAL MAINTENANCE FOR MOORPARK TRANSIT - BUSES AND TRANSIT CENTER (MOORPARK RAIL STATION)	\$1,124
VENTURA	TRANSIT	VEN031218	0	REALIGN MOORPARK RAIL STATION SOUTH PARKING LOT ENTRANCE	\$983
VENTURA	TRANSIT	VEN081003	0	ONE (1) FIXED-ROUTE BUS FOR REPLACEMENT	\$112
VENTURA	TRANSIT	VEN101104	0	DIAL-A-RIDE VEHICLE CAPITAL LEASE AND MAINTENANCE	\$339
VENTURA	TRANSIT	VEN10605	0	MOORPARK RAIL STATION UPGRADES INCLUDING PLANTING/IRRIGATION UPGRADE, TICKET MACHINES RELOCATION, STRIPING AND PAINTING, LIGHTING IMPROVEMENTS	\$59
VENTURA	TRANSIT	VEN121003	0	OPERATING ASSISTANCE FOR MOORPARK BUSES FIXED ROUTE AND PARATRANSIT	\$1,770
VENTURA	TRANSIT	VEN121004	0	BUS SHELTER LIGHTING	\$50
VENTURA	TRANSIT	VEN131102	0	INSTALLATION OF ELECTRONIC FARE COLLECTION SYSTEM ON 3 EXISTING MOORPARK CITY TRANSIT BUSES	\$50

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
VENTURA	STATE HIGHWAY	VEN131206	101	ROUTE 101 NORTHBOUND FROM LEWIS RD TO SPRINGVILLE. ADD 9,200 FT AUXILIARY LANES BETWEEN INTERCHANGES.	\$3,000
VENTURA	STATE HIGHWAY	VEN051210	101	IN CAMARILLO RECONFIGURE CENTRAL AVENUE /ROUTE 101 INTERCHANGE (INCLUDES CENTRAL AVE BRIDGE WIDENING FROM 1 TO 2 LANES EACH DIRECTION)	\$37,861
VENTURA	STATE HIGHWAY	VEN051006	101	IN OXNARD AT DEL NORTE BOULEVARD - IMPROVE INTERCHANGE. WIDEN DEL NORTE BRIDGE OVER 101 (FROM VENTURA BLVD TO RTE 101 SB RAMP) FROM 2 TO 4 LANES PLUS LEFT-TURN LANE. ADD NB LOOP ON RAMP AND REALIGN AND IMPROVE OTHER RAMP.	\$56,700
VENTURA	STATE HIGHWAY	VEN010202	101	RECONFIGURE N/B CALIFORNIA ST OFFRAMP (RECONFIGURE RAMP TO TERMINATE AT OAKS ST INSTEAD OF THE CURRENT CALIFORNIA ST LOCATION)	\$24,720
VENTURA	STATE HIGHWAY	VEN070201	101	NEAR MUSSEL SHOALS ADD 1 HOV LANE EACH DIR FROM MOBIL PIER ROAD UC TO S/O CASITAS PASS RD IN SANTA BARBARA CO. (PM R 39.8 TO 2.2). HOV LANES ARE PROPOSED TO BE PART-TIME (AM & PM PEAK PERIODS) ONLY. EXTEND ON/OFF-LANES AT MUSSEL SHOALS & LA CONCHITA FOR BETTER ACCEL AND DECEL. KEEP AS SINGLE LANES. CLOSE EXISTING 3 MEDIAN OPENINGS LOCATED NEAR LA CONCHITA AND MUSSEL SHOALS AND TANK FARM.	\$67,760
VENTURA	STATE HIGHWAY	VEN131202	118	SR-118 WIDENING PAID ONLY. FROM LOS ANGELES AVE TO TAPO CANYON ROAD, STUDY ADDITION OF ONE OR TWO LANES IN EACH DIRECTION. (FY17/18 TOLL CREDITS OF \$344 FOR PE)	\$3,000
VENTURA	STATE HIGHWAY	12020	118	IN MOORPARK LOS ANGELES AVE WIDEN FROM 4 TO 6 LANES BETWEEN MAUREEN AND LETA YANCY	\$950
VENTURA	STATE HIGHWAY	VEN34089	118	IN MOORPARK L.A. AVE FROM ROUTE 23 (MOORPARK AVE) TO E/O SPRING (0.6 MI) RECONSTRUCT SIDEWALKS, REALIGN ROADWAY AND WIDEN FROM 4 TO 6 LANES	\$1,158
VENTURA	STATE HIGHWAY	6566	118	NEAR SIMI VALLEY AT ALAMOS CYN RD. ADD RAMP	\$2,560
VENTURA	STATE HIGHWAY	VEN051003	118	IN SIMI VALLEY LANDSCAPE ENHANCEMENTS FROM WESTERN CITY LIMIT TO EASTERN CITY LIMIT.	\$1,400
VENTURA	STATE HIGHWAY	VEN070804	118	IN SIMI VALLEY LANDSCAPE ENHANCEMENTS AT FIRST STREET.	\$1,500
VENTURA	STATE HIGHWAY	VEN110113	150	IN SANTA PAULA TENTH STREET FROM SANTA PAULA STREET TO ROUTE 126 - LANDSCAPING/AESTHETIC ENHANCEMENTS, PEDESTRIAN & BICYCLE AMENITIES AND IMPROVEMENTS (RIP-TIE INCLUDES TOLL CREDITS OF \$6 FOR 12/13 PE)	\$52
VENTURA	STATE HIGHWAY	VEN140806	150	IN SANTA PAULA ON 10TH ST (SR 150) CONSTRUCT NEW CLASS II BIKE LANE BETWEEN SR 126 AND SANTA PAULA ST (1.2 MI). REPAIR SIDEWALKS. ENHANCE CROSSWALKS. ADD BIKE AMENITIES, BENCHES AND LANDSCAPING.	\$635
VENTURA	STATE HIGHWAY	VENLS01	999	GROUPED PROJ FOR SAFETY IMPROV - SHOPP COLLISION REDUCT PROJ CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2 & TABLE 3 CAT - RR/ HWY XING, SAFER NON-FED-AID SYS RDS, SHOULDER IMPROV, TRAFF CONTROL DEV & OPER ASSIST OTH THAN SIGNALIZATION PROJ, INTRSCION SIGNALIZATION PROJ @ INDIV INTERSECTIONS, PAVEMNT MARKING DEMO, TRUCK CLIMB LANES OUTSIDE URB AREAS, LIGHTING IMPROV, EMERGENCY TRUCK PULLOVERS	\$79,300
VENTURA	STATE HIGHWAY	VENLS02	999	GROUPED PROJECTS LISTING FOR PAVEMENT RESURFACING AND/OR REHABILITATION ON THE STATE HIGHWAY SYSTEM - ROADWAY PRESERVATION PROJECTS (PROJECTS CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2 & 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION)	\$62,829
VENTURA	STATE HIGHWAY	VENLS03	999	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - SHOPP PROGRAM COPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	\$5,800
VENTURA	STATE HIGHWAY	VENLS05	999	GROUPED PROJ FOR SAFETY IMPROV-SHOPP MOBILITY PROJ CONSISTENT W/ 40 CFR PT 93.126 EXEMPT TABLES 2 AND TABLE 3 CAT - RR/HWY XING, SAFER NON-FED-AID SYS RDS, SHOULDER IMPROV, TRAFF CONTRL DEVS & OPERATING ASSIST OTH THAN SIGNALIZATION PROJ, INTERSECTION SIGNALIZATION PROJ @ INDIV INTERSECTIONS, PAVEMENT MARKING DEMO, TRUCK CLIMBING LANES OUTSIDE URB AREA, LIGHTING IMPROV, EMER TRUCK PULLOVERS	\$3,565
VENTURA	STATE HIGHWAY	VENLS06	999	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - CALTRANS MINOR PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION	\$3,341
VENTURA	STATE HIGHWAY	VENLS10	999	GROUPED PROJECTS FOR EMERGENCY REPAIR - SHOPP EMERGENCY RESPONSE PROGRAM SCOPE: PROJ CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - REPAIR DAMAGE CAUSED BY NATURAL DISASTERS, CIVIL UNREST, OR TERRORIST ACTS. THIS APPLIES TO DAMAGES THAT DON'T QUALIFY FOR FED EMER RELIEF FUNDS OR TO DAMAGES THAT QUALIFY FOR FED EMER RELIEF FUNDS BUT EXTEND BEYOND THE FED-DECLARED DISASTER PERIOD	\$17,292

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
VENTURA	TRANSIT	VEN34253	0	OPERATING ASSISTANCE - FIXED ROUTE	\$2,348
VENTURA	TRANSIT	VEN030610	0	MILLS RD AT TELEGRAPH RD - TRANSFER CENTER BUS SHELTERS, BIKE RACKS, BENCHES, & OTHER BUS STOP AMENITIES	\$450
VENTURA	TRANSIT	VEN061007	0	MILLS ROAD AT TELEGRAPH ADJACENT TO PACIFIC VIEW MALL - BUS TURNOUTS WITH BUS SHELTERS, AND OTHER BUS STOP AMENITIES, PLUS STANDARD BUS SHELTERS CITYWIDE	\$359
VENTURA	TRANSIT	VEN011214	0	DBE GOAL EVALUATION/SETTING CONSULTING SERVICE	\$30
VENTURA	TRANSIT	VEN020902	0	FINANCIAL MANAGEMENT SYSTEM	\$384
VENTURA	TRANSIT	VEN051207	0	REPLACE 16 PERSONAL AND LAPTOP COMPUTERS	\$28
VENTURA	TRANSIT	VEN055412	0	THREE (3) REPLACEMENT PARATRANSIT VANS (CMAQ INCLUDES TRANSPORTATION DEVELOPMENT CREDIT OF \$36 IN FY 10/11)	\$317
VENTURA	TRANSIT	VEN091202	0	ONE (1) REPLACEMENT COLOR LASER JET PRINTER	\$4
VENTURA	TRANSIT	VEN091204	0	REPLACEMENT ENGINE FOR (2) CNG BUSES	\$50
VENTURA	TRANSIT	VEN120101	0	BUS STOP VOICE ANNUNCIATORS FOR FIXED ROUTE TRANSIT	\$150
VENTURA	TRANSIT	VEN120410	0	PURCHASE THREE (3) 40-FT CNG BUSES FOR REPLACEMENT.	\$1650
VENTURA	TRANSIT	VEN120602	0	OPERATING ASSISTANCE - 3 YEAR DEMONSTRATION. SERVICE ENDS FY2017-18.	\$3,200
VENTURA	TRANSIT	VEN34206	0	OPERATING ASSISTANCE - FIXED ROUTE	\$16,957
VENTURA	TRANSIT	VEN981107	0	ADA SERVICE - PARATRANSIT CAPITAL	\$4,657
VENTURA	TRANSIT	VEN981118	0	PREVENTIVE MAINTENANCE	\$11,826
VENTURA	TRANSIT	VEN090117	0	POSITIVE TRAIN CONTROL SYSTEM - VENTURA COUNTY FUNDING SHARE OF FIVE-COUNTY PROJECT ALSO IN L.A., ORANGE, RIVERSIDE AND SAN BERNARDINO COUNTIES	\$2,480
VENTURA	TRANSIT	VEN100101	0	SIMI VALLEY / MOORPARK METROLINK GRADE CROSSING IMPROVEMENTS (FY10 TRANSPORTATION APPROPRIATION HIGH SPEED RAIL GRADE CROSSING DEMO FUND)	\$750
VENTURA	TRANSIT	VEN990609	0	SYSTEMWIDE REHABILITATION AND RENOVATION INCLUDING THE PURCHASE OF REPLACEMENT LOCOMOTIVES WITH TIER-4 TECHNOLOGY, TRACK, SIGNALS, PLATFORMS, POWER SYSTEMS, FACILITIES, ROLLING STOCK, EQUIPMENT, SIGNAGE (TOLL CREDITS OF \$3,738 IN 14/15, \$1,816 IN EACH OF YEARS 15/16, 16/17 & 17/18)	\$45,926
VENTURA	TRANSIT	VEN030611	0	PREVENTIVE MAINTENANCE - THOUSAND OAKS TRANSIT FIXED-ROUTE AND DIAL-A-RIDE VEHICLES AND FACILITIES INCLUDING TRANSIT CENTER AND BUS STOPS	\$1,841
VENTURA	TRANSIT	VEN030612	0	ADA SERVICE - CAPITAL LEASE	\$405
VENTURA	TRANSIT	VEN056402	0	EXPANSION OF CNG TIME FILL AND GAS STORAGE	\$253
VENTURA	TRANSIT	VEN081002	0	TRANSIT OPERATIONS FACILITY EXPANSION FOR THOUSAND OAKS TRANSIT	\$1,856
VENTURA	TRANSIT	VEN101101	0	BUS STOP ENHANCEMENTS FOR THOUSAND OAKS TRANSIT.	\$67
VENTURA	TRANSIT	VEN10110	0	PURCHASE TWO CNG TRANSIT BUSES FOR REPLACEMENT AND TWO TRANSIT SERVICE VEHICLES FOR EXPANSION PLUS ADDITIONAL FARE EQUIPMENT (CMAQ INCLUDES TRANSIT DEVELOPMENT CREDITS OF \$53 IN FY 2011/12)	\$1,261
VENTURA	TRANSIT	VEN10111	0	EXTEND OPERATING HOURS FOR THOUSAND OAKS FIXED ROUTE AND DIAL A RIDE SYSTEMS. SERVICE ENDS 7/1/2014.	\$568
VENTURA	TRANSIT	VEN10602	0	TRANSIT PLANNING AND MARKETING FOR THOUSAND OAKS TRANSIT	\$1,064
VENTURA	TRANSIT	VEN10603	0	REPLACE PHONE SYSTEM FOR DIAL-A-RIDE CALL-IN CENTER	\$69
VENTURA	TRANSIT	VEN10604	0	REPLACE FAREBOXES AND INSTALL AUTOMATIC STOP ANNUNCIATORS	\$127
VENTURA	TRANSIT	VEN120408	0	ELECTRONIC DISPATCH SOFTWARE UPGRADES AND LICENSING.	\$125

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost (\$1,000's)
VENTURA	TRANSIT	VEN120421	0	CONSTRUCT CNG FUELING STATION AT THE THOUSAND OAKS TRANSPORTATION CENTER.	\$1,000
VENTURA	TRANSIT	VEN130804	0	TRANSIT VEHICLE CAPITAL LEASES	\$188
VENTURA	TRANSIT	VEN010409	0	EAST COUNTY ADA PARATRANSIT SERVICE OPERATIONS	\$238
VENTURA	TRANSIT	VEN040405	0	NEXT BUS UPGRADE FOR REAL-TIME BUS STOP SIGNAGE (TRANSIT ENHANCEMENTS)	\$655
VENTURA	TRANSIT	VEN070202	0	GROUPED PROJECTS FOR OPER ASST, PLNG, PUR OF REPL VEH OR MIN EXP - JOBS ACCESS REVERSE COMMUTE PROJECTS (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127,128 EXEMPT TABLES 2&3 - PURCHASE OF NEW BUSES TO REPLACE EXIST VEH OR MINOR EXP; OPER ASST TO TRANSIT AGENCIES; PLNG ACT PURS TITLS 23&49 USC)	\$1,050
VENTURA	TRANSIT	VEN070204	0	SMARTCARD UPGRADE	\$420
VENTURA	TRANSIT	VEN081001	0	ELDERLY/DISABLED PLANNING INCLUDING PATRON DISABILITY EVALUATION	\$1,158
VENTURA	TRANSIT	VEN121001	0	FARE COLLECTION PASSENGER COUNTING DATA MANAGEMENT	\$1,910
VENTURA	TRANSIT	VEN34348	0	TRANSIT PROGRAMMING & PLANNING	\$2,909
VENTURA	TRANSIT	VEN54069	0	TRANSIT INFORMATION CENTER	\$1,502
VENTURA	TRANSIT	VEN54070	0	TRANSIT MARKETING (CMAQ INCLUDES TRANSP DEVEL CREDITS OF \$58 IN FY14/15, FY15/16, FY16/17, AND FY 17/18.)	\$4,346
VENTURA	TRANSIT	VEN54115	0	VCTC BUS SYSTEM PLANNING	\$2,009
VENTURA	TRANSIT	VEN061000	0	CAMARILLO RAIL STATION AND BUS MAINTENANCE	\$700
VENTURA	TRANSIT	VEN54057	0	MARKETING & PASSENGER AWARENESS ACTIVITIES (PLANNING; PROGRAM SUPPORT & ADM)	\$2,659
VENTURA	TRANSIT	VEN64003	0	PREVENTIVE MAINTENANCE - FIXED ROUTE & ADA	\$9,063
VENTURA	TRANSIT	VEN055413	0	ONE EXPANSION CNG PARATRANSIT VAN	\$128
VENTURA	TRANSIT	VEN051005	0	GROUPED PROJECTS FOR OPER ASST, PLNG, PUR OF REPL VEH OR MIN EXP - ELDERLY & DISABLED NEW FREEDOMS INITIATIVE (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127,128 EXEMPT TABLES 2&3 - PURCHASE OF NEW BUSES TO REPLACE EXIST VEH OR MINOR EXP; OPER ASST TO TRANSIT AGENCIES; PLNG ACT PURS TITLS 23&49 USC). FTA5310 IN FY14/15 INCLUDES \$147 IN TRANS DEV CREDITS.	\$688
VENTURA	TRANSIT	VEN130803	0	OPERATING ASSISTANCE FOR HERITAGE VALLEY TRANSIT SERVICE	\$2,094
VENTURA	TRANSIT	VEN121002	0	FARE COLLECTION AND RIDERSHIP MONITORING EQUIPMENT AND MAINTENANCE	\$2,017
VENTURA	TRANSIT	VEN54036	0	IN VENTURA COUNTY VCTC INTERCITY CAPITAL LEASE/MAINTENANCE CONTRACT	\$32,285

FINANCIALLY-CONSTRAINED RTP PROJECTS

TABLE 2 Financially-Constrained RTP Projects

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Imperial									
LOCAL HIGHWAY	BRAWLEY	6TDL04-IMP120615	0				NEW CNG STREET SWEEPER	2015	\$330
LOCAL HIGHWAY	CALEXICO	60M0701-IMP091001	0				WIDEN AND IMPROVE CESAR CHAVEZ BLVD. TO 5 LANES (3+2) FROM 2ND STREET TO SR 98. OTHER IMPROVEMENTS INCLUDE: SURFACE REHAB, TURN LANES, TRAFFIC SIGNAL, LIGHTING, AND SIDEWALKS	2015	\$8,930
LOCAL HIGHWAY	CALEXICO	6TDL04-IMP090701	0				DEVELOP BICYCLE PATHS AND PUBLIC PARK SPACE ADJACENT TO THE NEW RIVER, CALEXICO (HPP TEA-LU PROJECT #3092)	2016	\$4,000
LOCAL HIGHWAY	CALEXICO	6TDL04-IMP120617	0				NEW CNG STREET SWEEPER	2015	\$295
LOCAL HIGHWAY	CALEXICO	IMP080904	0				SEISMIC BRIDGE EVALUATION STUDY	2014	\$226
LOCAL HIGHWAY	EL CENTRO	6TDL04-IMP120619	0				BUENA VISTA AVE. PEDESTRIAN IMPROVEMENTS (NEW SIDEWALK, CURB/GUTTER, DRIVEWAYS AND ROADWAY SHOULDER PAVING) FROM 6TH TO 8TH STREET	2015	\$658
LOCAL HIGHWAY	EL CENTRO	6TDL04-IMP120627	0				EUCLID AVE. PEDESTRIAN IMPROVEMENTS (NEW SIDEWALK, CURB/GUTTER, DRIVEWAYS AND ROADWAY SHOULDER PAVING) FROM IMPERIAL AVE. TO LA BRUCHERIE	2016	\$548
LOCAL HIGHWAY	EL CENTRO	IMP080905	0				IMPERIAL AVENUE OVERLAY WITH CURB/GUTTER/SIDEWALK.	2014	\$761
LOCAL HIGHWAY	HOLTVILLE	6TDL04-IMP100901	0				ALAMO RIVER RECREATIONAL TRAIL, PHASE I	2014	\$489
LOCAL HIGHWAY	HOLTVILLE	6TDL04-IMP120622	0				FOURTH STREET PEDESTRIAN IMPROVEMENTS (NEW SIDEWALK, CURB, AND GUTTER) BETWEEN CEDAR AND WALNUT AVENUE	2014	\$794
LOCAL HIGHWAY	IMPERIAL CITY	6TDL04-IMP120621	0				CONSTRUCTION OF SLOW FILL CNG STATION	2014	\$68
LOCAL HIGHWAY	IMPERIAL COUNTY	6TDL04-IMP120623	0				PURCHASE AND CONSTRUCTION OF 2 SLOW FILL CNG FUELING STATIONS	2015	\$141
LOCAL HIGHWAY	VARIOUS AGENCIES	6120001	0	FORRESTER ROAD	1-8	SR-78	WIDEN AND IMPROVE TO FOUR-LANE STATE HIGHWAY	2025	\$307,168

Source:

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Imperial									
LOCAL HIGHWAY	WESTMORLAND	60M0701-IMP080907	0				NORTH CENTER STREET PAVEMENT REHABILITATION	2014	\$339
LOCAL HIGHWAY	WESTMORLAND	6TDL04-IMP120626	0				NEW CNG STREET SWEEPER	2015	\$303
OTHER	VARIOUS AGENCIES	6160002		SR-7	N/A	N/A	EXPANSION OF THE CALEXICO EAST PORT OF ENTRY - THE PROPOSED PROJECT IS TO INCREASE THE NUMBER OF COMMERCIAL VEHICLE INSPECTION LANES AND BOOTHS FROM EXISTING 3 TO 6 LANES AND BOOTHS; AND WIDEN BRIDGE OVER THE ALL-AMERICAN CANAL (CANAL SERVES AS U.S./MEXICO BORDER). SUBMITTED TO STATE BY REGION FOR PNRS NOMINATION AND WILL BE AMENDED INTO UPCOMING RTP.	2025	\$90,000
STATE HIGHWAY	CALTRANS	6120008	0	TBD, STATE ROUTE 98	SR-111	SR-7	FROM SR-111 TO SR-7. WIDEN AND IMPROVE TO 4/6 LANES. ON EITHER JASPER ROAD OR SR-98	2025	\$1,170,483
STATE HIGHWAY	CALTRANS	6120002	8				RECONSTRUCT I-8 INTERCHANGE AT IMPERIAL AVE.: FROM A TWO-LANE TO A FOUR-LANE DIAMOND TYPE OVERCROSSING, REALIGN AND RECONSTRUCT ON AND OFF-RAMPS, AND PROVIDE ACCESS TO IMPERIAL AVE. SOUTH OF I-8 (DEMO ID 621 - HPP 2861). PROJECT USING TOLL CREDITS TO MATCH DEMO FUNDS.	2020	\$39,158
STATE HIGHWAY	CALTRANS	6120009	8	I-8	SR-186	SR-186	AT I-8/SR-186, IMPROVE INTERCHANGE - WIDEN AND IMPROVE RAMPS	2035	\$107,656
STATE HIGHWAY	CALTRANS	IMP0021	78				BRAWLEY BYPASS LANDSCAPE MITIGATION (IN AND NEAR BRAWLEY-ON RT 78 FROM RT 86 TO EAST OF BEST RD AND ON OLD RT 111 AT RT 78/111 SEPERATION. REQUIRED LANDSCAPE MITIGATION).	2018	\$1,741
STATE HIGHWAY	CALTRANS	6120003	98	SR-98	OLLIE AVE.	ROCKWOOD	IN CALEXICO - WIDEN CONVENTIONAL HIGHWAY PHASE 1A - FROM 32.4 TO 32.6 WIDEN FROM 4 TO 6 LANES	2025	\$12,174
STATE HIGHWAY	CALTRANS	6120004	98	SR-98	ALL-AMERICAN CANAL	VV WILLIAMS	PHASE 1C - FROM 30.9 TO 32.2 WIDEN FROM 2 TO 4 LANES	2020	\$58,850
STATE HIGHWAY	CALTRANS	6120005	98	SR-98	DOGWOOD	ALL-AMERICAN CANAL	PHASE 2 - FROM 30.0 TO 30.9 WIDEN FROM 2 TO 4 LANES	2023	\$34,656
STATE HIGHWAY	CALTRANS	IMP0042A	98	SR-98	.6 KM WEST OF SR 111	ALAMO RIVER BRIDGE	IN AND NEAR CALEXICO FROM 0.6 KM WEST OF SR 111 EASTERLY TO ALAMO RIVER BRIDGE WIDEN TO 4 LANE HWY (ENV. WORK & DOC. FOR SR98) ENVIRONMENTAL WORK AND DOCUMENTATION FOR SR 98.	2020	\$7,457

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Imperial									
STATE HIGHWAY	CALTRANS	8020B	98				IN CALEXICO FROM V WILLIAMS AVE TO OLLIE AVE, WIDEN SR 98 FROM 2 TO 4 LANES, DEMO ID 416. PROJECT USING TOLL CREDITS TO MATCH DEMO FUNDS AND CBIP FUNDS.	2019	\$12,366
STATE HIGHWAY	CALTRANS	6120010	111	SR-111	SR-98	I-8	WIDEN AND IMPROVE TO 6 LANE FREEWAY WITH INTERCHANGES AT HEBER, MCCABE, AND JASPER AND OVERPASS AT CHICK RD.	2030	\$999,136
STATE HIGHWAY	CALTRANS	6120007	115	SR-115	I-8/SR-7 INTERCHANGE	EVAN HEWES HIGHWAY/SR-115 JUNCTION	CONSTRUCT 4-LANE EXPRESSWAY	2030	\$232,157
STATE HIGHWAY	CALTRANS	0505	186				ANDRADE INTERNATIONAL BORDER CROSSING IN ANDRADE, AT THE ANDRADE INTERNATIONAL PORT OF ENTRY. CONSTRUCT BICYCLE AND PEDESTRIAN FACILITIES	2018	\$3,170
STATE HIGHWAY	CALTRANS	6M04018-IMP0523a	999				IN EL CENTRO ON DOGWOOD RD, RECONSTRUCT AND WIDEN BRIDGE FROM 2 TO 4 LANES; WITH 2 TURN LANES (DEMO ID 409 - HPP 950)	2020	\$27,499
STATE HIGHWAY	CALTRANS	6M04018-IMP140804	999				I-8/DOGWOOD INTERCHANGE LANDSCAPE MITIGATION. IN EL CENTRO EAST OF DOGWOOD ROAD OVERCROSSING REVISED INTERCHANGE.	2020	\$3,694
STATE HIGHWAY	IMPERIAL COUNTY TRANSPORTATION COMMISSION (ICTC)	60M0701-IMP100101	999				PLANNING, PROGRAMMING, AND MONITORING (PPM) FUNDS TO PAY FOR ELIGIBLE STAFF AND PROGRAM EXPENSES FOR ICTC	2017	\$2,419
STATE HIGHWAY	VARIOUS AGENCIES	60M0701-IMP140805	999				IMPERIAL DUNES TRAIL MAP	2016	\$29
STATE HIGHWAY	VARIOUS AGENCIES	60M0701-IMPL508	999				GROUPED PROJECTS FOR PLANTINGS, LANDSCAPING, ETC. (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PLANTINGS, LANDSCAPING, ETC.)	2018	\$985
TRANSIT	BRAWLEY	IMP33000-IMP140204	0				ADA ACCESS AND BUS STOP IMPROVEMENT CAPITAL IMPROVEMENT PLAN FOR STOPS ON THE IMPERIAL VALLEY	2016	\$1,153
TRANSIT	BRAWLEY	IMP33004	0				BRAWLEY DIAL-A-RIDE - OPERATING ASSISTANCE	2018	\$3,439
TRANSIT	CALEXICO	IMP33021	0				CALEXICO DIAL-A-RIDE OPERATING ASSISTANCE	2018	\$5,530

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Imperial									
TRANSIT	CALTRANS	IMP33000-IMP140803	0				HEBER BUS STOP AND PEDESTRIAN ACCESS IMPROVEMENT PROJECT AT SR-86	2016	\$800
TRANSIT	EL CENTRO	IMP990401	0				EL CENTRO DIAL-A-RIDE OPERATING ASSISTANCE	2018	\$4,380
TRANSIT	IMPERIAL CITY	6TDL04-IMP11101	0				TRANSIT TRANSFER TERMINAL IN THE CITY OF IMPERIAL (CARRYOVER FROM PRIOR, FY11/12, \$974, 5309C)	2017	\$1,217
TRANSIT	IMPERIAL CITY	IMP33006	0				CITY OF IMPERIAL DIAL-A-RIDE - OPERATING ASSISTANCE	2018	\$2,045
TRANSIT	IMPERIAL COUNTY TRANSPORTATION COMMISSION (ICTC)	IMP33000-IMP150301	0				HIRING OF A MOBILITY MANAGER	2018	\$180
TRANSIT	IMPERIAL COUNTY TRANSPORTATION COMMISSION (ICTC)	IMP33000-IMP33000	0				COUNTY WIDE TRANSIT SYSTEM - OPERATING AND CAPITAL ASSISTANCE	2018	\$67,724
TRANSIT	IMPERIAL COUNTY TRANSPORTATION COMMISSION (ICTC)	IMP33023	0				MED-EXPRESS SHUTTLE OPERATIONAL ASSISTANCE	2018	\$2,752
TRANSIT	IMPERIAL COUNTY TRANSPORTATION COMMISSION (ICTC)	IMP43000	0				WEST SHORES DIAL-A-RIDE OPERATIONAL ASSISTANCE	2018	\$1,629
TRANSIT	IMPERIAL COUNTY TRANSPORTATION COMMISSION (ICTC)	IMP33000-IMP1301004	0				COUNTY WIDE TRANSIT SYSTEM - IVT GOLD LINE - CAPITAL AND OPERATIONAL ASSISTANCE	2016	\$749
TRANSIT	IMPERIAL COUNTY TRANSPORTATION COMMISSION (ICTC)	IMP33003	0				ADA PARATRANSIT SERVICE OPERATING ASSISTANCE	2018	\$22,336
TRANSIT	VARIOUS AGENCIES	6120006	0	CALEXICO INTERMODAL TRANSPORTATION CENTER			CONSTRUCT CALEXICO INTERMODAL TRANSPORTATION CENTER	2018	\$9,467
TRANSIT	VARIOUS AGENCIES	IMP33000-IMP150302	0				2 REPLACEMENT BUSES, TYPE VII, TOLL CREDITS USED AS MATCH FOR 5310 FUNDS: \$31 IN FY14/15 FOR CON	2016	\$184

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Imperial									
TRANSIT	VARIOUS AGENCIES	IMP33000-IMP150303	0				1 REPLACEMENT BUSES, TYPE III AND EQUIPMENT PURCHASE. TOLL CREDITS USED AS MATCH FOR 5310 FUNDS: \$30 IN FY14/15 FOR CON	2016	\$178
TRANSIT	VARIOUS AGENCIES	6160001		SR-7	N/A	N/A	CALEXICO EAST PORT OF ENTRY INTERMODAL TRANSPORTATION CENTER	2025	\$7,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY		100702	0	RETROFIT SOUNDWALL PROGRAM	COUNTYWIDE		COUNTYWIDE SOUNDWALLS (METRO REGIONAL LINES AND MONTEREY PARK/SR-60)	2035	\$2,114,400
LOCAL HIGHWAY	AGOURA HILLS	LA06739	0	AGOURA ROAD	WESTERLY CITY LIMIT	CORNELL DRIVE	AGOURA ROAD WIDENING. WIDEN AND REALIGN ROADWAY FROM WESTERLY CITY LIMITS TO CORNELL DRIVE (APPROX 2 MILES). SOME AREAS ARE TWO LANES AND WILL BE WIDENED TO FOUR LANES. THE OTHER PORTIONS OF THE STREET ALREADY HAVE FOUR LANES. CONSTRUCT/ MODIFY SIDEWALKS AND BIKE LANES (2 MILES); ADD LANDSCAPED MEDIANS.	2016	\$17,210
LOCAL HIGHWAY	ARCADIA	1N104-LAF3607	0	SANTA CLARA STREET	1ST AVENUE	SANTA ANITA AVENUE	ARCADIA GOLD LINE STATION PEDESTRIAN LINKAGE PROJECT, DESIGN AND CONSTRUCTION OF PEDESTRIAN IMPROVEMENTS AROUND THE PLANNED GOLD LINE ARCADIA STATION, CONNECTING THE COMMUNITIES WITH THE REGIONAL RAIL SYSTEM.	2015	\$2,379
LOCAL HIGHWAY	ARCADIA	LAF1197-LAF1197	0	HUNTINGTON DRIVE	COLORADO PLACE/COLORADO PLACE	SANTA CLARA STREET	HUNTINGTON DR CAPACITY IMPROVEMENTS. MITIGATION COSTS EXCLUDED (PROJECT INVOLVES TRAFFIC FLOW AND CAPACITY IMPROVEMENTS INCL THE ADDITION OF A THROUGH LANE, TURN LANES & RECONSTRUCTION OF MEDIAN & CHANNELIZING ISLANDS)	2014	\$2,925
LOCAL HIGHWAY	ARROYO VERDUGO COUNCIL OF GOVERNMENTS	101012	0				HIGHWAY OPERATIONAL IMPROVEMENTS IN ARROYO VERDUGO SUBREGION	2016	\$260,000
LOCAL HIGHWAY	AZUSA	LAE1285	0	AZUSA AVE.	FIFTH STREET	SANTA FE AVE.	REHABILITATE PAVEMENT ON AZUSA AVENUE IN AZUSA. PROJECT LIMITS ARE FROM FIFTH ST. TO SANTA FE AVE..	2014	\$360
LOCAL HIGHWAY	BALDWIN PARK	1N104-LAF3507	0	BALDWIN PARK BLVD	SG RIVER	WALNUT CREEK	SOUTH BALDWIN PARK COMMUTER BIKEWAY PROJECT. CONSTRUCT 3-MILE COMMUTER CLASS BIKE PATH ALONG SAN GABRIEL RIVER AND WALNUT CREEK CONNECTING TO MAJOR EMPLOYMENT CENTERS ON BALDWIN PARK BLVD.	2015	\$820
LOCAL HIGHWAY	BALDWIN PARK	LAE2517	0	MAINE AVE	RAMONA AVENUE	BOGART	WIDEN MAINE AVE. IN BALDWIN PARK ADD 1(RIGHT TURN AND 1 LEFT TURN ONLY LANE (SAFETEA-LU DEMO ID #2517). NOT A CAPACITY ENHANCEMENT PROJECT...	2015	\$683

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	BELLFLOWER	LAE0326	0	ALONDRA BLVD.	CLARK AVE.	WOODRUFF AVE.	CREATION OF A RAISED MEDIAN ON ALONDRA BLVD. BETWEEN CLARK AND WOODRUFF TO IMPROVE TRAFFIC SAFETY AND EFFICIENCY. THE MEDIAN WILL PROVIDE LANDSCAPING, LIGHTING AND IRRIGATION	2015	\$385
LOCAL HIGHWAY	BELLFLOWER	LAE1655	0	SR 91 AT BELLFLOWER BLVD.	BELLFLOWER BLVD.	BELLFLOWER BLVD.	LANDSCAPE AND IRRIGATE EAST BOUND 91 FREEWAY ON AND OFF RAMP AT BELLFLOWER BL.	2015	\$240
LOCAL HIGHWAY	BURBANK	1NLO4-LAF1502	0	SAN FERNANDO	COHASSETT	BURBANK METROLINK STATION	SAN FERNANDO BIKEWAY. IMPLEMENT A CLASS I BIKEWAY ALONG SAN FERNANDO BLVD, VICTORY PLACE AND BURBANK WESTERN CHANNEL TO COMPLETE THE BURBANK LEG OF A 12 MILE BIKEWAY.	2017	\$8,239
LOCAL HIGHWAY	BURBANK	LAE0726	0	VANDWEN/CLYBOURN	NA	NA	VANDWEN/EMPIRE/CLYBOURN RAILROAD CROSSING GRADE SEPARATION STUDY PROJECT	2020	\$1,000
LOCAL HIGHWAY	CARSON, CITY OF	LA0D173	0	SEPULVEDA BLVD	ALAMEDA ST	EAST CITY LIMIT	BRIDGE NO. 53C0652, SEPULVEDA BLVD, OVER DOMINGUEZ CHANNEL, 1/2 MILE/O ALAMEDA ST. REHABILITATE 4-LANE BRIDGE & WIDEN TO 6-LANE, UPGRADE BRIDGE RAILINGS.	2017	\$6,000
LOCAL HIGHWAY	COMMERCE	LAE3085	0	WASHINGTON BOULEVARD	I-5	350' WEST OF INDIANA	WIDEN AND RECONSTRUCT WASHINGTON BOULEVARD FROM WESTERN CITY BOUNDARY AT VERNON [350' WEST OF INDIANA STREET] TO I-5 FREEWAY AT TELEGRAPH RD., WIDEN FROM 2 LANES TO 3 LANES IN EACH DIRECTION, INCREASE TURN RADIUS AND MEDIANS, UPGRADE TRAFFIC SIGNALS AND STREET LIGHTING AND IMPROVE SIDEWALKS.	2015	\$32,000
LOCAL HIGHWAY	COMPTON	LAE1321	0	CITY OF COMPTON VARIOUS LOCATION	NORTH & SOUTH	EAST & WEST	COMPTON ARTERIAL RECONSTRUCTION AND IMPROVEMENT PROGRAM (NON-CAPACITY).	2014	\$3,840
LOCAL HIGHWAY	COMPTON	LAE2194	0	GREENLEAF BLVD	CENTRAL AVE	ALAMEDA ST	GREENLEAF ROW COMMUNITY ENHANCEMENT PROJECT DESIGN AND CONSTRUCTION OF BIKEWAY PED WALK WAY AND UPGRADE SIGNALIZATION	2015	\$3,840
LOCAL HIGHWAY	COMPTON	LAE2819	0	ROSECRANS	NA	NA	ROSECRANS AVE OVERHEAD AND ARTERIAL RECONSTRUCTION PROJECT (NON-CAPACITY).	2016	\$15,000
LOCAL HIGHWAY	COMPTON	LAE3768	0	VARIOUS LOCATION	NORTH & SOUTH	EAST & WEST	COMPTON ARTERIAL RECONSTRUCTION AND IMPROVEMENT PROGRAM (NON-CAPACITY).	2014	\$3,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	COMPTON	LA0B7326	0	COMPTON CREEK	GREENLEAF	S. CITY LIMIT	COMPTON CREEK BIKEWAY EXTNS - PHASE II DESIGN & CONSTRUCT .6 MI OF CLAS 1 BIKE/PEDESTRIAN PATH FROM GREENLEAF BLVD TO ARTESIA Fwy WILL INC BIKE PATH, PEDESTRIAN WALKWAY SIGNAGE, STRIPING. (PPNO 28669).	2015	\$427
LOCAL HIGHWAY	CULVERCITY	1NLO4-LAF1659	0	WASHINGTON BLVD.	INGLEWOOD	ROBERTSON	PEDESTRIAN IMPROVEMENTS FOR INTERSECTIONS WITH BUS STOPS. THIS PROJECT CONSISTS OF SAFETY AND AESTHETIC-RELATED PEDESTRIAN IMPROVEMENTS AT INTERSECTIONS ALONG MAJOR ARTERIALS WITH HIGH TRANSIT AND PEDESTRIAN ACTIVITIES WITHIN THE CITY OF CULVERCITY.	2014	\$1,066
LOCAL HIGHWAY	CULVERCITY	LA0G451	0	HIGUERA ST	EASTHAM DR.	JEFFERSON BLVD.	BRIDGE NO. 53C0876, HIGUERA ST, OVER BALLONA CR. BETWEEN EASTHAM DRIVE AND JEFFERSON BLVD. REPLACE 3 LANE BRIDGE WITH A NEW 4 LANE BRIDGE....	2018	\$8,091
LOCAL HIGHWAY	CULVERCITY	LAE3069	0	SEPULVEDA BOULEVARD	PLAYA STREET	GREEN VALLEY CIRCLE	SEPULVEDA BOULEVARD WIDENING PROJECT TO ADD A THIRD SOUTHBOUND LANE ON SEPULVEDA BOULEVARD WITHIN THE EXISTING RIGHT OF WAY BETWEEN JEFFERSON BLVD/PLAYA STREET TO GREEN VALLEY CIRCLE. SEPULVEDA BLVD FROM SAWTELL AVE TO JEFFERSON/PLAYA ST WILL BE RE-STRIPED.	2014	\$8,132
LOCAL HIGHWAY	DOWNEY	LAE0479	0	FIRESTONE BLVD.	RYERSON AVE.	STEWART & GRAY RD.	FIRESTONE BLVD. FROM RYERSON AVE AND STEWART & GRAY RD. WIDEN SECTIONS OF FIRESTONE (BOTTLENECK FOR TURN LANES; ST RECONSTRUCTION, REHAB, & RESURFACE; & UPGRADE HANDICAP RAMPS	2016	\$2,000
LOCAL HIGHWAY	DOWNEY	LAE1633	0	FIRESTONE BLVD.	OLD RIVER SCHOOL RD.	OLD RIVER 104 SCHOOL RD.	STUDY REPORT FOR THE INTER. OF OLD RIVER SCHOOL RD, FIRESTONE BLVD & UNION PACIFIC RAILROAD. REVIEW/ANALYZE OPERATIONS & SAFETY ASPECTS, DESIGN OPTIONS ETC. (E/P & PS/E ONLY)	2016	\$500
LOCAL HIGHWAY	DOWNEY	LAE2293	0	PARAMOUNT BOULEVARD	GARDENDALE ST.	TELEGRAPH RD.	PARAMOUNT BLVD FROM GARDENDALE ST AND TELEGRAPH RD -- ITS IMPROVEMENTS AS WELL AS MINOR WIDENING AT CRITICAL INTERSECTIONS TO ALLOW FOR SAID IMPROVEMENTS (NON-CAPACITY).	2016	\$1,904

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	DOWNEY	LAF3114	0	LAKEWOOD BOULEVARD	FLORENCE AVE.	TELEGRAPH RD.	LAKEWOOD BOULEVARD PHASE 3 IMPROVEMENTS. WIDEN TO PROVIDE 3 LANES IN EACH DIRECTION & 50 CURB RETURNS AT INTERSECTIONS, RECONSTRUCT INFRASTRUCTURE TO EXTEND LIFE BY 50 YEARS, REPLACE LANDSCAPING, LIGHTING, & TRAFFIC SIGNALS. PROJECT WILL GO FROM 4 TO 6 LANES	2016	\$7,778
LOCAL HIGHWAY	EL MONTE	1NLO4-LAF1504	0	TYLER	GARVEY	VALLEY	EL MONTE: TRANSIT CYCLE FRIENDLY; EL MONTE PROPOSES TO IMPLEMENT THE 1ST PHASE OF THE EL MONTE BIKE-TRANSIT HUB COMPONENT (METRO BICYCLE TRANSPORTATION STRATEGIC PLAN) A COUNTYWIDE EFFORT TO IMPROVE BIKE FACILITIES	2015	\$166
LOCAL HIGHWAY	GLENDALE	LA0G406	0	FAIRMONT AVE	FAIRMONT AVE	SAN FERNANDO RD.	FAIRMONT AVE - PARK-N-RIDE FACILITY (63 PARKING SPACES) TO SERVE COMMUTERS USING SR-134, I-5. THE LOCATION OF THE PARK-N-RIDE IS FAIRMONT AVENUE AND SAN FERNANDO RD, ON THE SOUTH SIDE OF FAIRMONT AVENUE BETWEEN SAN FERNANDO ROAD AND SR-134 WESTBOUND FREEWAY RAMP. THE WORK INCLUDES EARTHWORK, DRAINAGE, AND PLACEMENT OF AC, LIGHTING, LANDSCAPING, FENCING, AND SIGNAGE WORK. THE WORK ALSO INCLUDES INSTALLING A SIDEWALK FOR PEDESTRIAN ACCESS FROM SAN FERNANDO ROAD.	2014	\$2,000
LOCAL HIGHWAY	GLENDALE	LAE0084	0	ADAMS STREET	CHEVY CHASE DR.	S/O FREEWAY 134	ADAMS STREET REHABILITATION PROJECT. NONE CAPACITY TYPE PROJECT.	2016	\$372
LOCAL HIGHWAY	HAWTHORNE	LAE2906	0	MARINE AVE.	AVIATION BLVD.	I-405	MARINE AVENUE AND AVIATION BOULEVARD INTERSECTION IMPROVEMENT PROJECT INCLUDES STREET WIDENING. PROPOSING TO WIDEN THE NORTH SIDE OF MARINE AVENUE TO ADD THE NEEDED LANE CAPACITY ON MARINE AVENUE AT AVIATION BOULEVARD. THIS PROJECT WILL REQUIRE 23' OF DEDICATION FROM FFA RIGHT-OF-WAY ON THE NORTH SIDE OF MARINE AVENUE TO ACCOMMODATE A SECOND WESTBOUND LEFT-TURN LANE (RESULTING IN DOUBLE LEFT-TURN LANES), A 3RD WESTBOUND THROUGH LANE AND A DEDICATED WESTBOUND RIGHT-TURN POCKET	2017	\$900

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	INDUSTRY	LA0D442	0	PECK RD @ 605	SGV RIVER		RETROFITTING THE EXISTING TWO-LANE WIDE PECK ROAD BRIDGE OVER THE SAN GABRIEL RIVER FWY (ROUTE 605) & WIDEN IT TO ACCOMMODATE 4 LANES (2 EACH DIRECTION) TO ELIMINATE BOTTLENECK	2017	\$13,600
LOCAL HIGHWAY	INDUSTRY	LA0D443	0	AZUSA AVE VALLEY	VALLEY		REHABILITATING THE EXISTING AZUSA AVE BRIDGE OVER THE UPRR TRACKS AND VALLEY BLVD, APPLY NEW PAINT TO THE EXISTING STEEL BRIDGE TO AVOID FURTHER WEATHER CORROSION. TOLL CREDITS WILL BE USED TO MATCH STPL FUNDS.	2017	\$2,912
LOCAL HIGHWAY	INDUSTRY	LAF5100-LAF5100	0	GRAND AVENUE SR 60	LAVENDER DR		SR57/60 CONFLUENCE, IMPROVE GRAND AVENUE INTERSECTION AT GOLDEN SPRINGS DRIVE: WIDEN GRAND AVE, FROM SR-60 FREEWAY TO LAVENDER DRIVE, A DISTANCE OF 0.2 MILES. PROJECT WILL ADD 1 THRU SB LANE AND 2 THRU NB LANE. WIDEN GOLDEN SPRINGS DRIVE BETWEEN COPLEY DR AND RACQUET CLUB DRIVE. ADD WB LEFT-TURN LANE AND A DEDICATED RIGHT-TURN LANE. WIDEN SIDEWALKS AND ADD PEDESTRIAN COUNTDOWN SIGNALS.	2017	\$16,819
LOCAL HIGHWAY	INGLEWOOD	1NLO4-LAF3130	0	FLORENCE AVENUE LABREA	WEST		FLORENCE AVE REGIONAL TRANSPORTATION CORRIDOR IMPRVT PROJ, RECONFIGURATION OF 1.2 MILE SEGMENT OF FLORENCE AV INCLUDING NEW FLORENCE AV/REDONDO BL INTERSECTION & RELATED CAPACITY PED/BIKE IMPRV TO REBALANCE STREET INTO MULTIMODAL CORRIDOR.	2015	\$4,091
LOCAL HIGHWAY	INGLEWOOD	LA0D188	0	NA	NA		ARBORVITAE STREET FROM LA BREA AVENUE TO PRAIRIE AVENUE - RECONSTRUCTING/UPGRADING PAVEMENT, NEW C&G SIDEWALKS, DRIVEWAYS, PEDESTRIAN RAMPS, LANDSCAPING AND STREET LIGHTING.	2015	\$3,532
LOCAL HIGHWAY	INGLEWOOD	LAE1934A	0	CENTURY BLVD LACIENEGA BL	VAN NESS AVE.		CENTURY BLVD PEDESTRIAN SAFETY AND TRANSPORTATION IMPROVEMENTS.ELEMENTS WILL INCLUDE THE ADDITION OF EXCLUSIVE RIGHT AND LEFT TURN LANES, RAISED MEDIANS, TRAFFIC SIGNAL AND STREET LIGHT UP-GRADES, CROSSWALK AND SIDEWALK IMPROVEMENTS, PARKWAY LANDSCAPING AND PAVEMENT REHABILITATION.	2014	\$4,428

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LANCASTER	1NLO4-LA0G166	0	30TH STREET WEST	AVENUE M	AVENUE L	WIDENING OF 30TH ST WEST FROM AVENUE M TO AVENUE L (APPROX. 1 MILE) FROM 2 VEHICULAR TRAVEL LANES TO 4 LANES. 8 FOOT CLASS II BIKE LANES WILL BE STRIPPED ON BOTH SIDES OF THE STREET.	2021	\$2,280
LOCAL HIGHWAY	LANCASTER	LA0D447	0	AVENUE L	SR 14	60TH STREET WEST	AVENUE L GAP CLOSURE FROM 60TH STREET WEST TO 30TH WEST, ADDING AN ADDITIONAL LANE IN EACH DIRECTION, INCLUDING A MEDIAN (WITHIN CITY JURISDICTION)	2019	\$4,620
LOCAL HIGHWAY	LAS VIRGENES MALIBU COUNCIL OF GOVERNMENTS (LVMCOG)	101013	0				HIGHWAY OPERATIONAL IMPROVEMENTS IN LAS VIRGENES/MALIBU SUBREGION	2016	\$253,300
LOCAL HIGHWAY	LONG BEACH	1NLO4-LAF1528	0	WILLOW STREET	SAN GABRIEL RIVER BIKE PATH	STUDEBAKER RD.	SAN GABRIEL RIVER BIKE PATH GAP CLOSURE AT WILLOW STREET. CREATION OF OFF-STREET BICYCLE PATH TO ACHIEVE BICYCLE ROUTE GAP CLOSURE ON WILLOW STREET FROM THE SAN GABRIEL RIVER BIKE PATH WEST TO STUDEBAKER ROAD. BIKE PATH DISTANCE .5 MILES.	2016	\$978
LOCAL HIGHWAY	LONG BEACH	1NLO4-LAF1530	0	VARIOUS STREETS AND ACCESS IMPROVEMENTS TO LAR BIKE PATH	LA RIVER	ORANGE AVE.	BICYCLE SYSTEM GAP CLOSURES & IMPROVED LA RIVER BIKE PATH. PROJECT WILL CONSTRUCT PRIORITY CLASS I & III BICYCLE SYSTEM GAP CLOSURES IN LONG BEACH AND IMPROVE CONNECTION TO LA RIVER. CLASS II BIKE LANES 4.8 MILES, CLASS III 3 MILES.	2015	\$1,231
LOCAL HIGHWAY	LONG BEACH	1NLO4-LAF1836	0	ATHERTON STREET	BELLFLOWER	LOS CERRITOS CHANNEL	CITY OF LONG BEACH ATHERTON STREET ENHANCEMENT PROJECT. REHABILITATING THE LANDSCAPED MEDIAN TO ENHANCE THE EXPERIENCE OF OVER 37,000 PEDESTRIANS, BICYCLISTS, TRANSIT USERS AND AUTOS DAILY.	2014	\$1,322
LOCAL HIGHWAY	LONG BEACH	1NLO4-LAF3615	0	LONG BEACH BLVD.	WILLOW AVE.	405 FREEWAY	LONG BEACH BLVD. PEDESTRIAN IMPROVEMENT PROJECT. PROJECT PROVIDES PEDESTRIAN-ORIENTED IMPROVEMENTS TO LONG BEACH BOULEVARD INCLUDING PEDESTRIAN LIGHTING, STREET TREES, AND CROSSWALK TREATMENTS.	2017	\$2,521
LOCAL HIGHWAY	LONG BEACH	LA0C8094	0	PIER B STREET	9TH STREET	PIER B ST. S.	PIER B INTERMODAL RAIL YARD EXPANSION. PROJECT WILL EXPAND PIER B INTERMODAL RAIL YARD TO FACILITATE ADDITIONAL RAIL SHIPMENTS.	2022	\$250,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LONG BEACH	LA0C8129	0	VARIOUS	VARIES	VARIES	PORTS OF LONG BEACH AND LOS ANGELES ATMS/ATIS PROJECT TO IMPROVE TRAFFIC OPERATIONS ON THE: I-710, I-110, SR47/103.	2014	\$11,410
LOCAL HIGHWAY	LONG BEACH	LA0G6830	0	N/A	N/A	N/A	I-710 IMPROVEMENTS/SHOEMAKER BRIDGE - DOWNTOWN EXITS. THE PROJECT MAKES BICYCLE, PEDESTRIAN, AND STREETSCAPE IMPROVEMENTS ON MAJOR THOROUGHFARES.	2020	\$85,000
LOCAL HIGHWAY	LONG BEACH	LAE0701	0	SHOEMAKER BRIDGE	710 FREEWAY	LONG BEACH BLVD.	DEVELOP AND IMPLEMENT TRAFFIC CALMING MEASURES FOR TRAFFIC EXITING THE I-710 INTO LONG BEACH	2015	\$1,920
LOCAL HIGHWAY	LONG BEACH	LAE1296	0	ALL STREETS	CITY LIMIT	CITY LIMIT	LONG BEACH INTELLIGENT TRANSPORTATION SYSTEM	2015	\$2,880
LOCAL HIGHWAY	LONG BEACH	LAE3793	0	CALIFORNIA AVE,	WILLOW AVE.	SPRING ST.	CALIFORNIA AVE WIDENING: FROM WILLOW AVE AND SPRING ST WIDEN CALIFORNIA AVE TO SECONDARY MODIFIED HIGHWAY STREET STANDARDS (NON-CAPACITY).	2015	\$1,200
LOCAL HIGHWAY	LONG BEACH	1NLO4-LAF3503	0	SOUTH WATERFRONT BIKE PATH	QUEENSWAY BRIDGE	QUEEN MARY	LONG BEACH SOUTH WATERFRONT BIKE PATH GAP CLOSURE. THE SOUTH WATERFRONT BIKE PATH CONNECTION PROPOSES A MAIN GAP-CLOSURE TO LONG BEACH'S PRIMARY BIKEWAY NETWORK. THIS CLASS I PATH INCLUDES A MID-BLOCK CROSSING AND WAYFINDING SIGNS. THE PROPOSED SOUTH WATERFRONT BIKE PATH STARTS AT THE NORTH END OF THE QUEENSWAY BRIDGE AT THE EXISTING TERMINUS OF THE CLASS I PATH. BIKE PATH DISTANCE: 50 MILES.	2016	\$885
LOCAL HIGHWAY	LONG BEACH	1NLO4-LAF3518	0	6TH STREET	JUNIPERO	BELLFLOWER	DAISY CORRIDOR AND 6TH STREET BIKE BOULEVARD. CONSTRUCT TWO (2) BICYCLE BOULEVARDS ALONG TWO CORRIDORS KNOWN AS THE DAISY CORRIDOR AND 6TH STREET IN LONG BEACH. THE PROPOSED BIKE BOULEVARD ALONG THE DAISY CORRIDOR IS A NORTH-SOUTH ROUTE BETWEEN BROADWAY.	2016	\$2,655

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES COUNTY	1A1005	0	THE OLD ROAD	MAGIC MOUNTAIN PARKWAY	HENRY MAYO DRIVE	WIDEN THE OLD ROAD FROM NORTH OF MAGIC MOUNTAIN PKWY TO HENRY MAYO DR TO 1200 FT WEST OF THE OLD ROAD. PROJECT IS LOCATED ON THE OLD RD. FROM APPROXIMATELY 700 FT NORTH OF MAGIC MOUNTAIN PARKWAY TO HENRY MAYO DR FROM THE OLD ROAD TO THE SR126 HOOK RAMPS, AND RYE CANYON RD BTWN THE OLD RADD AND AVENUE STANFORD. WIDENING FROM 4 TO 6 LANES TO REDUCE BOTTLENECK. TOLL CREDITS WILL BE USED TO MATCH STPL FUNDS.	2019	\$67,222
LOCAL HIGHWAY	LOS ANGELES COUNTY	1NLO4-LAF1514	0	DUARTE ROAD	SAN GABRIEL	BIKE TRAIL	EMERALD NECKLACE BIKE TRAIL PROJECT. DESIGN AND CONSTRUCT 11 MILES OF CLASS I BIKE PATH TO CONNECT DUARTE ROAD TO THE SAN GABRIEL RIVER BICYCLE TRAIL.	2015	\$503
LOCAL HIGHWAY	LOS ANGELES COUNTY	1NLO4-LAF1634	0	EL PUEBLO LOS ANGELES DOWNTOWN	ALAMEDA ST	HILL ST	EL PUEBLO PEDESTRIAN IMPROVEMENTS PHASE I, II, III, & IV DESIGN AND CONSTRUCTION OF ENHANCED FACILITIES TO IMPROVE & ASSIST PEDESTRIAN MOVEMENT IN THE EL PUEBLO DISTRICT & OTHER LANDMARKS IN DOWNTOWN LA. WAYFINDING ELEMENT IN TDM FT718.	2015	\$12,763
LOCAL HIGHWAY	LOS ANGELES COUNTY	1NLO4-LAF1718	0	EL PUEBLO LOS ANGELES DOWNTOWN	ET	AL.	EL PUEBLO PEDESTRIAN IMPROVEMENTS PHASE I, II, III & IV. WAYFINDING ELEMENT OF ENHANCED PEDESTRIAN FACILITIES TO IMPROVE AND ASSIST PEDESTRIAN MOVEMENT IN THE EL PUEBLO DISTRICT & OTHER LANDMARKS IN DOWNTOWN LA. ALSO IN PED MODE (F1634)	2015	\$1,746
LOCAL HIGHWAY	LOS ANGELES COUNTY	1NLO4-LAF3519	0	VARIOUS LOCATIONS IN NORTH COUNTY	VARIOUS LOCATIONS	NORTH LA COUNTY	NORTH COUNTY BIKEWAYS. INSTALL THREE CLASS II AND THREE CLASS III BIKEWAY SEGMENTS, INCLUDING SIGNAGE, STRIPING, ROAD WIDENING, & ROAD SHOULDER IMPROVEMENTS. (APPROX. 3.88 MILES OF BIKE LANES AND 3.18 MILES OF BIKE ROUTES.)	2018	\$1,825
LOCAL HIGHWAY	LOS ANGELES COUNTY	LA0D260	0	STATE ROUTE 90	MINDANAO WAY	LINCOLN BLVD	STATE ROUTE 90 CONNECTOR ROAD TO ADMIRALTY WAY. THIS PROJECT WILL IMPROVE THE SR-90/SR-1 INTERSECTION INCLUDING THE ADDITION OF A LANE IN EACH DIRECTION AND CONSTRUCTION OF A DIRECT ROAD BETWEEN ADMIRALTY WAY AND SR-90	2016	\$6,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES COUNTY	LA0D461	0	OLD ROAD	HILLCREST PKWY	LAKE HUGHES RD	RECONSTRUCT- THE OLD ROAD FROM HILLCREST PARKWAY TO LAKE HUGHES RD & WIDEN FROM 40' TO 66'; 2 VEH. LANES AND A 5' CLASS II BIKELANE IN EA DIR & STRIPPED MEDIAN (FROM 2 TO 4 LNS 2 EA DIR) FOR 2.1 MILES.	2021	\$24,743
LOCAL HIGHWAY	LOS ANGELES COUNTY	LA0D465	0	COLIMA	HACIENDA	FULLERTON	COLIMA ROAD- CITY OF WHITTIER LIMITS TO FULLERTON ROAD, FOR A TOTAL DISTANCE OF 4.9 MILES. THE PROJECT WILL WIDEN COLIMA RD BY UP TO SIX FEET AT SPOT LOCATIONS AND RES TRPE TO ACCOMMODATE THREE THROUGH LANES IN EACH DIRECTION.. A CLASS II BIKEWAY FROM THE CITY OF WHITTIER WILL BE EXTENDED TO ALLENTON AV. A DISTANCE OF 12 MILES, AND BUS PADS WILL BE REPLACED. INCLUDES MEDIAN LANDSCAPING. TOLL CREDITS USED TO MATCH FY 14/15 AND FY 15/16 CMAQ.	2020	\$11,538
LOCAL HIGHWAY	LOS ANGELES COUNTY	LA971031	0	CASTAIC CUT OFF	LAKE HUGHES	SAN FRANCISQUITO	CASTAIC CUTOFF FROM LAKE HUGHES RD TO SAN FRANCISQUITO CANYON RD CONTRUCT NEW ROAD 4 12- FOOT LANES AND 10-FOOT SHOULDERS	2018	\$7,600
LOCAL HIGHWAY	LOS ANGELES COUNTY	LAE0896	0	COLIMA	COLIMA @	FULLERTON	THIS PROJECT WILL INVOLVE INSTALLATION OF FIBER OPTIC COMMUNICATIONS FOR THE TRAFFIC SIGNALS ALONG COLIMA ROAD FROM AZUSA AVE TO STONER CREEK ROAD AND ALONG FULLERTON ROAD FROM COLIMA ROAD TO GALE AVENUE. CAMERAS AND CONNECTING CABLES WILL BE INSTALLED AT THE INTERSECTION OF COLIMA ROAD AND STONER CREEK ROAD. A RIGHT TURN LANE WILL ALSO BE ADDED TO THE INTERSECTION OF COLIMA ROAD AND FULLERTON ROAD	2017	\$1,500
LOCAL HIGHWAY	LOS ANGELES COUNTY	LAE1228	0	ROSECRANS AVE AND ALONDRA BLVD.	EAST SIDE SG RIVER	WEST SIDE SG RIVER	REPAIR ROSECRANS AND ALONDRA BRIDGES PER THE COUNTY OF LOS ANGELES TRIENNIAL INSPECTION REPORT.	2017	\$49
LOCAL HIGHWAY	LOS ANGELES COUNTY	LAE1920	0	DELA MO	NORMANDIE	NEW HAMPSHIRE	DELA MO BLVD - FROM NORMANDIE AVE AND NEW HAMPSHIRE - RECONSTRUCT AND WIDEN . FROM 1 LANE EA. DIR TO 2 LANES IN EA DIR.	2016	\$29,320

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES COUNTY	LAF5316	0	VARIOUS	VARIOUS	VARIOUS	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN & CONSTRUCTION OF MULTI JURISDICTIONAL SIGNAL SYSTEM IMPROVEMENTS ON REGIONAL ARTERIALS & ADVANCED ITS TECHNOLOGY. (APPROX. 770 INTERSECTIONS)	2015	\$8,627
LOCAL HIGHWAY	LOS ANGELES COUNTY	LA000800-LA0G1108	0	VARIOUS BRIDGE GROUPING LACOUNTY	LOS ANGELES COUNTY	LOS ANGELES COUNTY	MATCH TO HBP 3471 - LOS ANGELES COUNTY 3471 PM00043; BRIDGE PREVENTIVE MAINTENANCE PROGRAM; VARIOUS LOCATIONS WITHIN THE COUNTY OF LOS ANGELES. THIS PROJECT IS THE MATCH TO HBP 3471 IN GROUP PROJECT LA000800. TOLL CREDITS OF \$273 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE. TOLL CREDITS - LOCAL AND STATE HWY OF \$273 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	2015	\$2,499
LOCAL HIGHWAY	LOS ANGELES COUNTY MTA	LA0C8164	0	EXPOSITION BLVD.	VENICE BLVD.	SEPULVEDA BLVD.	EXPOSITION BLVD RIGHT-OF-WAY BIKE PATH-WESTSIDE EXTENSION. DESIGN AND CONSTRUCTION OF 2.5 MILES OF CLASS 1 BIKEWAY, LIGHTING, LANDSCAPING & INTERSECTION IMPROVEMENTS. (PPNO# 3184)	2018	\$14,710
LOCAL HIGHWAY	LOS ANGELES COUNTY MTA	LA29202N	0	NA	NA	NA	MTA TIP ADMINISTRATION PLANNING, PROGRAMMING AND MONITORING FOR STIP PROJECTS THROUGH OUT LA COUNTY (200 CFP 7116 STATE ONLY 3594,2001 CFP 8401, PPNO 3535, 9001A, 9001)	2021	\$83,457
LOCAL HIGHWAY	LOS ANGELES COUNTY MTA	LA990351-LA990351	0	GLENDALE BLVD. /FWY RT 2	GLENDALE	GLENDALE	IMPROVE GLENDALE BLVD/FWY RT 2 TERMINUS RECONFIG/ REDSIGN, TRAFFIC MGMT. NEIGHBORHOOD SAFETY MEASURES (TEA21-#413).	2015	\$14,258
LOCAL HIGHWAY	LOS ANGELES COUNTY MTA	LAE0938	0	NA	NA	NA	DESIGN AND CONSTRUCT REALIGNMENT OF BRAHMA DRIVE AT WINNETKA TO ELIMINATE HAZARDOUS CONDITION	2017	\$300
LOCAL HIGHWAY	LOS ANGELES COUNTY MTA	LAE1148	0	N/A	N/A	N/A	LOS ANGELES REGIONAL DIESEL EMISSIONS REDUCTION PROGRAM FOR ENGINE RETROFIT PROVIDES INCENTIVE GRANTS TO OWNER OPERATORS OLD DIESEL TRUCKS TO UPGRADE EQUIPMENT TO REDUCE EMISSIONS	2015	\$449
LOCAL HIGHWAY	LOS ANGELES COUNTY MTA	LAE1883	0	NA	NA	NA	STUDY - ORANGELINE CORRIDOR DEVELOPMENT PROJ - HIGH SPEED MAGLEV & STATION AREA DEVELOPMENT FROM NORTH LA TO SOUTH OC FOLLOWING SR14 AND FORMER PACIFIC RAILROAD CORRIDOR	2015	\$336

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES COUNTY MTA	LAE3439	0	NA	NA	NA	EXPAND DIESEL EMISSIONS REDUCTION PROGRAM OF GATEWAY CITIES COG	2015	\$2,676
LOCAL HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	100703	0	FREEWAY SERVICE PATROL	COUNTYWIDE		FREEWAY SERVICE PATROL	2035	\$858,900
LOCAL HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	100704	0	SAFE	COUNTYWIDE		SAFE	2035	\$25,600
LOCAL HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	101010	0				CALL FOR PROJECTS RESERVE	2030	\$81,287
LOCAL HIGHWAY	LOS ANGELES, CITY OF	11TS01	0	CITYWIDE	CITYWIDE		ITS PLATFORM UPGRADES-THIS PROJECT INCLUDES TWO PARTS: COMPUTER NETWORK ARCHITECTURE UPGRADE (CNA) AND COMMUNICATIONS SYSTEM & CENTRAL COMPUTER CORE UPGRADE (CSC). THE CNA WILL INCREASE CAPACITY OF THE ATSAC CENTRAL COMPUTER NETWORK. THE CSC INVOLVES UPGRADE OF NEW SOFTWARE COMMUNICATIONS STACKS TO INCREASE CAPABILITY OF EACH COMMUNICATIONS CHANNEL TO TRANSMIT VARIOUS TRAFFIC DATA.	2019	\$2,875
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LA0B7330	0	SAN FERNANDO RD.	FIRST ST.	BRANFORD ST.	SAN FERNANDO RD ROW BIKE PATH PHASE II-CONSTRUCT 2.75 MILES CLASS I FROM FIRST ST TO BRANFORD ST ON MTA-OWNED ROW PARALLEL TO SAN FERNANDO RD. LINK CYCLISTS TO NUMEROUS BUS LINE. PPNO 2868.	2014	\$10,198
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LA0G709	0	EL DORADO AV	BROMWICH ST	MONTAGUE ST	EL DORADO & BROMWICH SIDEWALK IMPROVEMENTS - IMPROVEMENTS WILL BE ON: 1) EL DORADO AV- BROMWICH ST TO MONTAGUE ST; AND 2) BROMWICH ST-EL DORADO AV TO SAN FERNANDO RD. CONSTRUCTION ELEMENTS WILL INCLUDE CONCRETE CURB, GUTTER, SIDEWALKS, ADA-COMPLIANT ACCESS RAMPS AND ASPHALT CONCRETE PAVING.	2014	\$586

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LA0G710	0	ECHO PARK AREA	SUNSET BLVD	SUNSET BLVD	ECHO PARK/SUNSET BL STREETScape BEAUTIFICATION - PROJECT WILL PROVIDE FOR CONSTRUCTION OF PEDESTRIAN AND STREETScape IMPROVEMENTS ALONG SUNSET BL IN THE ECHO PARK AREA. PROJECT ELEMENTS WILL INCLUDE SIDEWALK IMPROVEMENTS, STREET TREES, TRANSIT AMENITIES, AND PARKWAY LANDSCAPING.	2015	\$708
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LA0G860	0	OXFORD AVE. X ROMAINE ST.	VARIOUS	VARIOUS	LEMON GROVE LIGHTING PHASE 2 - LEMON GROVE AREA BOUNDED BY SANTA MONICA BLVD(NORTH), WESTERN AVE (WEST), LEMON GROVE AVE (SOUTH) AND THE HOLLYWOOD FREEWAY 101(EAST). INSTALL NEW STREET LIGHTING SYSTEM - INSTALLATION OF NEW CONDUIT, WIRING, PULLBOXES, FOUNDATIONS, STREET LIGHTING ELECTROLIERS. THIS PROJECT WILL USE \$31 OF TOLL CREDITS TO \$3 IN PE AND \$28 IN CONSTRUCTION IN FY2015. TOLL CREDITS OF \$3 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE PE PHASE, TOLL CREDITS OF \$28 WILL BE USED TO MATCH FY15	2015	\$267
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF1524	0	SAN FERNANDO RD.	BRANFORD ST.	TUXFORD ST.	SAN FERNANDO RD. BIKE PATH PH. IIIA/IIIB - CONSTRUCTION. RECOMMEND PHASE IIIA-CONSTRUCTION OF A CLASS I BIKE PATH WITHIN METRO OWNED RAIL RIGHT-OF-WAY ALONG SAN FERNANDO RD. BETWEEN BRANFORD ST. AND TUXFORD ST INCL BRIDGE. 2 MILE BIKEPATH.	2017	\$12,714
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF1535	0	CITYWIDE - VARIOUS LOCATIONS	N/A	N/A	BICYCLE WAYFINDING SIGNAGE PROGRAM. WAYFINDING SIGNS TO DIRECT BICYCLISTS, AND EDUCATE MOTORISTS, TO THE LOCATIONS OF DEDICATED BIKE PATHS, LANES AND ROUTES, DESTINATIONS, AND TRANSIT HUBS THROUGHOUT LOS ANGELES.	2015	\$504
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF1611	0	CESAR CHAVEZ	110 FREEWAY	ALAMEDA	CESAR CHAVEZ TRANSIT CORRIDOR (110 Fwy TO ALAMEDA). INSTALLATION OF PEDESTRIAN/TRANSIT RIDER AMENITIES INC. BUS STOP GARDENS AT THREE INTERSECTIONS. NEW PEDESTRIAN LIGHTING, STREET TREES IN A LANDSCAPED PARKWAY & WAYFINDING SIGNAGE.	2016	\$2,350

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF1612	0	N/A	N/A	N/A	CENTURY CITY URBAN DESIGN AND PEDESTRIAN CONNECTION PLAN. PROJECT WILL IMPLEMENT SIDEWALK IMPROVEMENTS, DECORATIVE CROSSWALKS, MEDIAN ISLAND, CURB RAMPS, PEDESTRIAN LIGHTING, SHELTERS, BENCHES, TRASH RECEPTACLES & STREET TREES. THE PHYSICAL IMPROVEMENTS WILL CONSIST OF A MEANDERING PEDESTRIAN WALKWAY, SOLAR-POWERED PEDESTRIAN SCALE LIGHTING, STREET LIGHTING, TRASH RECEPTACLES, BUS BENCHES, (10) BICYCLE RACKS.	2016	\$3,342
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF1613	0	EXPOSITION BL	CRENSHAW	JEFFERSON	EXPO LINE STN STREETScape PROJECT-EAST CRENSHAW TO JEFFERSON. DESIGN & CONSTRUCTION OF PEDESTRIAN RELATED STREETScape IMPROVEMENTS WITHIN 1/4 MILE FROM EACH OF 3 LIGHT RAIL STATIONS ALONG EXPOSITION BLVD BETWEEN CRENSHAW & JEFFERSON.	2015	\$3,262
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF1615	0	1ST ST	SOTO ST	CONCORD ST	EASTSIDE LIGHT RAIL PEDESTRIAN LINKAGE. IMPROVE PEDESTRIAN LINKAGES TO METRO'S GOLD LINE LRT ON 1ST ST BETWEEN SOTO ST TO RIVERA ST AND FRESNO ST TO CONCORD ST. PEDESTRIAN LINKAGE ELEMENTS TO INCLUDE SIDEWALK IMPROVEMENTS, STREET TREES, CROSSWALK ENHANCEMENTS, PEDESTRIAN LIGHTING, AND STREETScape AMENITIES. THE PROJECT'S PURPOSE IS TO PROMOTE AND FACILITATE PEDESTRIAN ACTIVITY AND INCREASE PEDESTRIAN SAFETY LEADING TO METRO'S GOLD LINE EASTSIDE EXTENSION STATIONS.	2015	\$2,990
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF1617	0	HOLLYWOOD BLVD	HIGHLAND	VINE	HOLLYWOOD PEDESTRIAN/TRANSIT CROSSROADS PHASE II. DESIGN AND INSTALL PEDESTRIAN AND TRANSIT USER ENHANCEMENTS, EXTENDING THE ORIGINAL HOLLYWOOD PEDESTRIAN/TRANSIT IMPROVEMENT PROJECT TO INCLUDE HIGHLAND AVENUE AND VINE STREET. DISTANCE 0.56 MILES.	2016	\$860
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF1639	0	LOS ANGELES ST	7TH ST	OLYMPIC BL	FASHION DISTRICT STREETScape PHASE II. STREETScape IMPROVEMENTS ENHANCING THE PEDESTRIAN ENVIRONMENT TO FACILITATE INCREASED PEDESTRIAN USAGE BETWEEN LA FASHION DISTRICT'S CORE AND THE 7TH ST TRANSIT CORRIDOR FOR A DISTANCE OF 1 MILE.	2015	\$1,971

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF1844	0	CRENSHAW BL	EXPOSITION	VERNON	ANGELS WALK CRENSHAW, TO PROMOTE PEDESTRIAN ACTIVITY WITHIN THE PROJECT LIMITS WITH A GUIDEBOOK AND 15 ON-STREET INFORMATION MARKERS (HISTORIC STANCHIONS) AT STRATEGIC LOCATIONS.	2015	\$764
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF1845	0	FIGUEROA ST	AVENUE 52	YORK BL	ANGELS WALK HIGHLAND PARK, TO PROMOTE PEDESTRIAN ACTIVITY WITHIN THE PROJECT LIMITS WITH A GUIDEBOOK AND 15 ON-STREET INFORMATION MARKERS AT STRATEGIC LOCATIONS.	2015	\$784
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF1846	0	LANKERSHIM BL	MAGNOLIA	CHANDLER	ANGELS WALK NORTH HOLLYWOOD, TO PROMOTE PEDESTRIAN ACTIVITY WITHIN THE PROJECT LIMITS WITH A GUIDEBOOK AND 15 ON-STREET INFORMATION MARKERS AT STRATEGIC LOCATIONS.	2014	\$714
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF3514	0	NORTHVALE RD.	MOTOR AVE.	500 FEET EAST OF DUNLEER DR.	DESIGN AND CONSTRUCT 0.28 MILES CLASS I BIKE FACILITY NORTH OF I-10 FROM MOTOR AVE. TO 500 FEET EAST OF DUNLEER DR. (CONTINUOUS BIKEWAY FROM EXPOSITION PARK TO SANTA MONICA BEACH).	2017	\$5,521
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF3515	0	SAN FERNANDO RD.	TUXFORD ST.	COHASSET ST.	SAN FERNANDO RD. BIKE PATH PH. IIIB CONSTRUCTION. CONSTRUCT 2.75 MILE CLASS I BIKE PATH WITHIN METRO RIGHT-OF-WAY ALONG SAN FERNANDO RD. BETWEEN TUXFORD ST. AND COHASSET ST. TO COMPLETE 12-MILE BIKEWAY. THE PROJECT IS LOCATED WITHIN THE CITY OF LOS ANGELES, IN THE COMMUNITY OF SUN VALLEY. THE PROJECT CONSISTS OF A CLASS I FACILITY 12 FEET IN WIDTH AND 2.75 MILES IN LENGTH BETWEEN TUXFORD ST. AND COHASSET ST. (BURBANK CITY LIMIT).	2016	\$12,716
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF3631	0	3RD STREET	UNION	HOOVER	WESTLAKE MACARTHUR PARK PEDESTRIAN IMPROVEMENT PROJECT. INSTALL PEDESTRIAN IMPROVEMENTS INCL PEDESTRIAN LIGHTING, SIDEWALK ENHANCEMENTS, STREET FURNITURE & TREES, ENHANCED CROSSWALKS, & BUS STOP AMENITIES.	2017	\$1674
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF3632	0	WESTERN AVENUE	EXPOSITION	I-10	WESTERN AV BUS STOP & PEDESTRIAN IMPROVEMENT PROJECT. INSTALL PEDESTRIAN AND TRANSIT AMENITIES TO ENHANCE THE PEDESTRIAN ENVIRONMENT ALONG WESTERN AV BTW EXPOSITION BL & I-10 FREEWAY.	2017	\$1472

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF3640	0	1ST STREET	EVERGREEN	SOTO	LANI - EVERGREEN PARK STREET ENHANCEMENT PROJECT. INCREASE PEDESTRIAN SAFETY AND ACCESS BY PROVIDING IMPROVED CROSSWALKS, NEW BUS SHELTERS AND STREET TREES TO ENHANCE CONNECTIVITY BETWEEN TRANSIT AND AREA LANDMARKS. THE PROPOSED PROJECT IS LOCATED IN THE BOYLE HEIGHTS COMMUNITY OF LOS ANGELES.	2017	\$1,075
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF3646	0	S. LOS ANGELES ST. TO N. ALAMEDA ST.	E. TEMPLE ST.	E. 3RD ST.	ARTS DISTRICT/LITTLE TOKYO GOLD LINE STATION LINKAGES. PEDESTRIAN ENHANCEMENTS INCLUDING SIDEWALK/PATH PAVING; PED LIGHTS; STREET TREES/PLANTING; DISTRICT SIGNAGE; ENTRY ELEMENTS; STREET FURNITURE; CROSSWALK PAVING; AND BIKE PARKING. (10 BIKE RACKS)	2016	\$4,439
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF3647	0	W. MLK JR. BLVD. AND MENLO AVE.	S. FIGUEROA ST.	S. VERMONT AVE.	MENLO AVE./MLK VERMONT EXPO STATION PEDESTRIAN IMPROVEMENTS. IMPROVE PEDESTRIAN ACCESS TO THE NEW EXPO STATION ON VERMONT AVE BY INSTALLING SIDEWALKS, LANDSCAPING, AND LIGHTING ALONG MENLO AVE. AND MLK JR. BLVD. PLUS A MEDIAN ON MLK BLVD.	2016	\$3,302
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF3650	0	WESTERN AVE	MLK BLVD	EXPO BLVD	WESTERN AVE EXPO LINE STATION LINKAGE PROJECT (SOUTH). PROJECT WILL DESIGN AND CONSTRUCT PEDESTRIAN & SAFETY ENHANCEMENTS INTENDED TO INCREASE THE USAGE OF PUBLIC TRANSPORTATION AND CREATE A LINK TO METRO EXPO LR STATION AT WESTERN & EXPOSITION. PROPOSED IMPROVEMENTS INCLUDE SIDEWALK IMPROVEMENTS, SAFETY LIGHTING AT BUS STOPS, STREET FURNITURE, AND ENHANCED CROSSWALKS.	2017	\$858

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF3651	0	FIRST ST.	PECAN ST.	MOTT ST.	EASTSIDE LIGHT RAIL-PEDESTRIAN LINKAGES, PHASE II. ENHANCE MULTI-MODAL ACCESS TO THE MARIACHI & SOTO GOLD LINE STATIONS, FOCUSING ON 1ST STREET. PEDESTRIAN IMPROVEMENTS TO ENHANCE MULTI-MODAL ACCESS TO THE MARIACHI & SOTO GOLD LINE STATIONS, FOCUSING ON FIRST ST. & INTERSECTING CORRIDORS OF BOYLE, ST. LOUIS, STATE, AND SOTO STREETS (ENCOMPASSING APPROXIMATELY 0.5 MILES ON EACH CROSS STREET). PROJECT ELEMENTS TO INCLUDE NEW PEDESTRIAN CROSSING SIGNALS.	2016	\$3,651
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF3653	0	PASADENA AVENUE	BROADWAY	FIGUEROA ST	PASADENA AVE PED CONNECTION TO GOLD LINE HERITAGE SQ STATION. THIS PROJECT WILL IMPLEMENT SIDEWALK IMPROVEMENTS, STREET FURNITURE, SAFETY LIGHTING, STREET TREES, AND ENHANCED CROSSWALKS ALONG PASADENA AVE BETWEEN BROADWAY TO TO FIGUEROA ST. THIS PROJECT WILL IMPROVE PEDESTRIAN CONNECTIVITY TO THE GOLD LINE HERITAGE SQUARE STATION.	2017	\$2,567
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1NLO4-LAF5624	0	WASHINGTON BLVD	HOOPER AVE.	ALAMEDA ST.	WASHINGTON BLVD PEDESTRIAN TRANSIT ACCESS(HOOPER/ALAMEDA) II, LOCATED ON WASHINGTON BL BETWEEN HOOPER AV AND ALAMEDA ST AND ON LONG BEACH AV BETWEEN WASHINGTON BL AND 20TH ST. PEDESTRIAN IMPROVEMENTS, PEDESTRIAN LIGHTING, CROSSWALK ENHANCEMENTS, CURB EXTENSIONS, NEW RAILROAD CROSSING SIGNALS, AND NEW ACCESS TO THE STATION FROM THE SOUTH. DISTANCE 0.59 MILES.	2019	\$2,296
LOCAL HIGHWAY	LOS ANGELES, CITY OF	10M0702-LA06686	0	FIGUEROA BLVD	AVENUE 50	AVENUE 60	HIGHLAND PARK PEDESTRIAN IMPROVEMENTS ALONG FIGUEROA BETWEEN AVENUE 50 AND AVENUE 60	2015	\$250
LOCAL HIGHWAY	LOS ANGELES, CITY OF	10M0702-LAE0427	0	CENTRAL AVE	103RD ST	IMPERIAL HWY	IMPLEMENT STREETSCAPE PROJECT ON CENTRAL AVE. FROM 103RD STREET TO IMPERIAL HIGHWAY NEAR THE WATTS/103RD STREET STATION, WATTS.	2016	\$4,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	10M0702-LAF3148	0	NORTH MAIN STREET	WILHART	LAMAR	NORTH MAIN ST. GRADE SEPARATION: CONSTRUCT A NEW GRADE SEPARATION OVER UPRR AND METROLINK & LA RIVER WHILE PRESERVING THE EXISTING HISTORIC N. MAIN ST. BRIDGE. BIKE LANES WILL BE ADDED AT THE SHOULDERS OF THE BRIDGE. OTHER WORK COMPONENTS INCLUDE REALIGNING ALBION STREET AND MODIFYING THE INTERSECTIONS OF NORTH MAIN AND MESNAGER STREET AT THE WEST END.	2020	\$91,280
LOCAL HIGHWAY	LOS ANGELES, CITY OF	10M0702-LAF7125	0	SHERMAN WAY	WHITSETT AVENUE	HOLLYWOOD FREEWAY	SHERMAN WAY WIDENING BETWEEN WHITSETT AVENUE TO HOLLYWOOD FREEWAY : (1) WIDEN A SOUTH SIDE OF SHERMAN WY BY APPROX 20 FT TO PROVIDE A THROUGH AND DEDICATED RIGHT-TURN ONLY LANE ONTO THE HOLLYWOOD FWY SOUTHBOUND ON-RAMP. (2) INSTALLS PEDESTRIAN FACILITIES AND LANDSCAPING. (3) WIDENS THE OUTSIDE CURB LANE BY 6 FT TO ACCOMMODATE SAFER BIKE TRAVEL.	2019	\$1,499
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1TDL04-LAF3726	0	ALAMEDA	CHAVEZ	1ST	FIRST AND LAST MILE TRANSIT CONNECTIVITY OPTIONS. IMPLEMENT A PILOT SHARED FLEET VEHICLE PROGRAM THAT INCLUDES, BIKES, ALTERNATIVE GREEN VEHICLES FOR FIRST & LAST MILES FROM UNION STATION TO AND OTHER DOWNTOWN LOCATIONS.	2017	\$1641
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1TDL04-LAF3731	0	BROADWAY	2ND	OLYMPIC	DOWNTOWN LA INTER-MODAL TRANSIT INFORMATION AND WAYFINDING. INSTALL TRANSIT INFORMATION MONITORS, VARIABLE MESSAGE SIGNS, INTERACTIVE KIOSKS & PARKING AVAILABILITY SIGNAGE ALONG BROADWAY CORRIDOR TO OLYMPIC.	2014	\$1612
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0C8036	0	HYPERION AVE	ROWENA AVE	LA RIVER	HYPERION AV UNDER WAVERLY DR BRIDGE, RE-CONFIGURE SIDEWALKS ALONG HYPERION. RE-ALIGN I-5 NB OFF-RAMP AT GLENDALE BLVD. PROVIDE ALTERNATIVE BIKEWAY ACCESS TO LA RIVER. PPNO 3092.	2018	\$14,422
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0C8037	0	SOTO ST	MULTNOMATH ST	RADIUM DR	SOTO ST BRIDGE OVER MISSION RD & HUNTINGTON DR WILL DEMOLISH EXISTING BRIDGE AND REALIGN THE STREET TO INCREASE TRAFFIC FLOW ADDING A 0.5 BIKE LANE. PPNO 3093 3380 (BRIDGE #53C0013)	2016	\$24,221

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0C8042	0	VANOWEN ST	MASON AVE	WINNETKA AVE	VANOWEN ST BRIDGE (BR NO. 53C1362) WIDENING & REHAB. PROJECT WILL WIDEN EXISTING BRIDGE TO MATCH THE STREET IT WILL ALLOW INC TRAFFIC FLOW AND SAFETY. CONSTRUCT BIKE PATH UNDER. PPNO 3095 3378 AB 3090	2014	\$14,917
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0C8046	0	BURBANK BLVD	LANKERSHIM BLVD	CLEON AVE	BURBANK BLVD WIDENING-LANKERSHIM BLVD TO CLEON AVE. FROM VARYING ROADWAY WIDTH TO MODIFIED MAJOR HIGHWAY STANDARDS. FROM 1 LN TO 2 LNS IN EACH DIRECTION. PPNO 3097.	2018	\$15,417
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0C8055	0	MOORPARK ST	WOODMAN AVE	MURIETTA AVE	MOORPARK ST WIDENING - WOODMAN AVE TO MURIETTA AVE. WIDEN EXISTING ROADWAY FROM VARYING WIDTH TO 70 FEET TO PROVIDE ON ADOTL TRAFFIC LANE IN EA DIR & UPGRADE HIGHWAY TO SECONDARY HWY STANDARDS. THIS PROJECT IMPROVES 2080 LF OF MOORPARK AVE. PPNO 3103.	2016	\$6,495
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0C8063	0	RIVERSIDE DR	BARCLAY ST	SAN FERNANDO RD	RIVERSIDE DR. VIADUCT REPLACEMENT. REPLACEMENT OF EXISTING 2-LANE BRIDGE WITH 2 THROUGH LANES BRIDGE FLARING 4 LANES AT SAN FERNANDO ROAD WITH NEW ROUNDABOUT. BIKE LANE ADDED COMBINED WITH 53C-1932 - WILL RESULT IN INCR. CIRCULATION. PPNO 3105 (53C-0160)	2016	\$57,077
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0C8064	0	SAN FERNANDO MISSION BLVD	SEPULVEDA BLVD	I-5 FWY.	SAN FERNANDO MISSION BLVD WIDENING, WHERE NECESSARY, BET SEPULVEDA BLVD & I-5 FWY. FROM 1 LANE TO 2 LANES IN EACH DIRECTION. PPNO 3106.	2017	\$2,472
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0C8075	0	CESAR CHAVEZ AV	LORENA ST	INDIANA ST	CESAR CHAVEZ AVE/LORENA ST / INDIANA ST INTERSECTION IMPROVEMENTS. RECONSTRUCTION OF A FIVE-LEGGED SIGNALIZED INTERSECTION INTO A MODERN ROUNDABOUT. THE CONSTRUCTION OF THE ROUNDABOUT WILL REDUCE THE COMPLEXITY OF THE INTERSECTION AND WILL IMPROVE TRAFFIC FLOW AND SAFETY.	2017	\$10,933
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0C8084	0	WINNETKA AVE BRIDGE	VANOWEN ST	VICTORY BLVD	WINNETKA AVE BRIDGE WIDEN & REHAB. - WIDEN THE RIVER CROSSING FROM 4 TO 6 LANES, CONSTRUCT BIKE UNDERPASS. PPNO 3108 3377 AB 3090 REP (53C1388)	2014	\$10,519

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0C8086	0	N SPRING ST	WILHARDT ST	BROADWAY	NORTH SPRING ST, OVER LOS ANGELES RIVER 4 MILES WEST OF I-5. REHABILITATE AND WIDEN 4 LANE BRIDGE (NO ADDED LANES) ADD SIDEWALKS UPGRADE BRIDGE RAILINGS (53C0859). HIGH COST PROJECT AGREEMENT REQUIRED.	2016	\$48,267
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0C8089	0	BARHAM / CAHUENGA	N/A	N/A	BARHAM / CAHUENGA / INTERSECTION WIDEN IMPROVEMENT, FOR LEFT/RIGHT TURN IMPROV. PPND 3111.	2016	\$2,412
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0F007	0	HYPERION AVE	ETTRIC ST	GLENHURST AVE	GLENDALE BLVD.-HYPERION AVE. COMPLEX OF BRIDGES OVER LA RIVER, I-5 AND RIVERSIDE DR, REHABILITATION/ SEISMIC RETROFIT; UPGRADE BRIDGE RAILING; INCLUDES BRIDGES 53C-1881, 53C-1882, 53C-1883, 53C-1884, 53C-1179 AND 53-1069. NO ADDITIONAL LANES. REALIGN I-5 N	2022	\$41,056
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0F008	0	GLENDALE BLVD	RIVERSIDE DR	GLENHURST AVE	GLENDALE BLVD. OVER LA RIVER, REHABILITATE / RETROFIT BRIDGE AND WIDEN BY 12 FEET, UPGRADE BRIDGE RAILINGS. NO ADDED LANES. PRELIMINARY ENGINEERING ONLY. CONSTRUCTION TO BE DONE UNDER LA0F007 (53C1881) GLENDALE-HYPERION COMPLEX OF BRIDGES. (#53C-1883)	2022	\$1930
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0F009	0	GLENDALE BLVD	RIVERSIDE DR	GLENHURST AVE	GLENDALE BLVD. OVER LA RIVER, REHABILITATE / RETROFIT BRIDGE AND WIDEN BY 12 FEET. UPGRADE BRIDGE RAILINGS. NO ADDED LANES. PRELIMINARY ENGINEERING ONLY. CONSTRUCTION TO BE DONE UNDER LA0F007 GLENDALE-HYPERION COMPLEX OF BRIDGES. (BRIDGE #53C1884, BHLS-50	2022	\$2,350
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA0F073	0	WORLD WAY	WORLD WAY NORTH	WORLD WAY SOUTH	PROJECTS WITHIN AND NEAR LOS ANGELES INTERNATIONAL AIRPORT TO ELIMINATE TRAFFIC BOTTLENECKS. (LOS ANGELES WORLD AIRPORTS) SEC. 336 FUNDING	2015	\$5,067
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA98STIP3	0	ALAMEDA ST AND SPRING ST	N/A	N/A	ALAMEDA ST AND N SPRING ST ARTERIAL REDESIGN -REALIGN ALAMEDA/N SPRING ELIMINATING INEFFICIENT INTERSECT WITH MAIN ST/N. MAIN STREET. 3 NB LANES & 3 SB LANES.	2014	\$8,555

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LA996425- LA996425	0	SEPULVEDA BL	MULHOLLAND TUNNEL	MULHOLLAND TUNNEL	INSTALL REVERSIBLE LANE ON SEPULVEDA BL THROUGH TUNNEL AT MULHOLLAND DR, INSTALL BIKE FACILITIES FROM SKIRBALL CENTER DR TO BELAIR CREST RD. IMPLEMENT INTERSECTION IMPROVEMENTS AT SKIRBALL CENTER DR, I-405 FWY SB ON-RAMP, MORAGA DR, WILSHIRE BL. BIKE FACILITIES LESS THAN A MILE.	2018	\$8,301
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE0180	0	LAUREL CANYON BL	HAMLIN	VICTORY	LAUREL CANYON BLVD NEAR VICTORY BLVD. PROJECT WILL PROVIDE FOR PEDESTRIAN SAFETY AND BEAUTIFICATION TREATMENT. ELEMENTS INCLUDE LANDSCAPED MEDIAN ISLANDS.	2015	\$1,200
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE0346	0	N/A	N/A	N/A	LIGHTING, AND SAFETY IMPROVEMENTS ON ROAD LEADING TO HANSEN DAM RECREATION AREA. ACCESS IMPROVEMENTS INCLUDING HILLSIDE STABILIZATION AND PARKING LOT REHABILITATION ALONG OSBORNE STREET BETWEEN GLENOAKS BOULEVARD AND DRONFIELD AVENUE [REF P.L. 110-244, SEC 105(A)(234)] (CHANGE PER H.R.1195-6/6/08)	2015	\$6,500
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE0388B	0	N/A	N/A	N/A	CONSTRUCTION OF A TRAFFIC SIGNAL AT THE INTERSECTION OF INDEPENDENCE AVE. AND SHERMAN WAY.	2015	\$125
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE0518	0	BROADWAY	4TH	3RD	IN THE CITY OF LOS ANGELES, ON BROADWAY W/S FROM 4TH ST. TO 235 N/O 4TH ST, AND 4TH ST FROM BROADWAY TO 120 W/O BROADWAY. REMOVE AND REPLACE SIDEWALKS INCLUDING PORTIONS THAT SPAN.	2016	\$2,500
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE0550	0	CEDROS	BURBANK	MAGNOLIA	REHABILITATE STREET SURFACE OF CEDROS AVE BETWEEN BURBANK BLVD AND MAGNOLIA BLVD. WILL PROVIDE FOR ASPHALT CONCRETE RESURFACING. NON CAPACITY ENHANCING AND ALL ON LA ROW	2015	\$43
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE0732	0	RIVERSIDE DRIVE	VAN NUYS BLVD	TILDEN AVE	RIVERSIDE DRIVE NON-CAPACITY IMPROVEMENTS BETWEEN VAN NUYS BLVD AND TILDEN AVE.	2015	\$400
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE0937	0	VARIOUS	VARIOUS	VARIOUS	REHABILITATE STREET SURFACES IN SHERMAN OAKS; PROJECT WILL PROVIDE ASPHALT CONCRETE RESURFACING OF VARIOUS STREETS IN THE SHERMAN OAKS AREA. PROJECT WILL NOT ENHANCE TRAFFIC CAP.	2015	\$123

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE1093	0	SAN FERNANDO ROAD NORTH	ASTORIA	SAYRE	SAN FERNANDO RD NORTH - FROM ASTORIA ST TO SAYRE ST. WIDEN ROADWAY AND CONSTRUCT CONCRETE SIDEWALK, CURB, GUTTER, ACCESS RAMPS, AND BULKHEAD.	2015	\$1,060
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE1440	0	SAN FERNANDO ROAD	FLETCHER DR	I-5 FWY	RECONFIGURE SAN FERNANDO RD. FROM FLETCHER DR. TO I-5 FWY. INSTALL LEFT-TURN CHANNELIZATION, IMPROVE PEDESTRIAN AMENITIES; INSTALL WIDER SIDEWALKS, MEDIAN ISLANDS AND LANDSCAPING WHERE FEASIBLE BETWEEN CAZADOR STREET TO JUST SOUTH OF ALICE STREET.	2017	\$6,450
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE1531	0	ARMINTA ST / MASON AVE	N/A	N/A	CONSTRUCTION OF A SMART CROSSWALK SYSTEM AT THE INTERSECTION OF ARMINTA ST. AND MASON AVE.	2015	\$50
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE1601	0	HANSEN DAM REC AREA	FOOTHILL BL	OSBORNE ST	TRANSPORTATION ENHANCEMENT TO CHILDREN'S MUSEUM OF LOS ANGELES. THIS PROJECT WILL PROVIDE FOR NEW SIDEWALKS, CURB, GUTTER, ADA-COMPLIANT ACCESS RAMPS, AND STREET TREES ALONG FOOTHILL BL AND OSBORNE ST, ADJACENT TO THE FUTURE CHILDREN'S MUSEUM OF LOS ANGELES.	2014	\$1,200
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE1816	0	BURBANK BLVD	HAYVENHURST AVE	HAYVENHURST AVE	BURBANK BLVD & HAYVENHURST AVE INTERSECTION IMPROVEMENTS - REDUCE WIDTH OF MEDIAN ISLANDS ON BURBANK BLVD TO INSTALL ADDITIONAL LEFT TURN LANE FROM W/B BURBANK TO S/B HAYVENHURST, AND EXCLUSIVE RIGHT TURN LANE FROM E/B BURBANK TO S/B HAYVENHURST; MODIFY TRAFFIC SIGNAL & STREET LIGHTING.	2015	\$1,081
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE1867	0	TOPANGA CANYON/ GAULT ST.	N/A	N/A	CONSTRUCTION OF SMART CROSSWALK AT THE INTERSECTION OF TOPANGA CANYON AND GAULT ST.	2015	\$50
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE1933	0	PICO	HOOVER	N/A	ENHANCE BYZANTINE LATINO QUARTER TRANSIT PLAZAS AT NORMANDIE AND PICO, AND HOOVER AND PICO, LOS ANGELES BY IMPROVING STREETSCAPES, INCLUDING EXPANDING CONCRETE AND PAVING	2015	\$500
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE2147	0	DEVONSHIRE ST	DEVONSHIRE	WOODLEY	NORTHWEST SAN FERNANDO VALLEY RD & SAFETY IMPROVEMENT, LINDLEY AVE. (STRATHERN TO CHASE), ROSCOE BLVD. CONSTRUCTION OF NEW ROADWAY LIGHTING ON MAJOR TRANSPORTATION CORRIDORS.	2014	\$1,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE2279	0	CENTRAL AVE	WASHINGTON BLVD	VERNON AVE	STREETSCAPE IMPROVEMENTS ALONG CENTRAL AVE FROM WASHINGTON BLVD TO VERNON AVE INCLUDING PED LIGHTING, NEW BUS STOPS AND STREET FURNITURE, SIDEWALK WIDENING, CROSSWALK ENHANCEMENTS, TREES ETC.	2017	\$4,000
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE2299	0	HASKELL AVE	CHASE ST	ROSCOE BLVD	WIDEN HASKELL AVENUE BETWEEN CHASE ST. AND ROSCOE BLVD - SAFETY IMPROVEMENTS.	2015	\$200
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE2515	0	BUNDY DR	WILSHIRE BL	SANTA MONICA BL	WIDEN BUNDY DR. BETWEEN WILSHIRE AND SANTA MONICA BLVD - WIDEN FROM 2 LANES TO 4 LANES.	2017	\$4,250
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE2538	0	NORMANDIE	OLYMPIC	N/A	KOREATOWN PAVILION GARDEN-TO ENHANCE THE NORTHEAST CORNER OF NORMANDIE AND OLYMPIC BL. ENHANCE AN EXISTING POCKET PARK AT THE INTERSECTION OLYMPIC AND NORMANDIE/IROLO WITH DECORATIVE CONCRETE PAVING AND IMPROVE STREETSCAPE BY ADDING PEDESTRIAN IMPROVEMENTS SUCH AS STREET FURNITURE, LIGHTING, LANDSCAPING, AND COMMUNITY IDENTIFIERS.	2015	\$250
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE2634	0	HAMLIN ST	CORBIN AVE	N/A	CONSTRUCTION OF A TRAFFIC SIGNAL AT THE INTERSECTION OF HAMLIN ST. AND CORBIN AVE.	2017	\$125
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE2699	0	ALONG LA RIVER BANK	SEPULVEDA	KESTER	CONSTRUCTION OF NEW MULTI-USE PATH/TRAIL ALONG RIVER BANK BETWEEN SEPULVEDA BLVD & KESTER AVE INCLUDING ACCESS RAMPS, RETAINING WALLS, LANDSCAPING ETC.	2016	\$574
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE2828	0	WILBUR AVENUE	VARIOUS	VARIOUS	IMPLEMENT STREETSCAPE IMPROVEMENTS ALONG WILBUR AVE TO ENHANCE TRAFFIC AND PEDESTRIAN SAFETY. PROJECT WILL PROVIDE FOR SIDEWALK IMPROVEMENTS, ADA-COMPLIANT ACCESS RAMPS, AND STREET TREES TO ENHANCE WILBUR AVE AND PROVIDE FOR PEDESTRIAN SAFETY.	2015	\$100
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE3157	0	ADDISON	KESTER	LEMONA	REHABILITATE ADDISON ST BETWEEN KESTER AVE AND LEMONA AVE. PROVIDE ASHALT CONCRETE RESURFACING ON THE PROPOSED PROJECT LIMITS. WILL NOT ENHANCE TRAFFIC CAPACITY.	2015	\$47
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE3201	0	OSO AVE	VANOWEN ST	N/A	CONSTRUCTION OF A TRAFFIC SIGNAL AT THE INTERSECTION OF OSO AVE. AND VANOWEN ST.	2015	\$125

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAE3764	0	JENNY STREET	WESTCHESTER PKWY	96TH STREET	ITS & INTERSECTION IMPROVEMENTS IN AND NEAR LAX AIRPORT, WHICH MAY INCLUDE RESTRIPING, SIGNAL PHASE CHANGES, AND THE ADDITION OF INTELLIGENT TRANSPORTATION SYSTEM EQUIPMENT.	2015	\$1,250
LOCAL HIGHWAY	LOS ANGELES, CITY OF	LAF1205	0	OLYMPIC BLVD.	SANTA FE AVE.	MATEO ST.	OLYMPIC BL AND MATEO STREET GOODS MOVEMENT IMP-PHASE II. IMPROVEMENT OF FREEWAY ACCESS BY WIDENING WB OLYMPIC BL BET MATEO ST & SANTA FE AV FOR A RIGHT-TURN LANE, AND NB MATEO ST BET OLYMPIC BL & PORTER ST FOR INCREASED CURB RETURN.	2016	\$4,421
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160008	0				PARKING GARAGE RECONSTRUCTION: THREE PARKING GARAGES WITHIN THE CTA, P2A, P2B AND P5, WOULD BE DEMOLISHED AND RECONSTRUCTED. UP TO 1100 SPACES WOULD BE ADDED.	2023	\$19,600
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160009	0				NEW 'A' STREET: CONSTRUCT TWO NORTH-SOUTH STREET SEGMENTS BETWEEN CENTURY BOULEVARD AND WESTCHESTER PARKWAY. THE FIRST SEGMENT WOULD BE A 1,200-FOOT, SIX-LANE SEGMENT BETWEEN CENTURY BOULEVARD AND W. 96TH STREET, INCLUDING A COMBINATION OF AT-GRADE AND VIADUCT LANES TO CONNECT TO CENTURY BOULEVARD. THE SECOND SEGMENT WOULD BE A 1,600-FOOT, FOUR-LANE, STREET SEGMENT BETWEEN W. 96TH STREET AND WESTCHESTER PARKWAY, INCLUDING MEDIAN, PARKWAY AND SIDEWALKS.	2024	\$12,053
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160010	0				NEW 'B' STREET: CONSTRUCT A 1,700-FOOT, FOUR-LANE, EAST-WEST STREET SEGMENT BETWEEN NEW 'A' STREET AND AIRPORT BOULEVARD, INCLUDING MEDIAN, PARKWAY AND SIDEWALKS.	2024	\$9,511
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160011	0				NEW 'C' STREET: CONSTRUCT A 1,200-FOOT, FOUR-LANE, NORTH-SOUTH STREET SEGMENT BETWEEN IMPERIAL HIGHWAY AND WEST 11TH STREET, INCLUDING PARKWAY AND SIDEWALKS.	2030	\$6,760

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160012	0				NEW 98TH STREET: CONSTRUCT TWO EAST-WEST STREET SEGMENTS TO EXTEND THE EXISTING 98TH STREET TO THE I-405 ON-AND-OFF RAMP. THE FIRST SEGMENT WOULD BE A 400-FOOT, FOUR-LANE STREET SEGMENT BETWEEN BELLANCA AVENUE AND AVIATION BOULEVARD. THE SECOND SEGMENT WOULD BE A 3,000-FOOT, FOUR-LANE STREET SEGMENT BETWEEN AVIATION BOULEVARD AND LA CIENEGA BOULEVARD. CONSTRUCTION WOULD ALSO INCLUDE A MEDIAN, PARKWAY, AND SIDEWALKS.	2024	\$9,420
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160013	0				NEW 'CONCOURSE WAY': CONSTRUCT A 500-FOOT, FOUR-LANE, NORTH-SOUTH STREET SEGMENT BETWEEN NEW 98TH STREET AND CENTURY BOULEVARD, WHICH WILL ALIGN WITH THE ROADWAY ENTRANCE INTO THE I/F EAST/CONRAC AT THE INTERSECTION WITH NEW 98TH STREET.	2023	\$8,148
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160014	0				SEPULVEDA BOULEVARD (SEPULVEDA TUNNEL TO W. 96TH STREET): WIDEN THE EXISTING 3,700-FOOT STREET SEGMENT BY UP TO 40 FEET TO PROVIDE UP TO FOUR LANES IN EACH DIRECTION. IMPROVEMENTS WOULD ALSO INCLUDE NEW RAMPS TO SKYWAY, TO/FROM WORLD WAY, TO/FROM CENTURY BOULEVARD, AND TO/FROM NEW 'A' STREET.	2030	\$137,700
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160015	0				AIRPORT BOULEVARD (98TH STREET TO WEST ARBOR VITAE STREET): WIDEN THE EXISTING 1,800-FOOT STREET SEGMENT BY 25 FEET TO PROVIDE UP TO THREE LANES IN EACH DIRECTION.	2024	\$13,491
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160016	0				WEST ARBOR VITAE STREET (AIRPORT BOULEVARD TO LA CIENEGA BOULEVARD): WIDEN THE EXISTING 2,000-FOOT STREET SEGMENT TO THE SOUTH BY BETWEEN 5-33 FEET TO PROVIDE UP TO THREE LANES IN EACH DIRECTION. CONSTRUCTION WOULD INCLUDE A MEDIAN, PARKWAY AND SIDEWALKS.	2030	\$27,633

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160017	0				WEST ARBOR VITAE STREET OVERCROSSING BRIDGE: WIDEN THE EXISTING 450-FOOT STREET SEGMENT BY 6 FEET ON EACH SIDE TO ACCOMMODATE THREE LANES IN THE EAST DIRECTION AND TWO LANES IN THE WEST DIRECTION.	2030	\$19,190
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160018	0				96TH STREET (AIRPORT BOULEVARD TO BELLANCA AVENUE): WIDEN AN EXISTING 350-FOOT STREET SEGMENT TO THE SOUTH BY 15 FEET. THE STREET WILL MAINTAIN ONE LANE IN EACH DIRECTION BUT WILL PROVIDE FOR STREET PARKING ON THE SOUTH SIDE OF THE STREET.	2024	\$5,973
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160019	0				98TH STREET (NEW 'A' STREET TO BELLANCA AVENUE): WIDEN THE 1,800-FOOT STREET SEGMENT BETWEEN NEW 'A' STREET AND AIRPORT BOULEVARD BY UP TO 14 FEET TO PROVIDE TWO LANES IN EACH DIRECTION. THE 1,700-FOOT STREET SEGMENT BETWEEN AIRPORT BOULEVARD AND BELLANCA AVENUE WOULD BE RESTRIPTED TO PROVIDE TWO LANES IN EACH DIRECTION.	2030	\$12,286
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160020	0				CENTURY BOULEVARD (NEW 'A' STREET TO AVIATION BOULEVARD): WIDEN THE 4,000-FOOT STREET SEGMENT TO THE SOUTH BY 16 FEET TO PROVIDE FOUR LANES IN EACH DIRECTION. CONSTRUCTION WOULD INCLUDE A MEDIAN, PARKWAY AND SIDEWALKS.	2030	\$18,478
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160021	0				AVIATION BOULEVARD (CENTURY BOULEVARD TO WEST ARBOR VITAE STREET): WIDEN THE 2,800-FOOT STREET SEGMENT TO THE EAST BY UP TO 20 FEET TO PROVIDE THREE LANES IN EACH DIRECTION. CONSTRUCTION WOULD INCLUDE A MEDIAN, PARKWAY, AND SIDEWALKS.	2024	\$13,753
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160022	0				LA CIENEGA BOULEVARD (CENTURY BOULEVARD TO WEST ARBOR VITAE STREET): WIDEN THE 2,600-FOOT STREET SEGMENT TO THE WEST BY UP TO 25 FEET TO PROVIDE UP TO THREE LANES IN EACH DIRECTION. CONSTRUCTION WOULD INCLUDE A MEDIAN, PARKWAY, AND SIDEWALKS.	2024	\$13,918

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160023	0				AIRSIDE AUTOMATED PEOPLE MOVER (APM) SYSTEM; A RAIL OR FIXED GUIDEWAY BASED TRANSPORTATION SYSTEM OR SYSTEMS THAT MOVES PASSENGERS TO AND FROM THE CENTRAL TERMINAL AREA (CTA) TO THE TOM BRADLEY INTERNATIONAL TERMINAL AND THE MIDFIELD SATELLITE CONCOURSE IN A BELOW-GRADE CONFIGURATION.	2025	\$225,000
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160025	0				GATEWAY LAXPRESS EMPLOYEE TRANSPORT: MOBILITY HUBS AT REGIONAL TRANSIT CENTERS (INCLUDES PARKING, TRANSIT CONNECTOR SERVICE WITHIN KEY AREA EMPLOYEE RESIDENTIAL AREAS IN LA COUNTY.	2035	\$75,000
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160026	0				GATEWAY LAXPRESS EMPLOYEE IT PLATFORM: DEVELOP WEB-BASED/ APP-BASED PLATFORM THAT INCLUDES RESERVE-A-SEAT, MOBILITY SERVICE OPTIONS FOR GATEWAY TO LA BID/LAX EMPLOYEES TO ACCESS GATEWAY LAXPRESS SERVICES	2035	\$250
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160027	0				GATEWAY LAXPRESS EMPLOYEE TRANSPORT: PARTNERSHIP WITH METRO FOR CAPITAL COST OF EXISTING/NEW TRANSIT VEHICLES FOR EMPLOYEE TRANSIT (NO OPERATING COST)	2035	\$50,000
LOCAL HIGHWAY	SAN GABRIEL	LAE2389	0	LAS TUNAS DRIVE	WEST CITY LIMIT	EAST CITY LIMIT	LAS TUNAS DRIVE STREET SCAPE/PEDESTRIAN ENHANCEMENTS. CONSTRUCT LANDSCAPED MEDIANS, STREET FURNITURE, ENHANCED CROSSWALKS, AND RECONSTRUCT ADA CURB RAMPS.	2015	\$1,184
LOCAL HIGHWAY	SAN GABRIEL VALLEY COG	LA990359- LA990359	0	WALNUT DRIVE NORTH	NOGALES	CITY/COUNTY LIMIT	GRADE SEP XINGS SAFETY IMPR: 35- MI FREIGHT RAIL CORR. THRGH SAN.GAB. VALLEY - EAST. LA. TO POMONA ALONG UPRR ALHAMBRA & L.A. SUBDIV - ITS 2318 SAFETEA #2178;1436 #1934 PPND 2318. NOGALES(LA) PROJECT INCLUDES WIDENING FROM 2 TRAVEL LANES TO 4 TRAVEL LANES OF E.WALNUT DRIVE NO. EAST OF NOGALES FOR 2600 LINEAR FEET AND WIDENING FROM 2 TRAVEL LANES TO 4 TRAVEL LANES OF GALE AVE. WEST OF NOGALES FOR 1900 LINEAR FEET.	2018	\$1,319,423

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	SANTA CLARITA	1NLO4-LAF3535	0	CITYWIDE	CITYWIDE	CITYWIDE	CITYWIDE WAYFINDING PROGRAM FOR PEDESTRIANS AND BICYCLISTS. DIRECT USERS TO METROLINK STATIONS AND OTHER REGIONAL TRIP GENERATORS. DESIGN AND INSTALL WAYFINDING SIGNS ALONG THE CITY'S EXISTING NETWORK OF MULTI-USE PATHS, ON-STREET BIKEWAYS, PASEOS IN THE VALENCIA AND SAUGUS NEIGHBORHOODS, AND SIDEWALKS ALONG MOST MAJOR ROADWAYS.	2017	\$271
LOCAL HIGHWAY	SANTA CLARITA	LA0B104	0	GOLDEN VALLEY ROAD	NEWHALL RANCH ROAD	PLUM CANYON	GOLDEN VALLEY ROAD - NEWHALL RANCH ROAD TO PLUM CANYON ROAD. 0 TO 4 LANES APPROXIMATELY 1.5 MILES.	2018	\$11,000
LOCAL HIGHWAY	SANTA CLARITA	LA0D473	0	DOCKWEILER DRIVE	LYONS AVENUE	DOCKWEILER DRIVE	DOCKWEILER DR EXTENSION FROM LYONS AV TO EXISTING DOCKWEILER DR. CONSTRUCT A 4-LANE FACILITY (2 LANES IN EACH DIRECTION), OUTSIDE CURB & GUTTER, AND DRAINAGE IMPROVEMENTS (ABOUT 1.5 MILE)	2019	\$11,126
LOCAL HIGHWAY	SANTA CLARITA	LA0D476	0	VIA PRINCESSA	MAGIC MOUNTAIN PKWY	GOLDEN VALLEY ROAD	VIA PRINCESSA EXTENSION FROM MAGIC MOUNTAIN PKWY TO GOLDEN VALLEY RD: CONSTRUCT APPROXIMATELY A 1-MILE FACILITY (3 LANES IN EACH DIRECTION), OUTSIDE CURB & GUTTER, & DRAINAGE IMPRVMT	2018	\$22,602
LOCAL HIGHWAY	SANTA CLARITA	LA0D477	0	GOLDEN VALLEY ROAD	SR-14	GOLDEN VALLEY ROAD	GOLDEN VALLEY ROAD WIDENING/GAP CLOSURE OVER STATE ROUTE 14 - CROSS VALLEY CONNECTOR. WIDEN TWO-LANE SR-14 OVERPASS TO SIX LANES. SR-14 SOUTHBOUND OFF-RAMP WILL BE WIDENED, TRAFFIC SIGNALS WILL BE INSTALLED AT SR-14 AND GOLDEN VALLEY ROAD. NEW 10-FOOT SIDEWALK AND CLASS I BIKE LANE WILL BE BUILT ON BOTH SIDES OF OVERPASS, PEDESTRIAN SIGNAL HEADS INSTALLED AND WAYFINDING SIGNS FOR PEDESTRIANS AND BICYCLISTS. (PED < 1/4 MILE & BIKE < 1MILE)	2015	\$8,705
LOCAL HIGHWAY	SANTA CLARITA	LA0G740	0	LYONS AVENUE	WILEY CANYON ROAD	RAILROAD AVENUE	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE LYONS AVENUE FROM WILEY CANYON ROAD TO RAILROAD AVENUE TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 1.7 MILES	2018	\$2,320
LOCAL HIGHWAY	SANTA CLARITA	LA0G741	0	WILEY CANYON ROAD	LYONS AVENUE	RAILROAD AVENUE	RESTRIPE WILEY CANYON ROAD FROM LYONS AVENUE TO RAILROAD AVENUE FROM 4 TO 6 LANES; APPROXIMATELY 1.7 MILES	2018	\$1,500

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	SANTA CLARITA	LA06742	0	ORCHARD VILLAGE ROAD	MCBEAN PARKWAY	LYONS AVENUE	RESTRIPE ORCHARD VILLAGE ROAD FROM MCBEAN PARKWAY TO LYONS AVENUE FROM 4 TO 6 LANES; APPROXIMATELY 1.3 MILES	2018	\$1,870
LOCAL HIGHWAY	SANTA CLARITA	LA06743	0	NEWHALL AVENUE	RAILROAD AVENUE	CARL COURT	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE NEWHALL AVENUE FROM RAILROAD AVENUE TO CARL COURT TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 0.4 MILES	2018	\$1,720
LOCAL HIGHWAY	SANTA CLARITA	LA06744	0	RAILROAD AVENUE	NEWHALL AVENUE	BOUQUET CANYON ROAD	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE RAILROAD AVENUE FROM NEWHALL AVENUE TO BOUQUET CANYON ROAD TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 3 MILES	2018	\$2,320
LOCAL HIGHWAY	SANTA CLARITA	LA06745	0	BOUQUET CANYON ROAD	SECO CANYON ROAD	PLUM CANYON ROAD	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE BOUQUET CANYON ROAD FROM SECO CANYON ROAD TO PLUM CANYON ROAD TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 2.2 MILES	2018	\$930
LOCAL HIGHWAY	SANTA CLARITA	LA06746	0	PLUM CANYON ROAD	BOUQUET CANYON ROAD	CITY LIMIT	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE PLUM CANYON ROAD FROM BOUQUET CANYON ROAD TO CITY LIMIT TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 0.5 MILES	2018	\$585
LOCAL HIGHWAY	SANTA CLARITA	LA06747	0	WHITES CANYON ROAD	SOLEDAD CANYON ROAD	CITY LIMIT	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE WHITES CANYON ROAD FROM SOLEDAD CANYON ROAD TO CITY LIMIT TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 2 MILES	2018	\$930
LOCAL HIGHWAY	SANTA CLARITA	LA06748	0	GOLDEN VALLEY ROAD	GOLDEN VALLEY ROAD 2.5 SOLEDAD CANYON ROAD	SIERRA HIGHWAY	WIDEN AND RESTRIPE GOLDEN VALLEY ROAD FROM SOLEDAD CANYON ROAD TO SIERRA HIGHWAY FROM 4 TO 6 LANES; APPROXIMATELY 2.5 MILES; AND INSTALL TRAFFIC SIGNAL.	2019	\$7,710
LOCAL HIGHWAY	SANTA CLARITA	LA06750	0	MAGIC MOUNTAIN PARKWAY	AUTO CENTER DRIVE	RAILROAD AVENUE	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE MAGIC MOUNTAIN PARKWAY FROM AUTO CENTER DRIVE TO RAILROAD AVENUE TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 1 MILE	2018	\$1,410
LOCAL HIGHWAY	SANTA CLARITA	LA06751	0	SIERRA HIGHWAY	VIA PRINCESSA	CITY LIMIT	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE SIERRA HIGHWAY FROM VIA PRINCESSA TO CITY LIMIT TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 5.5 MILES	2018	\$3,750

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	SANTA CLARITA	LA06752	0	SIERRA HIGHWAY	SOLEDAD CANYON ROAD	CITY LIMIT	WIDEN AND RESTRIPE SIERRA HIGHWAY FROM SOLEDAD CANYON ROAD TO CITY LIMIT FROM 4 TO 6 LANES TO ACCOMMODATE A CHANGE FROM APPROXIMATELY 2 MILES	2018	\$5,775
LOCAL HIGHWAY	SANTA CLARITA	LA06754- LA06754	0	VISTA CANYON ROAD	JAKES WAY	SOLEDAD CANYON	VISTA CANYON ROAD BRIDGE OVER THE SANTA CLARA RIVER AND ROADWAY FROM VISTA CANYON COMMUNITY (JAKES WAY/LOST CANYON) TO SOLEDAD CANYON ROAD. INCLUDES 750-FOOT LONG BRIDGE, 1 LANE IN EACH DIRECTION, CLASS I BIKE LANE. (BIKE LANE LESS THAN 1 MILE)	2017	\$20,800
LOCAL HIGHWAY	SANTA CLARITA	LA960170	0	MAGIC MOUNTAIN PKWY	SAN FERNANDO ROAD	VIA PRINCESSA	MAGIC MOUNTAIN PARKWAY EXTENSION FROM THE INTERSECTION OF BOUQUET CANYON/RAILROAD AVENUE TO VIA PRINCESSA. CONSTRUCT A NEW ROAD AND BRIDGE WITH 3 LANES IN EACH DIRECTION	2018	\$19,478
LOCAL HIGHWAY	SANTA CLARITA	LA9708004	0	SANTA CLARITA PARKWAY	BOUQUET CANYON	SOLEDAD CANYON	SANTA CLARITA PARKWAY FROM BOUQUET CYN RD/SOLEDAD CYN INSTALL NEW ROADWAY (0 TO 4 LANES) (2.5 MILE)	2018	\$17,550
LOCAL HIGHWAY	SANTA CLARITA	LA9910013	0	VIA PRINCESSA	GOLDEN VALLEY ROAD	ISABELLA PKWY	VIA PRINCESSA EXTENSION FROM GOLDEN VALLEY ROAD TO APPROXIMATELY 350M WEST OF RAINBOW GLEN DRIVE, EAST OF ISABELLA PKWY	2016	\$46,935
LOCAL HIGHWAY	SANTA CLARITA	LA9910014	0	VIA PRINCESSA PKWY	OAKRIDGE DRIVE	MAGIC MOUNTAIN PKWY	VIA PRINCESSA FROM OAKRIDGE DRIVE TO MAGIC MTN PKWY. FROM 0 - 6 LANES; LESS THAN ONE MILE.	2018	\$11,650
LOCAL HIGHWAY	SANTA CLARITA	LA9910016	0	SANTA CLARITA PKWY	SOLEDAD CANYON	VIA PRINCESSA	SANTA CLARITA PKWY FROM SOLEDAD CYN RD TO VIA PRINCESSA (1.6 MILES); FROM 0 TO 6 LANES.	2019	\$4,000
LOCAL HIGHWAY	SANTA CLARITA	LA9910017	0	SANTA CLARITA PKWY	VIA PRINCESSA	SR-14	SANTA CLARITA PKWY FROM VIA PRINCESSA TO STATE HWY 14 (1 MILE) FROM 0 TO 6 LANES.	2019	\$3,100
LOCAL HIGHWAY	SANTA CLARITA	LA06755	0	NEWHALL RANCH ROAD	MCBEAN PKWY	AVENUE TIBBITTS	NEWHALL RANCH ROAD BRIDGE WIDENING OVER THE SAN FRANCISQUITO CREEK 6 TO 8 LANES. FROM MCBEAN PKWY TO AVENUE TIBBITTS. BRIDGE NO. 53C2164	2019	\$12,981
LOCAL HIGHWAY	SANTA FE SPRINGS	LA0C8092	0	VALLEY VIEW AVENUE	GANNET	NORTH OF STAGE ROAD	VALLEY VIEW AVE GRADE SPARATN AT BNSF RAILWAY SOUTH OF STAGE RD. CONSTRUCT A GRADE SPARATN FOR VALLEY VIEW AVE FROM EXSTNG BNSF TRACKS BY CONSTRUCTNG A HWY UNDERPASS PPNO 3117 (3022)...	2014	\$75,177

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	SANTA MONICA	1NLO4-LAF1532	0	N/A	N/A	N/A	SCHOOL BASED BICYCLE TRAINING. SANTA MONICA. PROVIDE TRAINING FOR STUDENTS AT 2 MIDDLE SCHOOLS ON HOW TO SAFELY RIDE BICYCLE ON CITY STREETS TO ACCESS SCHOOL.	2014	\$130
LOCAL HIGHWAY	SANTA MONICA	1NLO4-LAF1728	0	N/A	N/A	N/A	CITY OF SANTA MONICA ITS IMPROVEMENTS. SANTA MONICA REAL TIME BEACH PARKING SIGNS. THIS PROJECT WILL MAKE INFORMATION REGARDING BEACH PARKING AVAILABLE TO MOTORISTS DESTINED FOR SANTA MONICA BEACH PARKING LOTS:TOLL CREDIT BEING USED IN FY13/14 FOR \$57 IN CONS.	2016	\$1619
LOCAL HIGHWAY	SANTA MONICA	1NLO4-LAF3505	0	CITYWIDE	NA	NA	BIKE NETWORK LINKAGES TO EXPOSITION LIGHT RAIL PROJECT. BIKE NETWORK ENHANCEMENTS TO SUPPORT EXPOSITION LINE. INCREASED SAFETY AND CONVENIENCE WITH SIGNAL DETECTION, HIGHLY VISIBLE LANE MARKINGS AND NEW BIKE RACKS. THE PROJECT AREA IS LOCATED THROUGHOUT THE CITY OF SANTA MONICA AND NO MORE THAN TWO MILES FROM THE PROPOSED EXPOSITION LIGHT RAIL LINE STATIONS.	2016	\$3,429
LOCAL HIGHWAY	SANTA MONICA	10M0702-LA990352	0	N/A	N/A	N/A	PALISADES BLUFF STABILIZATION CALIFORNIA INCLINE ADJACENT (TEA21-#453)... TOLL CREDITS OF \$697 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	2016	\$7,776
LOCAL HIGHWAY	SANTA MONICA	1NLO4-LAF1534	0	N/A	N/A	N/A	BIKE TECHNOLOGY DEMONSTRATION. PROJECT WILL CONSIST OF DESIGN, INSTALLATION AND EVALUATION OF SEVERAL BICYCLE TECHNOLOGIES, INCLUDING BICYCLE ACTIVATED DETECTION AT INTERSECTIONS, BIKE BOXES, AND BIKE PARKING.	2015	\$399

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	SANTA MONICA	1NLO4-LAF3612	0	COLORADO AVE.	4TH STREET	OCEAN AVE.	COLORADO PEDESTRIAN PROMENADE: LRT STATION TO PIER/BEACH. A PEDESTRIAN PROMENADE ON COLORADO AVENUE TO CONNECT THE EXPO LIGHT RAIL TERMINUS STATION AT 4TH STREET WITH DOWNTOWN SANTA MONICA, THE CIVIC CENTER AREA, THE PIER AND THE BEACH. THE PROJECT IS LOCATED ON COLORADO AVENUE BETWEEN 4TH STREET AND THE SANTA MONICA PIER IN THE CITY OF SANTA MONICA, AND INCLUDES THE STREET, THE SIDEWALKS AND BOTH INTERSECTIONS. THE TOTAL PROJECT AREA IS APPROXIMATELY 1,240 LINEAR FEET.	2015	\$15,066
LOCAL HIGHWAY	SANTA MONICA	LA0F062	0	N/A	N/A	N/A	DESIGN AND CONST. OF REAL-TIME PARKING INF./GUIDANCE SYSTEM. PHASE II COVERS DOWNTOWN SANTA MONICA AREA, BOUNDED BY PICO BLVD., OCEAN AVE., WILSHIRE BLVD. AND LINCOLN BLVD.	2015	\$700
LOCAL HIGHWAY	SIGNAL HILL	LA0C8095	0	CHERRY AVENUE	19TH STREET	PACIFIC COAST HIGHWAY	CHERRY AVE. WIDENING PROJECT. BET 19TH ST AND PACIFIC COAST HIGHWAY BY WIDENING THE ARTERIAL FROM ONE TO TWO LANES IN EACH DIRECTION.(PPNO 3128). SAFETEA-LU #3203	2014	\$6,721
LOCAL HIGHWAY	SOUTH GATE	LA996347	0	FIRESTONE BLVD.	RAYO AVE.	I-710 FREEWAY	BRIDGE NO. 53C1972, FIRESTONE BLVD, OVER LOS ANGELES RIVER, 152 M W/O LONG BEACH FREEWAY. REHABILITATE 5-LANE BRIDGE & WIDEN TO 6-LANE BRIDGE, ADD SHOULDERS, AND UPGRADE BRIDGE RAILINGS. FED PROJ: HP21L-5257(016)	2018	\$19,381
LOCAL HIGHWAY	SOUTH GATE	LAF178	0	FIRESTONE BOULEVARD	ATLANTIC AVENUE	ANNETTA AVENUE	FIRESTONE BLVD IS EXISTING 2 LANES IN EACH DIRECTION, AFTER THE PROJECT WILL BE 3 LANES IN EACH DIRECTION. THE LENGTH OF THE PROJECT IS .75 MILES. PRIMARILY IT WILL WIDEN FIRESTONE BLVD AND ATLANTIC AVENUE AND REALIGN THEIR INTERSECTION. IT WILL ALSO ADD 3RD NORTHBOUND THROUGH LANE ON ATLANTIC AVENUE FROM FIRESTONE BOULEVARD TO APPROXIMATELY 200' NORTH OF SALT LAKE AVENUE/PATATA STREET, AND COMPLETE ADJACENT IMPROVEMENTS AT RAILROAD CROSSINGS AT FIRESTONE BLVD AND ATLANTIC AVENUE.	2015	\$33,389

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	SOUTH GATE	LAF3124	0	FIRESTONE	ANNETTA AVENUE	ALAMEDA STREET	FIRESTONE BOULEVARD CAPACITY IMPROVEMENTS. INCREASE THE NUMBER OF LANES FROM 4 TO 6 ON FIRESTONE BLVD WITHIN THE ROW, RAISED LS MEDIANS, SIDEWALKS, BUS SHELTERS & PULLOUTS, C&G, STREET LIGHTING, & UTILITY RELOCATION.	2017	\$14,721
LOCAL HIGHWAY	SOUTH PASADENA	LAOB422-LAOB422	0	FAIR OAKS	STATE STREET	GREVALIA	FAIR OAKS AV & SR-110 IMPROVEMENT PROJECT (ROGAN FUNDS, HR5394) EXPAND EXIT OFF-RAMP OF 110 NB, ADD A HOOK RAMP FOR EXISTING ON-RAMP 110 SB.	2017	\$9,418
LOCAL HIGHWAY	TORRANCE	1NLO4-LAF3624	0	CRAVENS AVENUE	TORRANCE BLVD.	CARSON ST.	DOWNTOWN TORRANCE PEDESTRIAN IMPROVEMENT PROJECT TO INCREASE CONNECTIVITY, IMPROVE PEDESTRIAN SAFETY, AND REDUCE AUTOMOBILE DEPENDENCY. SCOPE INCLUDES CHOKERS/BULB-OUTS, LANDSCAPING, PAVERS AND/OR STAMPED PAVEMENT CROSSINGS. THE STREETS BORDERING THE PROJECT AREA SERVE THREE DIFFERENT TORRANCE TRANSIT BUS ROUTES (LINES 1, 3, AND 5). THESE ROUTES INTERSECT AT THREE POINTS IN THE DOWNTOWN AREA, MAKING THIS A PRIME LOCATION TO IMPROVE THE CONNECTIONS TO THE SOUTH BAY AND DOWNTOWN LOS ANGELES.	2017	\$1,118
LOCAL HIGHWAY	VARIOUS AGENCIES	1ALO4	0	ARTERIAL IMPROVEMENTS	COUNTYWIDE		REGIONAL SURFACE TRANSPORTATION IMPROVEMENTS, INCLUDING GOODS MOVEMENT GRADE CROSSINGS	2021	\$212,900
LOCAL HIGHWAY	VARIOUS AGENCIES	1ITS04	0	ITS	COUNTYWIDE		CALL FOR PROJECTS SIGNAL SYNCHRONIZATION MODE	2030	\$765,026
LOCAL HIGHWAY	VARIOUS AGENCIES	1O1007	0	NON-MOTORIZED	COUNTYWIDE		CALL FOR PROJECTS BICYCLE MODE	2030	\$264,801
LOCAL HIGHWAY	VARIOUS AGENCIES	1O1008	0	NON-MOTORIZED	COUNTYWIDE		CALL FOR PROJECTS PEDESTRIAN MODE	2030	\$264,801
LOCAL HIGHWAY	VARIOUS AGENCIES	1O1009	0	NON-MOTORIZED	COUNTYWIDE		CALL FOR PROJECTS TRANSPORTATION ENHANCEMENT ACTIVITIES (TEA MODE)	2030	\$3,772
LOCAL HIGHWAY	VARIOUS AGENCIES	1RL04	0	RIDESHARE	COUNTYWIDE		RIDESHARE SERVICES	2035	\$489,000
LOCAL HIGHWAY	VARIOUS AGENCIES	1TR1023	0	TDM	COUNTYWIDE		CALL FOR PROJECTS TDM MODE	2030	\$157,700

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	VARIOUS AGENCIES	LA000800- LA000800	0	A	A	A	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION – HBP PROGRAM PROJECTS ARE CONSISTENT WITH 40 CFP PART 93.126 EXEMPT TABLES 2 CATEGORIES – WIDENING NARROW PAVEMENTS OR RECONSTRUCTION BRIDGES (NO ADDITIONAL TRAVEL LANES)	2019	\$363,153
LOCAL HIGHWAY	VERNON	LA0D279	0	ATLANTIC BLVD.	BANDINI	DISTRICT	ATLANTIC BLVD. BRIDGE OVER THE L.A RIVER 5/8 MILE N SLAUSON AVE, WIDEN 6 LANE BRIDGE TO ADD RIGHT TURN LANE (BRIDGE #53C0252)	2018	\$20,838
LOCAL HIGHWAY	WHITTIER	LAE1610	0	WHITTIER BOULEVARD	PHILADELPHIA STREET	WASHINGTON BOULEVARD	RECONSTRUCT WHITTIER BLVD AND IMPROVE PARKWAY DRAINAGE FROM PHILADELPHIA STREET TO FIVE POINTS (WASHINGTON BOULEVARD) IN WHITTIER	2015	\$1,530
LOCAL HIGHWAY	PORT OF LOS ANGELES	1120007	47		SR-47 @ FRONT STREET		SR 47-V, THOMAS BRIDGE/FRONT ST INTERCHANGE: NEW WESTBOUND SR 47 ON- AND OFF-RAMPS AT FRONT STREET JUST WEST OF THE VINCENT THOMAS BRIDGE AND ELIMINATE THE EXISTING NON-STANDARD RAMP CONNECTION TO THE HARBOR BOULEVARD OFF-RAMP; FRONT STREET IS AN NHS CONN	2035	\$37,285
LOCAL HIGHWAY	PORT OF LOS ANGELES	1160002					PROJECT ENTAILS REALIGNMENT OF TWO MAJOR ARTERIALS IN SAN PEDRO, RESULTING IN NEW/IMPROVED INTERSECTIONS OF EAST-WEST COLLECTOR STREETS SERVING DOWNTOWN SAN PEDRO, THE U.S.IOWA, THE WORLD CRUISE CENTER, AND THE PORTS 'O CALL. THE PROJECT INCLUDES A RECONFIGURED INTERSECTION AT THE JUNCTION OF HARBOR BLVD, SAMPSON WAY, AND 7TH STREET. WORK INCLUDES RETAINING WALL, STREET WORK, GRADING, PAVING, LIGHTING, RESTRIPING AND A NEW SIGNALIZED INTERSECTION.	2018	\$13,600
LOCAL HIGHWAY	PORT OF LOS ANGELES	1160004					HARBOR BLVD. & 7TH STREET INTERSECTION- THE PROJECT INCLUDES A RECONFIGURED INTERSECTION AT THE JUNCTION OF HARBOR BLVD, SAMPSON WAY, AND 7TH STREET. WORK INCLUDES RETAINING WALL, STREET WORK, GRADING, PAVING, LIGHTING, RESTRIPING AND A NEW SIGNALIZED INTERSECTION.	2018	\$15,905

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	PORT OF LOS ANGELES	1160005					SAMPSON WAY TO 22ND STREET & MINER STREET - SAMPSON WAY WOULD BE REALIGNED AND EXPANDED TO TWO LANES IN EACH DIRECTION AND WOULD CURVE NEAR THE MUNICIPAL FISH MARKETS TO MEET WITH 22ND STREET IN ITS WESTWARD ALIGNMENT EAST OF MINER STREET. IN THE PROPOSED PROJECT, HARBOR BLVD. WOULD REMAIN IN PLACE AT ITS CURRENT CAPACITY WITH TWO LANES IN EACH DIRECTION. PROPOSED ENHANCEMENTS WOULD BE CONSISTENT WITH DESIGN STANDARDS FOR THE COMMUNITY REDEVELOPMENT AGENCY (CRA) PACIFIC CORRIDOR AND THE CITY OF LOS ANGELES PLANNING DEPARTMENT COMMUNITY DESIGN OVERLAY, ALIGNMENT EAST OF MINER STREET.	2024	\$34,614
LOCAL HIGHWAY	PORT OF LOS ANGELES	1160006					HARBOR BLVD IMPROVEMENTS - AS PART OF THE SAN PEDRO WATERFRONT DEVELOPMENT PROJECT, HARBOR BLVD WILL BE RESTRIPE, AND THE MEDIAN IS REMOVED/ RECONSTRUCTED AS NEEDED TO PROVIDE THREE NBT AND SBT LANES BETWEEN THE RECONSTRUCTED SAMPSON WAY/HARBOR BLVD. INTERSECTION AND THE WB ON RAMP/FRONT STREET INTERSECTION. THIS WILL RESULT IN THE REMOVAL OF PARKING AND THE BIKE LANE ON THE NORTHBOUND SIDE. THE PARKING AND 5' BIKE LANE ON THE SOUTHBOUND SIDE, SOUTH OF O'FARRELL STREET WILL BE PRESERVED. NORTH OF O'FARRELL STREET, THE PARKING AND THE PARKING LANE ON THE SOUTHBOUND SIDE WOULD NEED TO BE REMOVED TO ACCOMMODATE THE NORTHBOUND DUAL LEFT-TURN LANE. THE INNERMOST NORTHBOUND THROUGH LANE AT THE EB OFF-RAMP INTERSECTION WOULD BECOME A FORCED LEFT-TURN LANE AT THE SR 47 WB ON-RAMP. THIS IMPROVEMENT IS PROJECTED TO BE NEEDED BY THE YEAR 2024.	2027	\$1134
LOCAL HIGHWAY	PORT OF LOS ANGELES	1160007					ALAMEDA CORRIDOR SOUTH TERMINUS/HENRY FORD AVE. RAIL CROSSING ADVANCED WARNING SYSTEM.	2022	\$5,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
LOCAL HIGHWAY	SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS (SGVCOG)	1120014		FULLERTON RD (INDUSTRY/ LA COUNTY)			ALAMEDA CORRIDOR-EAST GRADE SEPARATION	2019	\$143,176
LOCAL HIGHWAY	SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS (SGVCOG)	1120015		GREENWOOD AVE (MONTEBELLO)			ALAMEDA CORRIDOR-EAST GRADE SEPARATION	2020	\$69,574
LOCAL HIGHWAY	SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS (SGVCOG)	1120018		TURNBULL CYN RD (INDUSTRY/ LA COUNTY)			ALAMEDA CORRIDOR-EAST GRADE SEPARATION	2020	\$96,027
LOCAL HIGHWAY	SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS (SGVCOG)	1120021		DURFEE AVE (PICO RIVERA)			ALAMEDA CORRIDOR-EAST GRADE SEPARATION	2019	\$78,381
LOCAL HIGHWAY	SANTA CLARITA	LA06726			SOLEDAD CANYON	LOST CANYON	VISTA CANYON PROJECT - NEW TWO LANE ROADWAY ON SAND CANYON BETWEEN SOLEDAD CANYON AND LOST CANYON ROAD.	2017	\$1,500
OTHER	LOS ANGELES, CITY OF	1122002					WEST INTERMODAL TRANSPORTATION FACILITY: A FACILITY PROVIDING REMOTE PASSENGER PICK UP AND DROP OFF AREAS, PUBLIC PARKING, AND OTHER CONNECTIONS TO PUBLIC TRANSIT AND OTHER COMMERCIAL VEHICLES (I.E. DOOR-TO-DOOR SHUTTLES AND SCHEDULED BUSES).	2022	\$267,625
OTHER	LOS ANGELES, CITY OF	1122003					CONSOLIDATED RENTAL CAR FACILITY (CONRAC): A CONSOLIDATED RENTAL CAR FACILITY TO PROVIDE A CENTRALIZED LOCATION FOR RENTAL CAR OPERATIONS AT LAX. THIS FACILITY WOULD INCLUDE A CUSTOMER SERVICE FACILITY, READY/RETURN GARAGE, RENTAL CAR STORAGE, QUICK TURNAROUND AREA, AND MAINTENANCE SUPPORT.	2023	\$772,196
OTHER	PORT OF LOS ANGELES	100707		PORTS OF LOS ANGELES/ LONG BEACH			NEW CERRITOS CHANNEL RAIL BRIDGE	2030	\$170,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
OTHER	PORT OF LOS ANGELES	100708		PORTS OF LOS ANGELES/ LONG BEACH			TRIPLE TRACK S/O THENARD	2030	\$16,500
OTHER	PORT OF LOS ANGELES	100710		PORTS OF LOS ANGELES/ LONG BEACH			OTHER IN-PORT MAINLINE	2033	\$1025,750
PASSENGER RAIL		1TR1012	0	CALIFORNIA HIGH-SPEED RAIL			CALIFORNIA HIGH-SPEED RAIL PHASE 1 - ENV/PE	2011	\$80,000
PASSENGER RAIL	METRO/SCRRA	1CR04	0	METROLINK COMMUTER RAIL	COUNTYWIDE		METROLINK OPERATIONS SUBSIDY (DOES NOT INCLUDE METROLINK FARES AND OTHER NON-METRO FUNDS)	2040	\$1974,400
PASSENGER RAIL	SOUTHERN CALIF REGIONAL RAIL AUTHORITY	1TR1015	0	METROLINK COMMUTER RAIL	COUNTYWIDE		METROLINK CAPITAL SUBSIDY (DOES NOT INCLUDE METROLINK FARES AND OTHER NON-METRO FUNDS)	2040	\$935,949
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	101002	0				SAFETY NET (IMMEDIATE NEEDS) PROGRAM	2040	\$347,500
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	101004	0				CALL FOR PROJECTS RSTI MODE	2030	\$594,017
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	101005	0				CALL FOR PROJECTS GOODS MOVEMENT MODE	2030	\$765,026
STATE HIGHWAY	HERMOSA BEACH	10M0702-LA06846	1				ON ROUTE 1, FROM ARTESIA BOULEVARD TO ANITA/ HERONDO STREETS, WIDEN AND UPGRADE THE INTERSECTIONS BY CONSTRUCTING DEDICATED RIGHT AND LEFT-HAND TURN POCKETS, RESTRIPING, AND RE-SIGNALIZATION ALONG PCH BETWEEN ANITA ST. AND ARTESIA BLVD	2015	\$304
STATE HIGHWAY	MANHATTAN BEACH	LA068080	1				ROUTE 1: MANHATTAN BEACH: ON ROUTE 1 BETWEEN 33RD STREET & ROSECRANS AV; ADD ONE THROUGH LN TO NORTH BOUND SEPULVEDA BLVD. TO WIDEN EXISTING STRUCTURE FROM 6 TO 7 THROUGH LANES PPNO 2947. PROJECT USING \$1440 OF FEDERAL FUNDS (80%) AND \$360 AGENCY MATCH (20%, PROP. C) IN ENG PHASE.	2017	\$126,774

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
STATE HIGHWAY	CALTRANS	LA990351-LA06692	2				ROUTE 002: FROM 0.5 MILES SOUTH OF BRANDEN STREET TO I-5/SR-2 INTERCHANGE - MODIFY TERMINUS, SOUNDWALLS, LANDSCAPING, INSTALLING DETECTOR LOOPS AND RAMP METERS, RESTRIPING (WITH NO LANE ADDITION) AND IMPROVING ARTERIAL STREETS (RESTRIPING-NO INCREASE IN CAPACITY, AND REMOVING & WIDENING SIDEWALK. (EA 20550 = 20551 + 20552 (20552=2055A+2055C), PPNO 2689 = 2689 + 2689A (2689A=2689A+4787)(TOLL CREDITS = LOCAL MATCH)	2018	\$9,329
STATE HIGHWAY	US FOREST SERVICE	1NLO4-LA06870	2				NON-CAPACITY RECREATIONAL/VISITOR CENTER INFRASTRUCTURE IMPROVEMENTS ALONG THE ANGELES CREST SCENIC BYWAY (STATE HIGHWAY 2) AT JARVIVISTA (STATE HWY 2, MILEPOST 63.50), BIG PINE NATIONAL HISTORIC SITE (STATE HWY 2, MILEPOST 79.90), AND INSPIRATION POINT	2018	\$128
STATE HIGHWAY	CALTRANS	LA0D73-LA0D73	5				ROUTE 5: LA MIRADA, NORWALK & SANTA FE SPRINGS-ORANGE CO LINE TO RTE 605 JUNCTION. WIDEN FOR HOV & MIXED FLOW LNS, RECONSTRUCT VALLEY VIEW (EA 2159A0 = 21591, 21592, 21593, 21594, 21595, 31320 PPNO 2808 = 4153, 2808, 4154, 4155, 4156, 4841). TCRP#42.2&4	2019	\$43,940,910
STATE HIGHWAY	CALTRANS	1TL1001	5	I-5	PICO CANYON	PARKER ROAD	IN L.A./SANTA CLARITA ON RTE 5 FROM PICO CANYON TO PARKER RD, HOV AND AUXILIARY LANE IMPROVEMENTS	2025	\$390,000
STATE HIGHWAY	CALTRANS	LA000357	5				ROUTE 005: --- FROM ROUTE 170 TO ROUTE 118 ONE HOV LANE IN EACH DIRECTION (10 TO 12 LANES) INCLUDING THE RECONSTRUCTION OF THE I-5/SR-170 MIXED FLOW CONNECTOR AND THE CONSTRUCTION OF THE I-5/SR-170 HOV TO HOV CONNECTOR (CFP 345) (2001 CFP 8339; CFP2197).	2015	\$223,388

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
STATE HIGHWAY	CALTRANS	LA000358	5				ROUTE 005: --- FROM ROUTE 134 TO ROUTE 170 HOV LANES (8 TO 10 LANES) (CFP 346)(2001 CFP 8355). (EA# 12180, 12181, 12182, 12183, 12184, 12185, 13350 PPNO 0142F, 151E, 3985, 3986, 3987) SAFETEA LU # 570. CONSTRUCT MODIFIED IC @ I-5 EMPIRE AVE, AUX LNS NB & SB BETWEEN BURBANK BLVD & EMPIRE AVE, AND MODIFY EXISTING STRUCTURES. ADD AUXILIARY LANE BETWEEN ALAMEDA AND OLIVE FROM PM 28.43 TO PM 29.78	2019	\$14,909,544
STATE HIGHWAY	CALTRANS	LA0D192	5				ROUTE 005: GARVEE DEBT SERVICE PAYMENTS: RT 5 FROM RT 118 TO RT 14 FROM 10 TO 12 LANES HOV LANES. EA# 122001, PPNO 0162P.	2015	\$28,895
STATE HIGHWAY	CALTRANS	LA0D73B	5				ROUTE 5: IN NORWALK; FROM ORANGE COUNTY LINE TO ROUTE 605: CARMENITA INTERCHANGE IMPROVEMENT (EA 2159C0, PPNO 2808A) (TCRP 42.3, & 43)	2017	\$6,844,356
STATE HIGHWAY	CALTRANS	LA0G440	5	I-5	SR-14	WELDON CANYON RD/ PARKER RD	PHASE 2 AND 3 OF 3: IN LA/SANTA CLARITA: PHASE 2: CONSTRUCT HOV LANE NORTHBOUND FROM ROUTE 14 TO WELDON CANYON RD; PHASE 3: CONSTRUCT HOV, TRUCK, & AUX LANES FROM SR-14 TO PARKER RD OC.	2017	\$410,000
STATE HIGHWAY	CALTRANS	LAE0465-LA0G440	5				ROUTE 005: PHASE 2: FROM SR-14 TO PARKER ROAD, CONSTRUCT HOV/HOT, TRUCK & AUX LANES (EA 2332E PPNO 3189B), SAFETEA-LU#465.	2020	\$234,385
STATE HIGHWAY	CALTRANS	LAE0465-LAE0465	5				ROUTE 005: PHASE 1 OF 3-- IN SANTA CLARITA FROM ROUTE 14 TO PICO CANYON/LYONS AVENUE IN THE SOUTHBOUND DIRECTION AND FROM ROUTE 14 TO GAVIN CANYON ROAD IN THE NORTHBOUND DIRECTION. CONST TRUCK CLIMBING LANES. (EA 2332A, PPNO 3189), (SAFTEA-LU#465 FUNDED PAID FOR THIS PHASE INCLUDED IN LA0G440).	2016	\$131,000
STATE HIGHWAY	CALTRANS	LAE2577	5				ROUTE 5: STUDY NORWALK, SANTA FE SPRINGS, DOWNEY, MONTEBELLO, & COMMERCE: ON I-5, CONDUCT PLAN'G, ENV. STUDIES FOR WIDEN'G W/HOV & MIXED FLOW LNS FROM I-605 TO I-710.(EA2159E, 2159F, PPNO 2808C, 2808D)PAID ONLY	2023	\$4,730

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1H0103	5	I-5/I-405	SOUTH	NORTH	I-5/I-405 CARPOOL LANE PARTIAL CONNECTOR (SOUTH TO NORTH)	2029	\$330,000
STATE HIGHWAY	CALTRANS	LA000548	10				ROUTE 10: FROM PUENTE TO CITRUS HOV LANES FROM 8 TO 10 LANES & SOUNDWALLS (C-ISTEA 77720, 95 STIP-IIP) (EA# 117080,1172, 1170J, PPNO# 0309N, 0309S);(USE TOLL CREDITS AS LOCAL MATCH).	2018	\$195,580
STATE HIGHWAY	CALTRANS	LA0F098	10				ROUTE 010: L.A. COUNTY I-10 AND I-605 IC; CONSTRUCT ONE/TWO LANE BRIDGE STRUCTURE, BRANCHING OFF SB OF RTE 605 TO EB OF RTE 10 AT-GRADE CONNECTOR RAMP (EA 24540, PPNO 3529; CONSTRUCT ONE-LANE CONNECTOR FROM SB I-605 TO WB I-10.	2015	\$78,760
STATE HIGHWAY	CALTRANS	LA0B875	10				ROUTE 10: HOV LANES AND PAVEMENT REHAB FROM CITRUS TO ROUTE 57 - (EA# 119344+31120 = 1193J, PPNO# 0310B+4812=0310B);USE TOLL CREDIT AS LOCAL MATCH	2018	\$241,160
STATE HIGHWAY	LOS ANGELES COUNTY MTA	1HLO8D01-LA0G137	10				LACRD - HOT LANES ON I-10 FROM ALAMEDA ST./ UNION STATION TO I-605, AND ON I-110 FROM 182ND ST./ ARTESIA TRANSIT CENTER TO ADAMS BLVD.(IT AND TOLL TECHNOLOGY)(RTP # 1HLO8D01, HLO8D03, 10M08D01) CONVERSION OF HOV LANES TO HOT LANES ON I-10 FROM ALAMEDA ST./UNION STATION TO I-605. (RTP ID 1HLO8D01 & 1HLO8D03 & 1TR08D07B)	2014	\$66,679
STATE HIGHWAY	LOS ANGELES COUNTY MTA	1HLO8D01-LA0G139	10				LACRD - EXPAND CAPACITY OF THE I-10 HOT LANE (RESTRIPING AND BUFFER CHANGES). RES TRIPLE TO ADD A SECOND LANE (WB - SANTA ANITA TO I-710; EB - I-710 TO BALDWIN AVE.)FOR HOT LANES ON THE I-10. (RTP# 1HLO8D01)	2014	\$3,200
STATE HIGHWAY	LOS ANGELES COUNTY MTA	10M0702-LA0G819	10				LACRD - I-10 AND I-110 EXPRESSLANES TOLL SYSTEM OPERATIONS, MAINTENANCE, MARKETING AND DATA COLLECTION (RTP ID 1TR08D7B & 10M08D01; LA0G150, LA0G151, LA0G152,10M08D02)	2014	\$2,499
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1H0101	14	SR-14	AVE. P-8	AVE. L	ADD 1 HOV LANE EACH DIRECTION ON THE SR-14 FROM AVE. P-8 TO AVE. L	2027	\$120,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
STATE HIGHWAY	ALAMEDA CORRIDOR TRANSPORTATION AGENCY	LA0D45-LA0D45	47				SR-47 EXPRESSWAY: REPLACEMENT OF SCHUYLER HEIM BRIDGE (SEGMENT 1) TO INCLUDE 2 THRU LANES AND 1 AUX LANE NB; AND 3 THRU LANES AND 1 AUX LANE SB; ACTA COMPLETING PE, ROW, AND DESIGN SUPPORT DURING CONSTRUCTION; SAFETEA-LU #712 & #3797. BRIDGE REPLACEMENT - NO ADDITIONAL LANES ADDED. CONSTRUCT EXPRESSWAY (SEGMENT 2-ACTA ONLY) AND 2-LANE FLYOVER (SEGMENT 3-ACTA ONLY).	2017	\$416,800
STATE HIGHWAY	CALTRANS	LA0D45-LA0G600	47				ROUTE 047: REPLACEMENT OF SCHUYLER HEIM BRIDGE TO INCLUDE 2 THRU LANES AND 1 AUX LANE NB, AND 3 THRU LANES AND 1 AUX LANE SB EA 13820, PPNO 0444E).	2016	\$278,993
STATE HIGHWAY	PORT OF LOS ANGELES	1M0430	47	SR-47	AT NAVY WAY		SR 47/NAVY WAY INTERCHANGE: CONSTRUCTION OF INTERCHANGE AT SR-47 / NAVY WAY TO ELIMINATE TRAFFIC SIGNAL AND MOVEMENT CONFLICTS; THIS PROJECT WAS A SCA TRADE CORRIDOR TIER II TCIF PROJECT AS SUBMITTED TO THE CTC IN 2008; PROJECT REMOVES LAST SIGNAL ON SR 47 BETWEEN DESMOND AND V. THOMAS BRIDGES; NHS INTERMODAL CONNECTOR ROUTE	2028	\$57,593
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1M0104	57	SR-57/SR-60			SR-57/SR-60 INTERCHANGE IMPROVEMENT	2029	\$475,000
STATE HIGHWAY	DIAMOND BAR	LA0D399	60				ROUTE 60: CONSTRUCTION OF NEW PARTIAL DIAMOND INTERCHANGE FOR STATE ROUTE 60 (SR-60) AT LEMON AVE (SAFETEA-LU # 587).	2016	\$21,838
STATE HIGHWAY	CALTRANS	1M1001	71	SR-71	MISSION BLVD	RIO RANCHO RD	EXPRESSWAY TO FREEWAY CONVERSION - ADD 1 HOV LANE AND 1 MIXED FLOW LANE	2029	\$325,600
STATE HIGHWAY	CALTRANS	LA0B951	71				ROUTE 71: ROUTE 10 TO SAN BERNARDINO COUNTY LINE - EXPRESSWAY TO FREEWAY CONVERSION - ADD 1 HOV LANE AND 1 MIXED FLOW LANE . (2001 CFP 8349, TCRP #50) (EA# 210600, PPNO 2741) (TCRP #50)	2028	\$13,392
STATE HIGHWAY	SOUTH BAY COUNCIL OF GOVERNMENTS	1M1003	91	91/105/110/405			I-405, I-110, I-105 AND SR-91 RAMP AND INTERCHANGE IMPROVEMENTS (SOUTH BAY)	2016	\$1,508,900

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
STATE HIGHWAY		1M0802	101	US-101	AT UNIVERSAL TERRACE PARKWAY		US-101/UNIVERSAL TERRACE PARKWAY (CAMPO DE CAHUENGA WAY) INTERCHANGE IMPROVEMENTS	2016	\$21,516
STATE HIGHWAY	CALABASAS	LA0G208	101				PROJECT WILL REPLACE EXISTING 2 LANE BRIDGE WITH 4 LANE BRIDGE AND 1 TURN LANE @ LOST HILLS RD/US 101 INTERCHANGE. THIS WILL BRING BRIDGE TO CURRENT LANE CONFIGURATION OF LOST HILLS RD ON EITHER SIDE OF BRIDGE. INTERCHANGE WILL ELIMINATE CROSS-TRAFFIC MOVEMENT TO ACCESS NB US 101. THERE WILL BE NO ADDITIONAL LANES ON US 101. REPLACEMENT BRIDGE WILL BE WIDER, 4 LNS RATHER THAN 2 AND WILL SPAN APPROX. 280 FT, ACCOMMODATING WIDTH OF ROAD ON EITHER SIDE OF BRIDGE STRUCTURE.	2016	\$27,000
STATE HIGHWAY	WESTLAKE VILLAGE	LA960142	101	LINDERO CANYON ROAD	AGOURA ROAD	VIA COLINAS	RTE 101/LINDERO CANYON ROAD INTERCHANGE IMPROVEMENT PROJECT. LINDERO CYN RD BTW VIA COLINAS AND AGOURA RD WIDENED FROM 2 TO 3 LANES IN EACH DIRECTION. RAMP G-6 WIDENED TO 2 LANES TO PROVIDE FOR 2 FREE RT LANES FOR EASTBOUND VIA COLINAS TRAFFIC AT LINDERO	2015	\$25,758
STATE HIGHWAY	CALTRANS	1160003	110	HARBOR TRANSITWAY	30TH STREET	FIGUEROA ST.	THE PROJECT PROPOSES TO BUILD AN ELEVATED HOV/ HOT OFF-RAMP CONNECTOR ON THE NORTHBOUND I-110 BETWEEN 28TH STREET (PM 20.58) AND FIGUEROA STREET OVERCROSSING (PM 20.92). THE PROPOSED ELEVATED HOV/HOT OFF-RAMP CONNECTOR ON THE NORTHBOUND I-110 BETWEEN 28TH STREET (PM 20.58) AND FIGUEROA STREET OVERCROSSING (PM 20.92) WOULD BYPASS THE BOTTLENECK INTERSECTIONS AT ADAMS BLVD AND FLOWER STREET AND ELIMINATE THE DELAY BY PROVIDING THE DIRECT ACCESS TO FIGUEROA STREET.	2023	\$55,000
STATE HIGHWAY	LOS ANGELES COUNTY MTA	1HL08D01-LA0G138	110				LACRD - HOT LANES ON THE I-10 FROM ALAMEDA ST./UNION STATION TO I-605, AND ON I-110 FROM 182 ST./ARTESIA TRANSIT CENTER TO ADAMS BLVD. CONVERSION OF HOV LANES TO HOT LANES. (INFRASTRUCTURE/PAVEMENT) (1HL08D01, 1HL08D03)	2014	\$3,881

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
STATE HIGHWAY	LOS ANGELES COUNTY MTA	1HLO8D03	110				LACRD - HOT LANES ON THE I-10 FROM ALAMEDA ST./ UNION STATION TO I-605, AND ON I-110 FROM 182 ST./ ARTESIA TRANSIT CENTER TO ADAMS BLVD. INCLUDES OPERATIONAL IMPROVEMENTS AT I-110 OFF-RAMP AT ADAMS BLVD (RE-STRIPE OFF-RAMP TO ADD A RIGHT TURN LANE AND WIDEN ADAMS BLVD BRIDGE FOR AN ADDITIONAL THROUGH LANE TO FIGUEROA WAY). CONVERSION OF HOV LANES TO HOT LANES. (INFRASTRUCTURE/PAVEMENT) (1HLO8D01, 1HLO8D03)	2014	\$46,900
STATE HIGHWAY	LOS ANGELES COUNTY	LA0C8099	126				ROUTE 126: SR-126/COMMERCE CTR DR NEW I.C. CONSTRUCT A PARTIAL CLOVERLEAF, GRADE SEPARATED IC AND WIDEN ST 126 FROM .76 KM EAST OF IC TO .85 KM WEST 4-6 LANES. (2001 CFP 8099) (PPNO 3118)	2017	\$56,834
STATE HIGHWAY		1122004	138	SR-138	I-5	SR-14	NW 138 CORRIDOR IMPROVEMENT PROJECT - APPROXIMATELY 36 MILES, PROVIDING AN IMPROVED 4 TO 6 LANE FACILITY BETWEEN I-5 AND SR-14	2020	\$600,000
STATE HIGHWAY	CALTRANS	LA0D451	138				ROUTE 138: ROUTE 138 FROM AVE. T TO ROUTE 18-WIDEN 2 TO 4 THRU LANES WITH MEDIAN TURN LANE. EA# 1272112 722,12723,12724(=29350),12725,12728(= 28580 + 28590 + 28600 + 28620 + 28610 + 28630), PPNO# 3325,3326,3327, 33289(=4560),3329,3331(= 4351 + 4352 + 5353	2019	\$169,362
STATE HIGHWAY	CALTRANS	LA0G1099-LA0G665	138				ROUTE 138: COMPLETE PAVED FOR AN APPROXIMATE 63-MILE WEST-EAST FREEWAY/EXPRESSWAY AND POSSIBLE TOLL FACILITY BETWEEN SR-14 IN LA COUNTY AND SR-18 IN SB COUNTY, HIGH DESERT CORRIDOR PAVED COMBINES THE LA COUNTY MEASURE R PROJECT FROM SR-14 TO I-15 AND SB COUNTY FEDERAL EARMARKS PROVIDED TO CITY OF VICTORVILLE FOR US-395 TO SR-18. BOTH PROJECTS AND FUNDS ARE COMBINED TO COMPLETE THE PAVED FROM SR-14 TO SR-18. [EA 2600U, 11672, PPNO 3912, 0393F]	2021	\$46,007
STATE HIGHWAY	CALTRANS	LA962212	138				ROUTE 138: IN PALMDALE @ AVENUE P-8 FROM ROUTE 14 TO 100TH STREET - ACQUISITION OF ROW FOR FUTURE RTE 138 (TIER 2 ENV) (CFP 2212 \$3540 2001 CFP 8021) (EA# 116720, PPNO 0393F)	2019	\$700,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
STATE HIGHWAY	LOS ANGELES COUNTY MTA	10M0702-LA06949	138	SR-138	SR-14	PEARBLOSSOM/150E	COMPLETE PA&ED TO DETERMINE THE ALTERNATIVES FOR THE APPROXIMATE 36.8-MILE EAST-WEST SR-138 HIGHWAY FACILITY BETWEEN I-5 AND SR-14 IN NORTHERN LOS ANGELES COUNTY. THE PA&ED WILL STUDY AND DETERMINE THE ALTERNATIVES (I.E. FREEWAY AND/OR EXPRESSWAY), CONSTRAINTS (RIGHT-OF-WAY REQUIREMENTS), POTENTIAL IMPACTS/IMPROVEMENTS AND CONDUCT TECHNICAL STUDIES.	2018	\$25,000
STATE HIGHWAY	TBD	1122005	138	SR-138	SR-14	PEARBLOSSOM/150E	SR-138 LOOP ROAD	2020	\$643,000
STATE HIGHWAY	PASADENA	LAE0219	210				ROUTE 210: CONSTRUCT SOUND WALLS ALONG PORTIONS OF THE I-210 FREEWAY BETWEEN ARROYO BLVD AND ORANGE GROVE (SAFETEA-LU #219 HIGH PRIORITY PROJECTS).	2014	\$1,800
STATE HIGHWAY	CALTRANS	LA0D193	405				ROUTE 405: GARVEE DEBT PAYMENTS RTE. 405 - WATERFORD AV. TO RTE 10 - AUX LINE: LOS ANGELES - WATERFORD AV. TO RTE 10 - CNSTRCT S/B AUX LINE & S/B HOV LNE (2001 CFP 8354) (EA 195900, PPN0 2333).	2015	\$34,470
STATE HIGHWAY	CALTRANS	LA0D194	405				ROUTE 405: GARVEE DEBT SERVICE PAYMENTS: IN LOS ANGELES ON ROUTE 405/101 CONNECTOR GAP CLOSURE (2001 CFP 7248, 2001 CFP 8347) (EA# 20120K, PPN0 2336). (BOTH RIP & IIP)	2015	\$30,787
STATE HIGHWAY	CALTRANS	LA0D332	405				ROUTE 405: IN LOS ANGELES: FROM LA TIJERA BLVD TO JEFFERSON BLVD; ADD AUXILIARY LANE PPN0: 3348 EA: 24130	2015	\$77,422
STATE HIGHWAY	LOS ANGELES COUNTY MTA	LA0B408	405				ROUTE 405: ADD A 10-MILE HOV LANE ON THE NORTHBOND 405 BETWEEN I-10 AND U.S. 101 IN LA FROM RTE 10 TO RTE 101 WIDEN FOR HOV LANE & MODIFY RAMPS, & HOV INGRESS/EGRESS AT SANTA MONICA BLV (EA 12030, PPN0 0851G, SAFETLU SECTION 1302 #18, 1934 #20)	2016	\$1,141,300

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
STATE HIGHWAY	SIGNAL HILL	10M0702-LA06124	405				RECONFIGURING THE I-405 FREEWAY INTERCHANGES, AT CHERRY AVENUE, TO INCORPORATE BOTH NORTHBOUND AND SOUTHBOUND ON/OFF RAMP AND TO CONFORM WITH CALTRANS DESIGN CRITERIA. (NO ADDITIONAL CAPACITY, ONLY AN INTERCHANGE RECONFIGURATION) ONLY FOR PSR PHASE.	2020	\$238
STATE HIGHWAY	LOS ANGELES, CITY OF	1160024	405				I-105/I-405 CONNECTIONS: CONSTRUCT NEW I-105 AND I-405 ON-AND-OFF RAMP TO CONNECT TO THE CONSOLIDATED RENTAL CAR FACILITY AND OTHER LANDSIDE ACCESS FACILITIES.	2030	\$300,000
STATE HIGHWAY	LOS ANGELES, CITY OF	1160028	405				I-405: CONSTRUCT LAX EXPRESSWAY PARALLEL TO I-405 BETWEEN STATE ROUTE 90 (SR-90) AND I-105 / EL SEGUNDO BOULEVARD	2035	\$1120,000
STATE HIGHWAY	LOS ANGELES, CITY OF	1160029	405				I-405 HOV: I-405 DIRECT HIGH OCCUPANCY VEHICLE (HOV) CONNECTOR TO LAX	2035	\$135,000
STATE HIGHWAY	LOS ANGELES, CITY OF	1160030	405				I-405 RAMP: PROVIDE AN ON-RAMP TO I-405 NORTHBOUND FROM NORTHBOUND LA CIENAGA BOULEVARD	2035	\$90,000
STATE HIGHWAY		1C0401	710		OCEAN BLVD IN LONG BEACH	INTERMODAL RAILROAD YARDS IN COMMERCE / VERNON	I-710 SOUTH	2025	\$5,110,000
STATE HIGHWAY		1M1002	710				I-710 EARLY ACTION PROJECTS	2035	\$711,600
STATE HIGHWAY	CALTRANS	18790	710				ROUTE 710: STUDY TO PERFORM ALTERNATIVE ANALYSIS, ENGINEERING AND ENVIRONMENTAL STUDIES TO CLOSE 710 FREEWAY GAP. (EA # 187901, PPN# 2215)	2025	\$70,454
STATE HIGHWAY	CALTRANS	LA996143	710				ROUTE 710: RTE 710 PCH TO DOWNTOWN LB., PAVEMENT RECON, MEDIAN, LANDSCAPING IMPROVE (EA 2203U, 23640, PPN# 2945,3248)	2016	\$7,496
STATE HIGHWAY	LONG BEACH	LA000512	710	OCEAN BOULEVARD	I-710	SR 47	BRIDGE NO. 53C0065, OCEAN BLVD, OVER ENTRANCE CHANNEL, UP RR, 10 MI E STATE ROUTE 47. REPLACE EXISTING 5 LANE GERALD DESMOND BRIDGE (GDB) WITH NEW 6 LANE BRIDGE.	2017	\$1,288,101

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
STATE HIGHWAY	LOS ANGELES COUNTY MTA	LA0B952	710				ROUTE 710: RECONSTRUCT I-710 INTERCHANGES AT I-5, AT I-405, AT SR 91, AND AT I-105. AS PART OF THE I-710 CORRIDOR PROGRAM PROPOSING 4 TRUCK LANES (PORTS- RAIL YARDS), 10 GENERAL LANES (PORT-SR-60)(STEAD ID # 37)(SAFEA-LU 3773). (SEE ADDITIONAL DESCRIPTION IN THE GENERAL COMMENTS SECTION)	2015	\$56,500
STATE HIGHWAY	LOS ANGELES COUNTY MTA	LA990921- LA0G138	710				IMPROVEMENTS TO I-710 SOUNDWALLS. THE PURPOSE OF THIS PROJECT IS TO MITIGATE NOISE LEVELS AND PROVIDE AESTHETIC TREATMENTS ON THE 710 SOUNDWALLS.	2015	\$3,000
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1M0101	710	SR-710	VALLEY BOULEVARD	CALIFORNIA BL & PASADENA AVE	SR-710 NORTH EXTENSION (ALIGNMENT TBD)*	2025	\$5,636,000
STATE HIGHWAY	CALTRANS	LA990921- LA990921	999				ROUTE 999: ON VARIOUS HIGHWAYS. GROUPED PROJECTS FOR NOISE ATTENUATION (SOUNDWALLS) (ONLY EA00234 ON RTE 710 REMAINING. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93:126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES.	2014	\$236,700
STATE HIGHWAY	LOS ANGELES COUNTY MTA	LA0G1099- LA0G1099	999				HIGH DESERT CORRIDOR. AN APPROXIMATELY 63- MILE EAST-WEST MULTI-PURPOSE CORRIDOR FROM AVENUE P-8/SR-14 IN LA COUNTY TO BEAR VALLEY ROAD/SR-18 IN SAN BERNARDINO COUNTY. THIS MULTI-PURPOSE CORRIDOR INCLUDES TSM/TDM, FREEWAY, EXPRESSWAY, TOLLWAY, HIGH-SPEED RAIL, GREEN ENERGY TRANSMISSION/PRODUCTION, AND BIKEWAY ELEMENTS.	2020	\$5,000,000
TRANSIT		1120002	0	EXPAND RAIL	WILSHIRE/ VERMONT	EXPOSITION/ VERMONT	VERMONT SHORT CORRIDOR: WILSHIRE/VERMONT TO EXPOSITION/VERMONT	2040	\$1,180,000
TRANSIT		1120003	0	EXPAND RAIL	CRENSHAW CORRIDOR	METRO BLUE LINE SLAUSON STATION	SLAUSON LIGHT RAIL: CRENSHAW CORRIDOR TO METRO BLUE LINE SLAUSON STATION	2040	\$554,000
TRANSIT		1120004	0	EXPAND RAIL	METRO RED LINE STATION NORTH HOLLYWOOD	BURBANK BOB HOPE AIRPORT	METRO RED LINE EXTENSION: METRO RED LINE STATION NORTH HOLLYWOOD TO BURBANK BOB HOPE AIRPORT	2040	\$940,000

* This project is currently pending environmental review. As with other projects included within the Project List, when the SR-710 North Study environmental review process is complete, the 2016 RTP/SCS will be updated to reflect the Locally Preferred Alternative (LPA) as identified in the final environmental document.

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
TRANSIT		1120005	0	EXPAND RAIL		METRO GREEN LINE NORWALK STATION	METRO GREEN LINE NORWALK STATION TO NORWALK METROLINK STATION	2040	\$500,000
TRANSIT		1TR1011	0	WEST SANTA ANA BRANCH ROW CORRIDOR	LACIENEGA	TOWARD DOWNTOWN LA	WEST SANTA ANA BRANCH ROW CORRIDOR - PROVIDES FOR THE DEVELOPMENT OF AN 8 MILE LRT PROJECT IN THE WEST SANTA ANA ROW TO HUNTINGTON PARK WITH AN ADDITIONAL 12 MILE ROUTE TBD TO DOWNTOWN LOS ANGELES.	2028	\$647,300
TRANSIT	ACCESS SERVICES INC.	LA970501	0				ANNUAL EXPENDITURES INCLUDING SERVICE PROVIDER CONTRACTS & CAPITAL EXPENSES FOR COMPLEMENTARY ADA PARATRANSIT IN LOS ANGELES COUNTY	2019	\$399,458
TRANSIT	ANTELOPE VALLEY TRANSIT AUTHORITY	LA50200	0				PREVENTIVE MAINTENANCE (LANCASTER/PALMDALE UZA). ADDED TDC AS FOLLOWS: \$880 IN FY 14/15, \$860 IN FY 15/16, \$930 IN FY 16/17, AND \$954 IN FY 17/18 TO MATCH FTA 5307 FOR CON.	2018	\$41,157
TRANSIT	ANTELOPE VALLEY TRANSIT AUTHORITY	10M0702-LA06012	0				FEDERAL OPERATING ASSISTANCE. UTILIZING \$400 OF TDC IN FY 15/16 TO MATCH FTA 5307 FUNDS FOR CON. TOLL CREDITS - TRANSIT (TDC) OF \$400 WILL BE USED TO MATCH FY 16 FEDERAL FUNDS FOR THE CON PHASE	2017	\$25,110
TRANSIT	ARCADIA	LA50300	0				OPERATING ASSISTANCE - TRANSIT OPERATIONS AND DIAL-A - RIDE SERVICE	2015	\$3,240
TRANSIT	BALDWIN PARK	1NLO4-LAF1654	0				BALDWIN PARK METROLINK PEDESTRIAN OVERCROSSING. CONSTRUCT A PEDESTRIAN OVERCROSSING OVER BOGART AVE AND THE METROLINK LINE TO LINK THE STATION WITH VITAL BUS TRANSFER POINTS AND TO PROVIDE ACCESS TO PARKING OVERFLOW AREAS. (APPROXIMATELY 50' BRIDGE)	2015	\$1,810
TRANSIT	BALDWIN PARK	1TDL04-LAF3712	0				METROLINK PARKING RESOURCE MANAGEMENT DEMONSTRATION PROJECT. DEMONSTRATION PROJECT PROVIDES COMMUTERS OF METROLINK AND TRANSIT SERVICES WITH A PROACTIVE SYSTEM TO ASSIST IN LOCATING AVAILABLE PARKING WITHIN CITY'S METROLINK STATION VICINITY.	2015	\$266

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
TRANSIT	BURBANK GLENDALE PASADENA A AIRPORT	LAEO396	0				CONSTRUCTION OF EMPIRE AREA TRANSIT CENTER NEAR BURBANK AIRPORT - UPGRADE EXIST - REG. L TRANSIT & LAYOVER FACILITY ADJACENT TO THE BURBANK-GLENDALE-PASADENA AIRPORT. WILL FACILITATE TRANSFER OF PASSENGERS TO & FROM MANY GROUND TRANS. SAF TEA-LU 396, E-2009	2015	\$1,858
TRANSIT	COMMERCE	LAOC37	0				BUS STOP IMPROVEMENTS CONSTRUCTION OF PASSENGER SHELTERS AND INFORMATION KIOSKS	2015	\$686
TRANSIT	CULVER CITY MUNI BUS LINES	LA52100	0				CULVER CITY BUS OPERATION ASSISTANCE.	2018	\$67,474
TRANSIT	CULVER CITY MUNI BUS LINES	LA0B358	0				PREVENTATIVE MAINTENANCE FOR THE CULVER CITY BUS FLEET.	2019	\$17,500
TRANSIT	CULVER CITY MUNI BUS LINES	LA52101	0				CERTIFICATES OF PARTICIPATION (COP) HAVE BEEN ISSUED FOR THE CULVER CITY TRANSPORTATION FACILITY. PAYMENTS WILL BE MADE BI-ANNUALLY THROUGH JANUARY 2016.	2017	\$6,480
TRANSIT	CULVER CITY MUNI BUS LINES	LA52105	0				PAYMENTS FOR THE LEASING OF BUS TIRES FOR THE CULVER CITY BUS FLEET.	2017	\$500
TRANSIT	DOWNNEY	1TR1009	0	LAKEWOOD STATION TRANSIT CENTER AND PARK-AND-RIDE	METRO GREEN LINE LAKEWOOD STATION	METRO GREEN LINE LAKEWOOD STATION	CONSTRUCT TRANSIT CENTER AND PARK-AND-RIDE LOT FOR CONNECTION TO THE METRO GREEN LINE AT LAKEWOOD STATION. A TOTAL OF 230 PARKING SPACES ARE PROPOSED.	2018	\$5,100
TRANSIT	FOOTHILL TRANSIT ZONE	10M08D02	0				LAGRD - I-10 HOT LANE OPERATIONS - NEW TRANSIT SERVICES.(RTP# 10M08D02).	2014	\$4,000
TRANSIT	FOOTHILL TRANSIT ZONE	LA0B310	0				REPLACEMENT CNG & ELECTRIC BUSES. PURCHASING 30 42FT. BUSES IN FY2015 AND 30 42FT. BUSES IN FY2016- FY2017.	2017	\$92,358
TRANSIT	FOOTHILL TRANSIT ZONE	LA0F048	0				PREVENTIVE MAINTENANCE - OPERATING	2015	\$8,500
TRANSIT	FOOTHILL TRANSIT ZONE	LA963526	0				BUS STOP ENHANCEMENT/IMPROVEMENT	2016	\$2,647

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
TRANSIT	GARDENA	10M0702-LA06143	0				CAPITALIZATION OF FTA EQUIPMENT AND FACILITY MAINTENANCE. TOLL CREDITS (TDC) OF \$497K FOR FY15/16; \$500K EACH FISCAL YEAR IN FY16/17, FY17/18, & FY18/19 TO MATCH FTA 5307 FUNDS.	2019	\$9,984
TRANSIT	GARDENA	10M0702-LA06394	0				PURCHASE AND INSTALLATION OF TRANSPORTATION MANAGEMENT SOFTWARE/SYSTEM. UTILIZING TDC (TOLL CREDITS) OF \$60K FOR CON FOR FY14/15. TOLL CREDITS OF \$60 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	2015	\$300
TRANSIT	GARDENA	LA0D437	0				REPLACE UP TO SEVEN (7) 1997 MODEL YEAR DIESEL BUSES WITH UP TO SEVEN (7) ALTERNATE FUEL 40 FT. BUSES. ADDING TDC (TOLL CREDITS) OF \$1190K. . . TOLL CREDITS - TRANSIT (TDC) OF \$1,190 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	2017	\$5,950
TRANSIT	GARDENA	LA52603	0				THIS PROJECT PROVIDES FOR THE USE OF FTA 5307 FUNDS FOR REVENUE SERVICE BUS TIRE LEASE. THIS PROJECT ALSO ADDS TDC (TOLL CREDITS) OF \$22 FOR FY 14/15. TOLL CREDITS OF \$22 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE	2019	\$112
TRANSIT	GARDENA	LA973010	0				BUS SERVICE EQUIPMENT. CHANGING AVAILABLE FUNDING FOR FY15 AND ADDING FY16 INCLUDING TOLL CREDITS (TDC) DUE TO NEED FOR ADDITIONAL BUS EQUIPMENT TO SUPPORT HYBRID DRIVE SYSTEMS. TOLL CREDITS (TDC) OF \$54 WILL BE USED TO MATCH FY15 FEDERAL FUNDS FOR THE CON PHASE. TOLL CREDITS (TDC) OF \$59 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	2016	\$567
TRANSIT	GLENDALE	LAE0212	0				FEASIBILITY STUDY - OF DOWNTOWN STREETCAR PROJECT	2016	\$1,002
TRANSIT	LA MIRADA	1NLO4-LA0G429	0				PURCHASE AND INSTALLATION OF BIKE RACKS FOR TRANSIT VEHICLES.	2015	\$64
TRANSIT	LA MIRADA	LA0D349A	0				REPLACEMENT BUSES - 25FT VANS/BUSES - PURCHASE QTY OF 3 GASOLINE-18 PASSENGER CAPACITY EACH. REPLACEMENT BUSES - 26FT VANS/BUSES - PURCHASE QTY OF 2 GASOLINE-19 PASSENGER CAPACITY EACH.	2016	\$532

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
TRANSIT	LONG BEACH	LAE0332	0				LONG BEACH PARK AND RIDE FACILITY AT 3RD STREET AND PACIFIC AVE SOUTH OF THE MTA BLUE LINE PACIFIC STATION. 300 TO 500 SPACE AND INCLUDE RESIDENTIAL AND COMMERCIAL DEVELOPMENT	2011	\$1002
TRANSIT	LONG BEACH PUBLIC TRANSPORTATION COMPANY	10M0702-LA061190	0				THIS PROJECT INCLUDES: REGULAR MAINTENANCE, FACILITY IMPROVEMENTS, INFORMATION SYSTEM EQUIPMENT, SAFETY/SECURITY EQUIPMENT, REPAIRS, COSMETIC RESTORATION AND REPLACE AGING COMPONENTS TO LONG BEACH TRANSIT'S AQUATIC FLEET.. TOLL CREDITS OF TRANSIT (TDC) OF \$8 WILL BE USED TO MATCH FY16 FUNDS FOR THE CON PHASE. TOLL CREDITS - TRANSIT (TDC) OF \$8 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	2017	\$42
TRANSIT	LONG BEACH PUBLIC TRANSPORTATION COMPANY	10M0702-LA06435	0				ON-GOING CAPITALIZATION OF TRAINING AND EDUCATION. IN ADDITION IN CONS., ADDED \$14 IN FY14/15 AND \$6 IN FY15/16 FOR TRANSIT DEVELOPMENT CREDITS TO MATCH THE 5307 FUNDS.	2017	\$245
TRANSIT	LONG BEACH PUBLIC TRANSPORTATION COMPANY	LA0D362	0				COMPREHENSIVE OPERATIONAL ANALYSIS TRANSIT PLANNING	2017	\$750
TRANSIT	LOS ANGELES COUNTY	1NLO4-LAF1511	0				EASTSIDE LIGHT RAIL BIKE INTERFACE PROJECT. PROJECT INCLUDES DESIGN AND CONSTRUCTION OF BIKE ROUTES WITH APPROPRIATE SIGNAGE AND STRIPING TO ACCESS METRO GOLD LINE STATIONS.. TOLL CREDITS - LOCAL AND STATE HWY OF \$20 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	2015	\$1861
TRANSIT	LOS ANGELES COUNTY/MTA	10M0702-LA061174	0				STATION NEEDS ASSESSMENT: THIS IS A STUDY OF ALL STATIONS ON THE METROLINK SYSTEM IN LOS ANGELES COUNTY. THE OUTPUT OF THIS STUDY WILL BE A PRIORITIZED LIST OF ISSUES AND THE ASSOCIATED COSTS TOWARDS ENHANCING THE PASSENGER EXPERIENCE AT THE STATIONS.	2015	\$500

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
TRANSIT	LOS ANGELES COUNTY MTA	10M08D01	0				LACRD - DIVISION 13 (FORMERLY NAMED UNION DIVISION) NEW BUS OPERATIONS AND MAINTENANCE FACILITY (RTP ID 10M08D01 & 1TR08D07A & 1HLD08D03 FOR HOT LACRD PROJ). PROJECT AND SCOPE ARE FROM AMENDMENT 2008 AMENDMENT #53.	2015	\$104,200
TRANSIT	LOS ANGELES COUNTY MTA	1TDL04-LA06270	0				EXPANSION AND IMPROVEMENT TO EXISTING TRANSIT CENTER IN THE CITY OF PALMDALE. E2009-BUSP-137.	2014	\$360
TRANSIT	LOS ANGELES COUNTY MTA	1TR0404	0				REGIONAL CONNECTOR - LIGHT RAIL IN TUNNEL ALLOWING THROUGH MOVEMENTS OF TRAINS, BLUE, GOLD, EXPO LINES. FROM ALAMEDA / 1ST STREET TO 7TH STREET/METRO CENTER	2021	\$1427/32
TRANSIT	LOS ANGELES COUNTY MTA	1TR0704-LA06626	0				EASTSIDE TRANSIT CORRIDOR PHASE 2 - METRO GOLD LINE EASTSIDE EXTENSION FROM ITS EXISTING TERMINUS AT ATLANTIC STATION IN EAST LOS ANGELES FARTHER EAST	2035	\$2,490,000
TRANSIT	LOS ANGELES COUNTY MTA	1TR0704-LA06635	0				DESIGN AND CONSTRUCTION OF PEDESTRIAN AND TRANSIT ENHANCEMENTS ALONG THE PUBLIC RIGHT-OF-WAY OF THE METRO GOLD LINE EASTSIDE EXTENSION TO SURROUNDING NEIGHBORHOOD. TRANSIT ENHANCEMENTS ARE WITHIN 3 MILES OF EASTSIDE GOLDLINE EXTENSION STATION.	2020	\$25,000
TRANSIT	LOS ANGELES COUNTY MTA	1TR08D07A	0				TRANSIT CENTER AND PASSENGER AMENITIES AT LA SOUTHWEST COLLEGE EARMARK ID #E2008-BUSP-0678 AND E2009-BUSP-101	2015	\$1,381
TRANSIT	LOS ANGELES COUNTY MTA	1TR08D08-LA06T048	0				ACTION SIDING AND SECOND PLATFORM. LENGTHEN AN EXISTING SIDING WEST OF CP QUARTZ BY APPROX. 4,000 FEET INCLUDING A CROSSOVER, AND ADD A SECOND STATION PLATFORM AT VINCENT GRADE/ACTION STATION. THE PROJECT WILL PROVIDE BENEFITS TO FREIGHT AND COMMUTER RAIL WITH IMPROVED OVERALL CAPACITY, TRACK OPERATIONS, AND SAFETY ALONG A VITAL SEGMENT OF THE ANTELOPE VALLEY LINE.	2016	\$17,400

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
TRANSIT	LOS ANGELES COUNTY MTA	1TR08D08-LA963546	0				BUS & RAIL CAPITAL, INCLUDES FACILITY UPGRADE, EQUIP, SPARE PARTS, NON-REV VEHICLES, MAINTENANCE SUPPORT, ITS, ETC. INCLUDES \$5.3 MIL FOR LACRD IMPROVEMENTS.(INCLUDES RTP ID 1TR08D08 & 1TR08D07A & 1TR08D07B)	2016	\$992,884
TRANSIT	LOS ANGELES COUNTY MTA	1TR08D7B	0				LACRD - I-10 AND I-10 EXPRESS LANES FORMATION OF NEW VANPOOLS AND ENHANCED TRANSIT SERVICE INCLUDING SECURITY, MARKETING AND MAINTENANCE. (RTP ID 1TR08D7B & 10M08D01; LA0G150, LA0G151, LA0G152,10M08D02). (SPLIT WITH LA0G819)	2014	\$4,201
TRANSIT	LOS ANGELES COUNTY MTA	1TR1002-LA0G1052	0				METRO PURPLE LINE WESTSIDE SUBWAY EXTENSION SECTION 2 - WILSHIRE/LA CIENEGA TO CENTURY CITY	2026	\$2,477,112
TRANSIT	LOS ANGELES COUNTY MTA	LA0C10-LA0C10	0				MID-CITY/EXPOSITION CORRIDOR LIGHT RAIL TRANSIT PROJECT PHASE I TO VENICE-ROBERTSON STATION. (INCLUDING E200-BUSP-095, LA CIENEGA INTERMODAL CENTER)	2012	\$970,975
TRANSIT	LOS ANGELES COUNTY MTA	LA0C814	0				LA CNTY RIDESHARE SERVICES; PROVIDE COMMUTE INFO, EMPLOYER ASSISTANCE AND INCENTIVE PROGRAMS THROUGH CORE & EMPLOYER RIDESHARE SERVICES & MTA INCENTIVE PROGRAMS. PPNO 9003	2016	\$65,860
TRANSIT	LOS ANGELES COUNTY MTA	LA0C8413	0				METRO RAPID BUS STATIONS-PHASE II: INCLUDES COMMUNICATIONS & EQUIPMENT - EQUIPMENT AND BUS SHELTERS ONLY.	2015	\$110,000
TRANSIT	LOS ANGELES COUNTY MTA	LA0D197	0				MID-CITY/EXPOSITION CORRIDOR LRT OPERATING ASSISTANCE	2015	\$109,467
TRANSIT	LOS ANGELES COUNTY MTA	LA0D198-LA0D198	0				CRENSHAW/LAX TRANSIT CORRIDOR - THE CRENSHAW/LAX TRANSIT (LRT) LINE EXTENDING FROM THE INTERSECTION OF CRENSHAW AND EXPOSITION BOULEVARDS ALLOWING FOR TRANSFER TO THE EXPOSITION LIGHT RAIL TRANSIT LINE TO A CONNECTION WITH THE METRO GREEN LINE AT THE AVIATION/LAX STATION	2021	\$2,058,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
TRANSIT	LOS ANGELES COUNTY MTA	LA0D282	0				LANDSCAPE, STREETSCAPE & PASSENGER AMENITY IMPROVEMENTS AT & ADJACENT LOS ANGELES CITY COLLEGE TO IMPROVE PEDESTRIAN MOBILITY & ACCESSIBILITY TO EXISTING MULTIMODAL CONNECTIONS. (SAFETEA-LU # 223, 2007 CFP #F1641)	2014	\$9,564
TRANSIT	LOS ANGELES COUNTY MTA	LA0D337	0				TRANSIT ENHANCEMENT ACTIVITIES: 1% FORMULA FUNDS - LOS ANGELES COUNTY	2020	\$40,154
TRANSIT	LOS ANGELES COUNTY MTA	LA0D356	0				PROVIDE HARDSCAPE, LANDSCAPE AND STREETSCAPE IMPROVEMENTS AT EAST LOS ANGELES COLLEGE TO PROVIDE AN OFF-STREET TRANSIT CENTER TO IMPROVE PEDESTRIAN MOBILITY AND MULTI-MODAL	2014	\$3,856
TRANSIT	LOS ANGELES COUNTY MTA	LA0D357	0				PROVIDE HARDSCAPE, LANDSCAPE AND STREETSCAPE IMPROVEMENTS AT LOS ANGELES TRADE TECHNICAL COLLEGE TO IMPROVE PEDESTRIAN MOBILITY AND MULTI-MODAL TRANSIT CONNECTIONS. SAFETEA-LU # 307, 2007 CFP #F1645.	2014	\$5,925
TRANSIT	LOS ANGELES COUNTY MTA	LA0D471	0				NEW FREEDOM PROGRAM ADMINISTRATION, OPERATIONS AND CAPITAL FOR UZA 2 AND UZA 123.	2016	\$34,809
TRANSIT	LOS ANGELES COUNTY MTA	LA0F021-LA0F021	0				EXPOSITION LIGHT RAIL TRANSIT SYSTEM PHASE II - FROM CULVER CITY TO SANTA MONICA	2017	\$1,317,500
TRANSIT	LOS ANGELES COUNTY MTA	LA0G447-LA0G447	0				METRO PURPLE LINE WESTSIDE SUBWAY EXTENSION SECTION I - WILSHIRE/WESTERN TO LA CIENEGA	2023	\$214,241,136
TRANSIT	LOS ANGELES COUNTY MTA	LA29202U3	0				SAN FERNANDO VALLEY NORTH/SOUTH BRT EXTENSION PHASE I: METRO RAPID SERVICE ALONG RESEDA BLVD. AND SEPULVEDA BLVD. SAFETEA-LU # 183. THE FUNDS ARE FOR TYPICAL PASSENGER AMENITIES.	2015	\$11,702
TRANSIT	LOS ANGELES COUNTY MTA	LA29202W-LA29202W	0				WILSHIRE BLVD BRT PHASE I: 12.5-MI. CORRIDOR WITHIN 7.7-MI. PEAK PERIOD BUS LANE ON WILSHIRE WITHIN THE CITY AND COUNTY OF LA FROM VALENCIA ST. TO CITY OF SANTA MONICA. INCLUDES STREET WIDENING, CURB LANE REPAVING/RECONSTRUCTING, IMPROVED TRAFFIC SIGNAL TIMING & BUS SIGNAL PRIORITY. PHASE II: INCLUDES ENHANCED SHELTERS & LANDSCAPING; STREET REPAIR/RECONSTRUCTION; CONCRETE BUS PADS AND P&R FACILITIES.	2016	\$55,525

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
TRANSIT	LOS ANGELES COUNTY MTA	LA963543	0				PREVENTIVE MAINTENANCE (CAPITAL & OPERATING MAINTENANCE ITEMS ONLY)	2020	\$4,154,861
TRANSIT	LOS ANGELES COUNTY MTA	LA974165	0				MACARTHUR PARK STATION IMPROVEMENTS INCLUDE DESIGN AND CONSTRUCTION OF A PLAZA TO ACCOMMODATE PUBLIC ACCESS (PEDESTRIAN ENTRANCES, WALKWAYS, BICYCLE FACILITIES) PPNO# 3417	2016	\$1,931
TRANSIT	LOS ANGELES COUNTY MTA	LA990764	0				JOB ACCESS & REVERSE COMMUTER PROGRAM ADMINISTRATION, OPERATIONS AND CAPITAL FOR UZA 2 AND UZA 123.	2016	\$152,534
TRANSIT	LOS ANGELES COUNTY MTA	UT101	0				METRO PURPLE LINE WESTSIDE SUBWAY EXTENSION SECTION 3 - CENTURY CITY TO WESTWOOD/VA HOSPITAL	2014	\$120,685
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	101003	0	RAIL REHABILITATION AND REPLACEMENT (CAPITAL COSTS ONLY)			RAIL REHABILITATION AND REPLACEMENT (CAPITAL COSTS ONLY)	2040	\$6,538,500
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TL0703	0	METRO RAIL TRANSIT CAPITAL	COUNTYWIDE		RAIL CAPITAL PROJECTS	2040	\$19,151,000
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TL104	0	BUS CAPITAL	COUNTYWIDE		COUNTYWIDE BUS SYSTEM IMPROVEMENT--METRO FLEET	2039	\$7,483,000
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TL204	0	METRO RAIL TRANSIT CAPITAL	COUNTYWIDE		TRANSIT CONTINGENCY/NEW RAIL YARDS/ADDITIONAL RAIL CARS (CAPITAL COSTS ONLY)	2030	\$592,700
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR0101	0	AIRPORT METRO CONNECTOR	AVIATION & 96TH STREET	AVIATION & 96TH STREET	NEW LIGHT RAIL STATION & CONSOLIDATED BUS FACILITIES PROVIDING TRANSFER BETWEEN PROPOSED LAX AUTOMATED PEOPLE MOVER, BUSES, METRO GREEN LINE LRT AND CRENSHAW/LAX LRT.	2028	\$330,000
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR0706	0	SFV/N/S BRT PHASE II			SAN FERNANDO VALLEY NORTH/SOUTH BRT PHASE II (METRO RAPID SERVICE IMPROVEMENTS ON MAJOR NORTH/SOUTH ARTERIALS IN SFV)	2018	\$157,464

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1001	0	GREEN LINE SOUTH BAY EXTENSION	MARINE AVENUE STATION	PROPOSED TORRANCE TRANSIT CENTER	GREEN LINE EXTENSION ALONG HARBOR SUBDIVISION TO THE PROPOSED TORRANCE TRANSIT CENTER	2035	\$555,000
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1003	0	PURPLE/RED LINE	CENTURY CITY	WESTWOOD	METRO WESTSIDE SUBWAY EXTENSION SECTION 3 (CENTURY CITY TO WESTWOOD)	2036	\$2,157,100
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1010	0	BUS CAPITAL	COUNTYWIDE		COUNTYWIDE BUS SYSTEM IMPROVEMENT--MUNI FLEET	2040	\$6,130,487
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1014	0				ACCESS SERVICES INCORPORATED (PARATRANSIT) - METRO SUBSIDY	2035	\$4,210,300
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1016	0				UNION BUS DIVISION (CAPITAL COSTS ONLY)	2016	\$44,900
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1017	0				PLANNING FOR TRANSIT PROJECTS	2040	\$75,000
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1019	0	METRO RAIL TRANSIT CAPITAL	COUNTYWIDE		RAIL SYSTEM IMPROVEMENTS (CAPITAL COSTS ONLY)	2035	\$2,365,700
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1020	0				NEW AIRPORT BUS DIVISION (CAPITAL COSTS ONLY)	2023	\$150,000
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1021	0				METRO AND MUNICIPAL REGIONAL CLEAN FUEL BUS CAPITAL--FACILITIES AND ROLLING STOCK (METRO'S SHARE TO BE USED FOR CLEAN FUEL BUSES) (CAPITAL COSTS ONLY)	2040	\$150,000
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1022	0				CALL FOR PROJECTS TRANSIT CAPITAL MODE	2030	\$355,656
TRANSIT	LOS ANGELES, CITY OF	1NL04-LA06671	0				HISTORIC FILIPINOTOWN BUS SECURITY LIGHTS, LOS ANGELES	2015	\$79

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
TRANSIT	LOS ANGELES, CITY OF	LAOC53	0	HAWTHORNE AVE	N/A	N/A	HOLLYWOOD INTERMODAL TRANSPORTATION AND PUBLIC PARKING CENTER ON HAWTHORNE AVE. BETWEEN HIGHLAND AVENUE AND NORTH ORANGE DRIVE (EXIST 500 SP PARK STRUCTURE);TCRPP#49.2	2020	\$41,000
TRANSIT	LOS ANGELES, CITY OF	LAOD109	0				PURCHASE LAND FOR VEHICLE MAINTENANCE TRANSIT FACILITY	2015	\$2,062
TRANSIT	LOS ANGELES, CITY OF	LAOD343	0				VEHICLE MAINTENANCE FACILITY	2016	\$9,627
TRANSIT	LOS ANGELES, CITY OF	LAO6901	0				HISTORIC LOS ANGELES STREETCAR	2017	\$125,000
TRANSIT	METRO GOLD LINE FOOTHILL EXTENSION CONSTRUCTION AU	1TR0704-LA06701	0				THE METRO GOLD LINE FOOTHILL EXTENSION TRANSIT ORIENTED DEVELOPMENT STUDY WILL ILLUSTRATE POSSIBLE TRANSIT ORIENTED DEVELOPMENTS INTENSITIES AROUND FUTURE METRO GOLD LINE FOOTHILL EXTENSION STATIONS.	2014	\$278
TRANSIT	METRO GOLD LINE FOOTHILL EXTENSION CONSTRUCTION AU	LA29212XY-LA06558	0				GOLD LINE FOOTHILL LRT EXTENSION - PASADENA TO AZUSA	2017	\$847,000
TRANSIT	METRO GOLD LINE FOOTHILL EXTENSION CONSTRUCTION AUTHORITY	1120006	0	EXPAND RAIL	AZUSA	COUNTY LINE	METRO GOLD LINE FOOTHILL EXTENSION: AZUSA TO COUNTY LINE	2040	\$1,000,000
TRANSIT	MONROVIA	LAE0039	0				TRANSIT VILLAGE - PROVIDE A TRANS. FACILITY FOR SATELLITE PARKING FOR SIERRA MADRE VILLA GOLD LINE STA, P-N-R FOR COMMUTERS, A FOOTHILL TRANSIT STORE INCLUDING THREE (3) BUS BAYS, AT LEAST FOUR (4) SHELTERS WITH BENCHES, LIGHTING FOR SAFETY AND SECURITY,	2015	\$3,026

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
TRANSIT	MONTEBELLO	LA55205	0				ASSOCIATED CAPITAL MAINTENANCE ITEMS (ONGOING). THE ASSOCIATED CAPITAL MAINTENANCE PROJECT PROVIDES FOR THE PURCHASE OF MAJOR BUS COMPONENTS ON AN AS NEEDED BASIS IN SUPPORT OF MONTEBELLO BUS LINES' FIXED ROUTE FLEET. TOLL CREDITS (TDC) OF \$64 WILL BE USED TO MATCH FY15/16 FTA 5307 FOR THE CON PHASE.	2017	\$5,625
TRANSIT	MONTEBELLO	LA55207	0				TRANSIT COACH TIRE (LEASE) (ONGOING). CARRYOVER FROM PRIOR FISCAL YEAR. PROJECT USING \$80 OF TDC (\$40 IN FY14/15 AND \$40 IN FY15/16) FOR MATCH TO 5307 FUNDS.	2017	\$2,341
TRANSIT	NORWALK	LA0C61	0				TRANSIT DATA AND COMMUNICATION SYSTEMS; ITS (RADIO, AVL, DISPATCHING, AND OTHER ADVANCED TECHNOLOGY) ONGOING.	2016	\$823
TRANSIT	NORWALK	LA0C63	0				PURCHASE OF MISC OFFICE EQUIPMENT- (ONGOING)	2016	\$148
TRANSIT	NORWALK	LA0C64	0				ASSOCIATED CAPITAL MAINTENANCE (ENGINES, TRANSMISSIONS, PARTICULATE TRAPS, KITS, ETC) (ONGOING)	2015	\$175
TRANSIT	RANCHO PALOS VERDES	1NLO4-LAF1605	0				PEDESTRIAN SAFE BUS STOP LINKAGE. LINKING 11 BUS STOPS CURRENTLY INACCESSIBLE BECAUSE OF LACK OF SIDEWALKS ON BOTH THE EAST AND WEST SIDE OF HAWTHORNE BLVD. FROM CREST RD. TO PALOS VERDES DR. SOUTH (ABOUT 13,000')	2015	\$1,397
TRANSIT	REDONDO BEACH	10M0702-LA0D298	0				ACQUISITION AND INSTALLATION OF TRANSIT AMENITIES (BENCHES AND SMALL SHELTERS)	2016	\$2,090
TRANSIT	REDONDO BEACH	LA0D29	0				HEART OF THE CITY BUS TRANSFER STATION AMENITIES. RELOCATE THE EXISTING INTERMODAL TRANSIT TERMINAL AND CONSTRUCT A NEW TRANSIT CENTER WITH 12 BUS BAYS, PASSENGER WAITING AREA AND INFORMATION CENTER, AND A DRIVER OPERATOR LOUNGE. THE PROPERTY WILL ALSO PROVIDE 339 PUBLIC PARKING SPACES (PLUS 2 FOR STAFF: MAINTENANCE & SECURITY) AND BICYCLE FACILITIES. LOCATION - 1521 KINGS DALE AVENUE, REDONDO BEACH, CA 90278	2016	\$10,045

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
TRANSIT	SAN FERNANDO	LAEO127	0				LAEO127B: PURCHASE OF EQUIPMENT TO SUPPORT CNG VEHICLES AND CONSTRUCT CNG FACILITY AND RELATED INFRASTRUCTURE IMPROVEMENTS TO FIXED ROUTE PUBLIC TRANSPORTATION	2016	\$2,231
TRANSIT	SAN GABRIEL	1TDL04-LAF1601	0				SAN GABRIEL CITY-WIDE BUS SHELTER INSTALLATION. INSTALL BUS SHELTERS AT EXISTING BUS STOPS ON MTA AND MONTEBELLO BUS LINE ROUTES.	2014	\$688
TRANSIT	SANTA CLARITA	LAOD125	0				BUS STOP AMENITIES (BENCHES AND SHELTERS) PROJECT (ONGOING). PROJECT USING \$125 OF TDC(TOLL CREDITS) TO MATCH FTA 5307 FUNDS IN FY14/15 FOR CON.	2016	\$3,169
TRANSIT	SANTA MONICA MUNICIPAL BUS	LAEO364	0				SANTA MONICA'S BIG BLUE BUS/SANTA MONICA COLLEGE TRANSIT SERVICE. BUS STOP IMPROVEMENTS NEAR THE CAMPUS ALONG THE BUS ROUTES. IMPROVEMENTS MAY INCLUDE PASSENGER AMENITIES SUCH AS SHELTERS, BENCHES, STREET IMPROVEMENTS AT STOPS, AND LIGHTING. CARRYOVER FROM PRIOR FISCAL YEAR	2014	\$2,000
TRANSIT	SOUTHERN CALIF REGIONAL RAIL AUTHORITY	LAOC8232	0				ANTELOPE VALLEY LINE CHANGES AT SANTA CLARITA- ALIGNMENT CHANGES WILL PERMIT HIGHER SPEEDS OF OPERATION AND REDUCE MAINTENANCE COST- (SCRRA). (PPND 3202).	2018	\$3,693
TRANSIT	TORRANCE	1TR204-LAOG145	0				LACRD - 4 EXPANSION BUSES FOR THE I-110 HARBOR TRANSITWAY HOT LANE(TORRANCE TRANSIT). (RTP# 1TR204)	2014	\$2,800
TRANSIT	TORRANCE	1TR204-LAOG148	0				LACRD - I-110 HOT LANE OPERATIONS - NEW TRANSIT SERVICES. (RTP# 1TR204). PURCHASE FOUR (4), FORTY FOOT (40'), CNG BUSES. SERVICE WILL BEGIN AT THE ARTESIA TRANSIT CENTER/STATION, IMMEDIATELY JUMP ONTO THE I10 FREEWAY (VIA HOV LANE) AND TRAVEL NORTH TO DOWNTOWN LOS ANGELES UNION STATION.	2014	\$1,200
TRANSIT	TORRANCE	LAO1B111	0				BUS SYSTEM - PREVENTIVE MAINTENANCE. THIS PROJECT WILL USE \$450K OF TRANSIT DEVELOPMENT CREDITS (TDC) IN FY14/15 TO MATCH THE 5307 FEDERAL FUNDS IN THE CON PHASE.	2015	\$24,848

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Los Angeles									
TRANSIT	TORRANCE	LA0B203	0				PURCHASE OF SUPPORT EQUIPMENT - TIRES. FUNDS ADDED TO FY14/15 FOR A TOTAL OF \$265K. TTS WILL ALSO BE UTILIZING \$53K OF TDC (TOLL CREDITS) AS MATCH IN FY14/15.	2015	\$645
TRANSIT	TORRANCE	LA0D11	0				TRANSIT - ENHANCEMENTS (STREET FURNITURE).	2014	\$1,525
TRANSIT	TORRANCE	LA0D454	0				REHAB TRANSIT ADMINISTRATIVE AND OPERATIONS OFFICES	2015	\$1,000
TRANSIT	TORRANCE	LA0D455	0				REPLACE RELIEF AND SUPERVISOR VEHICLES	2014	\$160
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1160001		SEPULVEDA PASS TRANSIT CORRIDOR	METRO ORANGE LINE VAN NUYS STATION	METRO EXPO LINE		2039	\$2,468,000
TRANSIT	LOS ANGELES, CITY OF	1122001			LAX CENTRAL TERMINAL AREA	MANCHESTER SQUARE, LOS ANGELES, CA (BOUNDED BY MANCHESTER BLVD., LA CIENEGA BLVD., AVIATION BLVD., AND CENTURY BLVD.)	LANDSIDE AUTOMATED PEOPLE MOVER (APM) SYSTEM: A FIXED GUIDEWAY-BASED TRANSPORTATION SYSTEM THAT MOVES PASSENGERS TO AND FROM THE CENTRAL TERMINAL AREA (CTA) TO THE LANDSIDE ACCESS FACILITIES (CONRAC AND ITFS) AND OTHER MASS TRANSPORTATION FACILITIES IN AN ABOVE-GRADE CONFIGURATION. A TOTAL OF SIX STATIONS WOULD BE LOCATED ALONG THE ALIGNMENT; PASSENGER WALKWAYS AND VERTICAL CIRCULATION CORES WOULD CONNECT THE APM STATIONS WITH THE AIRPORT TERMINALS AND LANDSIDE ACCESS FACILITIES. THE APM SYSTEM WOULD ALSO INCLUDE A MAINTENANCE FACILITY AND SEVERAL ELECTRICAL SUBSTATIONS TO PROVIDE POWER TO THE SYSTEM. CONSTRUCTION OF THE APM GUIDEWAY AND STATIONS WOULD REQUIRE THE DEMOLITION/RELOCATION OF SEVERAL ENABLING PROJECTS.	2023	\$1,705,214
OTHER	LOS ANGELES, CITY OF	1160031					EAST INTERMODAL TRANSPORTATION FACILITY: A FACILITY PROVIDING REMOTE PASSENGER PICK UP AND DROP OFF AREAS, PUBLIC PARKING, AND OTHER CONNECTIONS TO PUBLIC TRANSIT, INCLUDING THE METRO CRENSHAW/LAX LIGHT RAIL, AND OTHER COMMERCIAL VEHICLES.	2022	\$156,804

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
LOCAL HIGHWAY	ANAHEIM	7020004-ORA13001	0	WEST BALL RD	WEST ANAHEIM	ARTIC REGIONAL TRANSPORTATION HUB	ARTIC TO WEST ANAHEIM 4TH DISTRICT BIKEWAY CONNECTOR PROJECT. CONSTRUCT 3.77 MILES OF CLASS II BIKE LANES AND 4.19 MILES OF CLASS III SHARROWS ALONG A CONTINUOUS CORRIDOR TOTALING 7.96 MILES. FROM BALL ROAD AND MAGNOLIA AVENUE TO ARTIC REGIONAL TRANSPORT	2017	\$374
LOCAL HIGHWAY	ANAHEIM	ORA120501	0	BROOKHURST STREET	S/O BALL ROAD	N/O KATELLA AVENUE	BROOKHURST STREET WIDENING FROM S/O BALL ROAD TO N/O KATELLA AVENUE (4-6 LANES)	2014	\$26,480
LOCAL HIGHWAY	COSTA MESA	7020004-ORA13004	0	PLACENTIA AVE	N/A	N/A	FAIRVIEW MULTIPURPOSE TRAIL IN COSTA MESA THE PROPOSED PROJECT INCLUDES DESIGN AND CONSTRUCTION OF A NEW EIGHT-FOOT WIDE, CONCRETE CLASS I MULTIPURPOSE TRAIL FACILITY FOR A LENGTH OF APPROXIMATELY 5,300 FEET WITHIN THE LIMITS OF FAIRVIEW PARK.	2017	\$1,247
LOCAL HIGHWAY	FULLERTON	ORA040602	0	STATE COLLEGE BLVD.	SANTA FE AVE.	VALENCIA DR.	STATE COLLEGE GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON STATE COLLEGE BLVD AT THE BNSF RR TRACKS (SANTA FE AVE TO 700 FT SOUTH OF VALENCIA). (NON-CAPACITY)	2016	\$86,004
LOCAL HIGHWAY	HUNTINGTON BEACH	7020004-ORA13008	0	LAKE STREET	PECAN AVENUE	ORANGE AVENUE	THE LAKE STREET BICYCLE TREATMENTS AND DOWNTOWN BICYCLE PARK INSTALL SHARROWS AND BICYCLE SIGNAGE ON LAKE STREET BETWEEN PECAN AVENUE AND ORANGE AVENUE, AND BIKE RACKS ON OR NEARBY MAIN STREET. FOUR SHARROWS ARE PROPOSED ALONG WITH TWO SIGNS, AND APPROXIMATELY 28 BIKE RACKS.	2016	\$47
LOCAL HIGHWAY	HUNTINGTON BEACH	ORA120522	0	ATLANTA AVENUE	HUNTINGTON	DELAWARE	HUNTINGTON BEACH - ATLANTA AVE WIDENING (FRM HUNTINGTON TO DELEWARE; FRM 2 TO 4 LNS)	2014	\$5,451
LOCAL HIGHWAY	IRVINE	2120006	0	TRABUCO RD, O STREET, MARINE WAY	O STREET	ALTON	PROJECT FEASIBILITY STUDY OF SIX MILES OF NEW ROADWAYS INCLUDING TRABUCO RD, O STREET AND MARINE WAY	2015	\$500

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
LOCAL HIGHWAY	IRVINE	7020004-ORA113009	0	PETERS CANYON	RR TRAILS	WALNUT AVENUE	THE PETERS CANYON OFF-STREET BIKEWAY WILL IMPROVE A SEGMENT OF THE BIKEWAY THAT IS 2,150 FEET LONG AND IS LOCATED BETWEEN THE RAILROAD TRACKS AND WALNUT AVENUE; ADJACENT TO THE HARVARD ATHLETIC PARK. THE POLE LIGHTING WILL BE INSTALLED EVERY 70-75 FEET OF THE BIKEWAY; A TOTAL OF 35 POLE LIGHTING WITHIN THE PROJECT SEGMENT.	2017	\$858
LOCAL HIGHWAY	IRVINE	7020004-ORA113010	0	FREEWAY TRAIL	SAN DIEGO CREEK	CULVER DRIVE	THE FREEWAY TRAIL IN IRVINE IS LOCATED NORTH OF THE I-405 FREEWAY AND RUNS PARALLEL TO THE I-405 FREEWAY. THE SEGMENT PROPOSED FOR LIGHTING IMPROVEMENT IS 4,300 FEET LONG AND RUNS FROM THE SAN DIEGO CREEK TO CULVER DRIVE. POLE LIGHTING WILL BE INSTALLED EVERY 70-75 FEET OF BIKEWAY. A TOTAL OF 60 POLE LIGHTING WILL BE INSTALLED WITHIN THE PROJECT SEGMENT.	2017	\$878
LOCAL HIGHWAY	IRVINE	ORA110602	0	LAGUNA CANYON	I-405 OVERCROSSING	I-405 OVERCROSSING	WIDENING OF LAGUNA CANYON / I-405 OVERCROSSING FROM 2 LANES TO 4 LANES	2018	\$10,892
LOCAL HIGHWAY	IRVINE	ORA120315	0	SAND CANYON	I-5	BURT	IRVINE - SAND CANYON @ I-5 (ADD 3RD AND 4TH NB AND SB THRU LNS ON SND CYN; IMP EB APPROACH ADD 2 LFT TRN LNS, 1 THRU LN, & 1 RT TRN LN)	2014	\$8,441
LOCAL HIGHWAY	IRVINE	ORA120514	0	TRABUCO ROAD	TRABUCO RD & SR-133	TRABUCO RD & SR-133	IRVINE - TRABUCO RD @ SR-133 (ADD NEW ON-RAMPS AND OFF RAMPS AT TRABUCO & SR-133) (PRELIMINARY ENGINEERING/PRE-DESIGN ONLY)	2020	\$106,000
LOCAL HIGHWAY	LA HABRA	7020004-ORA113011	0	CITY OF LA HABRA	N/A	N/A	LA HABRA UNION PACIFIC RAILROAD BIKEWAY. ENG FOR UNION PACIFIC RAILROAD RIGHT-OF-WAY BETWEEN LA HABRA WEST CITY LIMITS AND LA HABRA EAST CITY LIMITS. ROW FOR LA HABRA WEST CITY LIMITS TO BEACH BOULEVARD. TOLL CREDIT MATCH: FY15/16 CMAQ CON FOR \$10,552, FY15/16 ATP-MPO CON FOR \$81,235.	2025	\$1,321
LOCAL HIGHWAY	MISSION VIEJO	2A0801	0	OSO PARKWAY	BLASCO	I-5	WIDEN OSO PARKWAY FROM COUNTRY CLUB DRIVE TO INTERSTATE 5 - PROJECT WILL WIDEN BOTH THE EAST BOUND AND WEST BOUND DIRECTIONS FROM THE CURRENT THREE LANES IN EACH DIRECTION TO FOUR LANES IN EACH DIRECTION.	2015	\$11,408

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
LOCAL HIGHWAY	MISSION VIEJO	ORA000173	0	LA PAZ RD	MURILAND	CHRISANTA	LA PAZ RD (MURILANDS/-5 TO CHRISANTA DR) WIDENING FROM 4 TO 6 LANES BRIDGE # 55C0215	2019	\$97,416
LOCAL HIGHWAY	NEWPORT BEACH	7020004-ORA113013	0	EASTBLUFF DR/ FORD ROAD	VARIOUS	VARIOUS	EASTBLUFF DRIVE/FORD ROAD CLASS II BIKE LANE IMPROVEMENT WILL ADD A 1.09 MILE STRIPED BIKE LANE ALONG THE SELECTED PORTION OF EASTBLUFF DRIVE AND CONTINUE IT PAST JAMBOREE ROAD ONTO FORD ROAD.	2016	\$270
LOCAL HIGHWAY	ORANGE COUNTY	2A0804	0	COW CAMP ROAD	ANTONIO	I STREET	COW CAMP ROAD (4 LANES) FROM ANTONIO TO "I" STREET (SEGMENT 1 OF ANTONIO TO FOOTHILL TRANSPORTATION CORRIDOR)	2015	\$32,320
LOCAL HIGHWAY	ORANGE COUNTY	ORA120504-ORA120504	0	LA PATA	LA PATA	CALLE SALUDA	ORANGE COUNTY - LA PATA AVENUE WIDENING & GAP CLOSURE; GAP CLOSURE - ADD 4 LNS (EXISTING LA PATA TERMINUS TO CALLE SALUDA)	2015	\$57,220
LOCAL HIGHWAY	ORANGE COUNTY	ORA120504-ORA130305	0	LA PATA	ORTEGA HWY	RD TERMINUS	LA PATA AVENUE WIDENING & GAP CLOSURE (WIDEN FROM 3 TO 5 LNS (2,700 FT S/O ORTEGA HWY TO RD TERMINUS) PAVED AND PS&E ONLY (SPLIT FROM ORA120504)	2015	\$10,000
LOCAL HIGHWAY	ORANGE COUNTY COUNCIL OF GOVERNMENTS	ORA020507	0	VARIOUS	VARIOUS	VARIOUS	ORANGE COUNTY COUNCIL OF GOVERNMENTS (OCCOG) - REDUCE ORANGE COUNTY CONGESTION (ROCC) PROGRAM (INCLUDES STUDIES AND PLANNING) CO-LEAD OCTA	2016	\$1,500
LOCAL HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2GL04	0	ORANGETHORPE/ BNSF RR	N/A	N/A	BNSF RAILWAY LINE (PLACENTIA) ALONG SS OF ORANGETHORPE. GRADE SEPARATION/ CORRIDOR IMPROVEMENTS. (NON-CAPACITY)	2015	\$78,230
LOCAL HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	20MD701-ORA113099	0	VARIOUS	VARIOUS	VARIOUS	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLES 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION. (SLPP FORMULA GRANT)	2015	\$43,252
LOCAL HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2SL04	0	SR-55/ NEWPORT AVE	19TH STREET	INDUSTRIAL WAY	PLANNING STUDIES AND PSR'S (SR-55 STUDY 19TH STREET TO INDUSTRIAL WAY IN COSTA MESA)	2015	\$1,130
LOCAL HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA000118	0	SAND CANYON	BURT ROAD	OAK CANYON ROAD/ LAGUNA CANYON ROAD	SAND CYN RD @ SCRR TRACKS (BURT RD TO LAGUNA CANYON/OAK CANYON) - RAILROAD GRADE SEPARATION. WIDENS FROM 4 TO 6 LANES. CO LEAD WITH IRVINE	2014	\$64,013

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
LOCAL HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA120326-ORA12601	0	ROUTE 74	0	0.2	I-5/ROUTE 74 INTERCHANGE IMPROVEMENT- LANDSCAPING/REPLACEMENT PLANTING - (PPNO 4102A) (ORA120326 PARENT PROJECT)	2019	\$2,172
LOCAL HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA120534-ORA020823	0	KRAEMER BLVD	N/A	N/A	KRAEMER BLVD GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON KRAEMER BLVD AT THE BNSF RR TRACKS. ORANGE COUNTY GATEWAY PROJECT. (NON-CAPACITY)	2015	\$66,627
LOCAL HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA120534-ORA020824	0	ORANGETHORPE	NA	NA	ORANGETHORPE AVE GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON ORANGETHORPE AVE AT THE BNSF RR TRACKS. ORANGE COUNTY GATEWAY PROJECT. (NON-CAPACITY)	2015	\$110,495
LOCAL HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA120534-ORA020825	0	LAKEVIEW AVENUE	BNSF RR	BNSF RR	LAKEVIEW AVE GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON LAKEVIEW AVE AT THE BNSF RR TRACKS. ORANGE COUNTY GATEWAY PROJECT. (NON-CAPACITY)	2015	\$95,649
LOCAL HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA120534-ORA020826	0	TUSTIN AVENUE AND ROSE DRIVE RR	N/A	N/A	TUSTIN AVE / ROSE DRIVE GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON TUSTIN AVE / ROSE DRIVE AT THE BNSF RR TRACKS. ORANGE COUNTY GATEWAY PROJECT. PHASE I. (NON-CAPACITY)	2015	\$94,271
LOCAL HIGHWAY	SAN CLEMENTE	7020004-ORA113017	0	PACIFIC COAST BICYCLE ROUTE	N/A	N/A	PACIFIC COAST BICYCLE ROUTE SIGNAGE AND PARKING EXPANSION IMPROVEMENT PROJECT WILL INSTALL BICYCLE WAYFINDING SIGNAGE AND ADD BICYCLE RACKS ALONG THE PACIFIC COAST BICYCLE ROUTE WITHIN THE CITY OF SAN CLEMENTE.	2017	\$201
LOCAL HIGHWAY	SANTA ANA	2TR0704-ORA082610	0	SANTA ANA BLVD	SANTIAGO	I-5 RAMPS	SANTA ANA BLVD GRADE SEPARATION - (SARTIC) INITIAL PLANNING AND CONCEPTUAL ENGINEERING PHASE. TO STUDY GRADE SEPARATION OF SANTA ANA BLVD AT OCTA/ METROLINK CROSSING BETWEEN SANTIAGO ST. AND I-5 RAMPS. RELATED TO ORA81621	2015	\$1,671
LOCAL HIGHWAY	SANTA ANA	7020004-ORA113018	0	FIRST STREET	HARBOR BOULEVARD	NEWHOPE AVENUE	FIRST STREET CLASS II BIKEWAY. CONSTRUCT A .50 MILE SEGMENT OF CLASS II BIKEWAY FROM FIRST STREET FROM HARBOR BOULEVARD TO NEWHOPE AVENUE.	2016	\$143
LOCAL HIGHWAY	SANTA ANA	7020004-ORA113019	0	CHESTNUT AVENUE	STANDARD AVE	GRAND AVE	CHESTNUT AVENUE CLASS II BIKEWAY. CONSTRUCT A .38 MILE SEGMENT OF CHESTNUT AVENUE FROM STANDARD AVENUE TO GRAND AVENUE.	2016	\$429

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
LOCAL HIGHWAY	SANTAANA	7020004-ORA113020	0	MAPLE BIKE TRAIL	VARIOUS	VARIOUS	MAPLE BIKE TRAIL SAFETY ENHANCEMENTS INCLUDES CONSTRUCTING BULB OUTS WITHIN THE EXISTING CURB-TO-CURB STREET WIDTH AT OCCIDENTAL STREET, ST. ANDREWS PLACE AND ST. GERTRUDE PLACE. CLASS I BICYCLE PATH	2016	\$300
LOCAL HIGHWAY	SANTAANA	7020004-ORA113021	0	NEWHOPE ST	WESTMINSTER AVE	5TH ST.	NEWHOPE STREET CLASS II BIKEWAY INCLUDES A .74 MILE SEGMENT OF NEWHOPE STREET FROM WESTMINSTER AVENUE TO 5TH STREET. THE PROJECT WILL INCLUDE ASSOCIATED SIGNING/STRIPING, SANDBLASTING, AND BICYCLE DETECTION.	2016	\$126
LOCAL HIGHWAY	SANTAANA	ORA120520	0	GRAND AVENUE	1ST	4TH	SANTAANA - GRAND AVENUE WIDENING (FRM 1ST TO 4TH; FRM 2 TO 3 LNS)	2014	\$13,537
LOCAL HIGHWAY	SANTAANA	ORA120521	0	FIRST STREET	SUSAN	FAIRVIEW	SANTAANA - FIRST STREET WIDENING (FRM SUSAN TO FAIRVIEW; FRM 4 TO 6 LNS) BRIDGE 55C0022	2014	\$16,171
LOCAL HIGHWAY	SANTAANA	ORA125-ORA125	0	BRISTOL STREET	MEMORY LANE	17TH STREET	BRISTOL ST (MEMORY LANE TO 17TH STREET AND 3RD STREET TO ST. ANDREWS PLACE) WIDEN FROM 4 TO 6 LANES. SPLIT PROJECT ORA150003, ORA150004, ORA150005, ORA150006.	2013	\$75,223
LOCAL HIGHWAY	SANTAANA	ORA125-ORA150003	0	BRISTOL STREET	WARNER	ST ANDREW	BRISTOL STREET WIDENING FROM WARNER AVENUE TO ST. ANDREW PLACE. WIDEN FROM 4 TO 6 LANES. PHASE IV. SPLIT FROM ORA125	2018	\$12,674
LOCAL HIGHWAY	SANTAANA	ORA125-ORA150004	0	BRISTOL	CIVIC CENTER	WASHINGTON	BRISTOL STREET WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE. WIDEN FROM 4 TO 6 LANES. PHASE IIIA. SPLIT FROM ORA125	2018	\$8,169
LOCAL HIGHWAY	SANTAANA	ORA125-ORA150005	0	BRISTOL	WASHINGTON	17TH	BRISTOL STREET WIDENING FROM WASHINGTON AVENUE TO 17TH STREET. WIDEN FROM 4 TO 6 LANES. PHASE IIIB. SPLIT FROM ORA125	2018	\$18,402
LOCAL HIGHWAY	SANTAANA	ORA125-ORA150006	0	BRISTOL STREET	3RD	CIVIC CENTER	BRISTOL STREET WIDENING FROM 3RD STREET TO CIVIC CENTER. WIDEN FROM 4 TO 6 LANES. PHASE II. SPLIT FROM ORA125	2018	\$42,260
LOCAL HIGHWAY	SEAL BEACH	7020004-ORA113022	0	WESTMINSTER AVE	SEAL BEACH BLVD	BOLSACHICA RD.	WESTMINSTER AVENUE BICYCLE LANE IMPROVEMENTS PROJECT. CONSTRUCT A 2 MILE CLASS-II BIKE LANE PROJECT THAT WILL REPLACE THE EXISTING CLASS-III BIKE LANE ALONG WESTMINSTER AVENUE FROM SEAL BEACH BOULEVARD TO BOLSACHICA ROAD	2016	\$1,150

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
LOCAL HIGHWAY	TUSTIN	7020004-ORA113033	0	NEWPORT AVENUE	MAIN STREET	IRVINE BLVD	NEWPORT AVENUE BICYCLE TRAIL RECONSTRUCTION FROM MAIN STREET TO IRVINE BOULEVARD 3,000FT	2014	\$450
LOCAL HIGHWAY	TUSTIN	ORA000177	0	REDHILL AVENUE	EDINGER AV	SERVICE RD	RED HILL AVENUE GRADE SEPARATION AT OCTA/SCRRA RAILWAY. THE PE STUDY WILL ADDRESS VARIOUS ALTERNATIVES.	2018	\$2,097
LOCAL HIGHWAY	TUSTIN	ORA55244	0	TUSTIN RANCH ROAD	WALNUT AVENUE	WARNER AVENUE	TUSTIN RANCH ROAD EXTENSION FROM WALNUT AVENUE TO VALENICA AVENUE INCLUDING CONSTRUCTION OF A BRIDGE OVER THE OCTA/SCRRA RAILWAY LINE AND EDINGER AVENUE. 3 NEW LANES IN EACH DIRECTION FOR A TOTAL OF 6.	2014	\$27,996
LOCAL HIGHWAY	VARIOUS AGENCIES	2120005	0	ARTERIALS			ARTERIAL PAVEMENT REHABILITATION	2040	\$7,450,084
LOCAL HIGHWAY	VARIOUS AGENCIES	2A0704	0	REGIONAL CAPACITY PROGRAM	COUNTYWIDE		COMPLETE MPAH, IMPROVE ARTERIAL CAPACITY	2035	\$2,731,000
LOCAL HIGHWAY	VARIOUS AGENCIES	2A0705	0	SIGNAL SYNCHRONIZATION PROGRAM	COUNTYWIDE		SYNCHRONIZE SIGNALS ACROSS JURISDICTIONS AND SMART STREETS	2040	\$711,623
LOCAL HIGHWAY	VARIOUS AGENCIES	2L220	0	NON-MOTORIZED	COUNTYWIDE		OC BIKEWAYS	2040	\$457,905
LOCAL HIGHWAY	VARIOUS AGENCIES	20M0701-ORA150102	0	VARIOUS	VARIOUS	VARIOUS	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLES 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION.	2019	\$50,116
LOCAL HIGHWAY	VARIOUS AGENCIES	ORA020501	0	BRIDGE	BRIDGE	BRIDGE	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	2030	\$52,618

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
LOCAL HIGHWAY	VARIOUS AGENCIES	ORA990906-ORA990905	0	VARIOUS	VARIOUS	VARIOUS	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES FUNDED WITH TE - SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED) - NRTC - PARENT ID ORA990906	2017	\$10,875
LOCAL HIGHWAY	VARIOUS AGENCIES	ORA990906-ORA990906	0	VARIOUS	VARIOUS	VARIOUS	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES FUNDED WITH TE - SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED)	2014	\$7,961
LOCAL HIGHWAY	VARIOUS AGENCIES	ORA990907	0	VARIOUS	VARIOUS	VARIOUS	GROUPED PROJECTS FOR TRANSPORTATION ENHANCEMENT ACTIVITIES - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - TRANSPORTATION ENHANCEMENT ACTIVITIES (EXCEPT REHABILITATION AND OPERATION OF HISTORIC TRANSPORTATION BUILDINGS, STRUCTURES, OR FACILITIES)	2020	\$19,193
LOCAL HIGHWAY	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2121001		LOSSAN CORRIDOR/ STATE COLLEGE BOULEVARD			NEW RAIL GRADE SEPARATION ON LOSSAN CORRIDOR AT STATE COLLEGE BLVD (ANAHEIM)	2023	\$92,000
LOCAL HIGHWAY	SANTA ANA	2160001		17TH STREET	LINCOLN AVE	E OF LOSSAN	GRADE SEPARATION AT LOSSAN	2023	\$55,000
OTHER	VARIOUS AGENCIES	2120002	0	ENVIRONMENTAL CLEANUP PROGRAM			TRANSPORTATION-RELATED WATER QUALITY PROGRAM	2040	\$494,730
OTHER	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160012					DEBT SERVICE	2040	\$3,144,849
PASSENGER RAIL	OCTA/SCRRA	2CR0704	0	METROLINK COMMUTER RAIL	COUNTYWIDE		METROLINK SERVICE EXPANSION PROGRAM - CAPITAL (BASELINE 54 WEEKDAY TRAINS)	2040	\$695,642
STATE HIGHWAY	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2L149	0	MOTORIST SERVICES	COUNTYWIDE		FREEMAN SERVICE PATROL AND CALLBOX PROGRAM	2040	\$289,594

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
STATE HIGHWAY	CALTRANS	2M0731	5	I-5	EL TORO Y TRUCK BYPASS	SR-55	ADD 1 MF LANE NB FROM TRUCK BYPASS ON RAMP TO SR-55, ADD 1 MF LANE SB FROM SR-55 TO ALTON AND 1 AUX LANE FROM ALTON TO TRUCK BYPASS.	2023	\$452,000
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2120010	5				INTERSTATE 5 CONTINUOUS ACCESS HIGH OCCUPANCY VEHICLE LANE STRIPING FROM STATE ROUTE 57 INTERCHANGE TO STATE ROUTE 91/BEACH BOULEVARD INTERCHANGE	2018	\$4,790
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2H0143-ORA11001	5				INTERSTATE 5 ADD 1 HOV IN EACH DIRECTION FROM SOUTH OF PACIFIC COAST HIGHWAY TO SAN JUAN CREEK ROAD. PPNO:2531F	2016	\$63,093
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2H0143-ORA11002	5				INTERSTATE 5 ADD 1 HOV IN EACH DIRECTION FROM SOUTH OF AVENIDA VISTA HERMOSA TO SOUTH OF PACIFIC COAST HIGHWAY. PPNO 2531E	2016	\$68,711
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2H0143-ORA150201	5				I-5 HOV LANE EXTENSION FROM AVENIDA PICO TO SAN DIEGO COUNTY LINE (PSR/PDS). TOLL CREDIT FOR CMAQ.	2018	\$450
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2H0143-ORA990929	5				INTERSTATE 5 ADD 1 HOV IN EACH DIRECTION FROM SOUTH OF AVENIDA PICO TO SOUTH OF AVENIDA VISTA HERMOSA AND RECONFIGURE AVENIDA PICO INTERCHANGE. PPNO:2531D (UTILIZE TOLL CREDIT MATCH FOR IMD AND STIP)	2017	\$97,736
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2H0703	5				I-5 FROM SR 55 TO SR 57 - ADD 1 HOV LANE EACH DIRECTION	2018	\$42,471
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2M0730-ORA11801	5				I-5 (ALICIA PARKWAY TO EL TORO ROAD) SEGMENT 3 - THE PROJECT WILL ADD ONE GENERAL PURPOSE LANE ON THE I-5 IN EACH DIRECTION BETWEEN ALICIA PARKWAY AND EL TORO ROAD (APPROXIMATELY 1.7 MILES). EXTEND THE 2ND HOV LANE IN BOTH DIRECTIONS AND ADD AUXILIARY LANES WHERE NEEDED.	2023	\$122,642

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2M0730-ORA131711	5				I-5 (SR-73 TO OSO PARKWAY) SEGMENT 1 - THE PROJECT WILL ADD ONE GENERAL PURPOSE LANE ON THE I-5 IN EACH DIRECTION BETWEEN SR-73 AND OSO CREEK (APPROXIMATELY 2.2 MILES), RECONSTRUCT AVERY PARKWAY INTERCHANGES AND ADD AUXILIARY LANES WHERE NEEDED.	2023	\$144,553
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2M0730-ORA131712	5				I-5 (OSO CREEK TO ALICIA PARKWAY) SEGMENT 2 - THE PROJECT WILL ADD ONE GENERAL PURPOSE LANE ON THE I-5 IN EACH DIRECTION BETWEEN OSO CREEK AND ALICIA PARKWAY (APPROXIMATELY 2.6 MILES), RECONSTRUCT LA PAZ ROAD INTERCHANGE AND ADD AUXILIARY LANES WHERE NEEDED.	2023	\$183,056
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2H0143-ORA150401	5				THREE HOV OVERHEAD SIGNS WITHIN THE MEDIAN OF THE I-5 SOUTH OF AVENDIA PICO IN THE CITY OF SAN CLEMENTE. THESE IMPROVEMENTS ARE SUPPLEMENTS TO THE I-5 HOV WIDENING PROJECT AND PROVIDE NORTHBOUND I-5 TRAFFIC ADVANCE NOTIFICATION OF A HOV LANE THAT IS ADDED TO THE GP LANES. (RELATED TO ORA990929)	2015	\$1,250
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2H0702	5	I-5	BARRANCA PARKWAY		BARRANCA PARKWAY HOV INTERCHANGE IMPROVEMENT - ADD SB HOV ON-RAMP AND NB HOV OFF-RAMP	2040	\$39,479
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2M0717	5	I-5	LOS ALISOS	EL TORO	IMPROVE ACCESS AND MERGING IN THE VICINITY OF EL TORO ROAD	2023	\$57,954
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2M0732	5	I-5	SR-57	SR-91	ADD 1 LANE EACH DIRECTION (57 TO 91)	2040	\$305,924
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA150201	5	5	PICO	SAN DIEGO COUNTY	ADD 1 HOV LANE EACH DIRECTION	2040	\$237,536
STATE HIGHWAY	SAN JUAN CAPISTRANO	ORA120326-ORA120326	5				RECONSTRUCT I-5/SR-74 INTERCHANGE (IN SAN JUAN CAPISTRANO, ON ROUTE 74 FROM ROUTE 5 TO EAST OF THE CITY LIMIT. RECONSTRUCT THE ROUTE 74 AND ROUTE 5 INTERCHANGE) PPND 4102 DUAL LEAD SJC CALTRANS. SPLIT WITH ORA112601	2014	\$84,794

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
STATE HIGHWAY	CALTRANS	ORA000193- ORA000193	22				HOV CONNECTORS FROM SR-22 TO I-405, BETWEEN SEAL BEACH BLVD. (I-405 PM 022.558) AND VALLEYVIEW ST. (SR-22 PM R000.917), WITH A SECOND HOV LANE IN EACH DIRECTION ON I-405 BETWEEN THE TWO DIRECT CONNECTORS. TOLL CREDIT MATCH FOR CMAQ.	2014	\$119,295
STATE HIGHWAY	CALTRANS	2M0733	55	SR-55	I-405	I-5	ADD 1 MF LANE EACH DIRECTION AND FIX CHOKEPOINTS FROM I-405 TO I-5; ADD 1 AUX LANE EA DIR BTWN SELECT ON/OFF RAMP AND OPERATIONAL IMPROVEMENTS THROUGH PROJECT LIMITS	2020	\$274,900
STATE HIGHWAY	COSTA MESA	ORA015	55				BAKER STREET AND SR-55; N/B & S/B FRONTAGE ROAD IMPROVEMENTS. S/B FREE RIGHT TURN, N/B LEFT-TURN AND 2ND E/B LEFT.	2017	\$900
STATE HIGHWAY	COSTA MESA	ORA016	55				PAULARINO AVE (SR-55 NB FRONTAGE ROAD @ PAULARINO AVE) IN COSTA MESA INTERSECTION IMPROVEMENT. ADDING A N/B RAMP AND W/B RIGHT-TURN-LANE.	2017	\$505
STATE HIGHWAY	COSTA MESA	ORA017	55				PAULARINO AVE IN SR-55 SB FRONTAGE ROAD COSTA MESA. INTERSECTION IMPROVEMENT ADD S/B RIGHT-TURN LANE.	2017	\$270
STATE HIGHWAY	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2121002	55	SR-55	I-5	SR-91	ADD CAPACITY AND FIX CHOKEPOINTS FROM I-5 TO SR-22; AND OTHER OPERATIONAL IMPROVEMENTS THROUGHOUT PROJECT LIMITS	2023	\$148,490
STATE HIGHWAY	ORANGE, CITY OF	ORA000146	55	MEATS	MEATS SR-55	SR-55 MEATS	CONSTRUCT NEW INTERCHANGE ON SR 55 @ MEATS AVENUE. CONSTRUCT ON-RAMP/OFF-RAMPS. CONSTRUCTION OF AUXILIARY LANES BETWEEN KATELLA AVENUE AND LINCOLN AVENUE/NOEL RANCH ROAD BOTH NORTHBOUND AND SOUTHBOUND ON SR-55. WIDEN TAFT AVENUE UNDERCROSSING ON NORTHBOUND SIDE OF SR-55. WIDEN MEATS AVENUE FROM PARK LANE TO BRECKENRIDGE STREET. REALIGN 1820' OF THE SR 55 MEDIAN BARRIER. WIDEN SANTIAGO AVENUE AT MEATS AVENUE FOR TURNING LANES	2023	\$150,000
STATE HIGHWAY	BREA	ORA120320	57				SR-57/LAMBERT RD INTERCHANGE IMPROVEMENTS - RECONFIG EXISTING DIAMOND INTERCHANGE TO LOOP RAMP, ADD SB LN ON OFFRAMP	2020	\$43,800
STATE HIGHWAY	CALTRANS	2M0735A	57	SR-57 NB	ORANGEWOOD	KATELLA	ADD 1 MF LANE NB BETWEEN ORANGEWOOD AND KATELLA	2030	\$34,500

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
STATE HIGHWAY	CALTRANS	2TK01116	57				SR-57 TRUCK CLIMBING AUX LANE FROM LAMBERT TO LA CO. LINE PPNO 3847A EA OC120 (PE ONLY)	2028	\$124,600
STATE HIGHWAY	CALTRANS	ORA120332	57				IN PLACENTIA AND FULLERTON, N/B SR-57 FROM 0.4 MI N/O SR-91 TO 0.1 MI N/O LAMBERT RD (5.1 MILES), REPLACEMENT PLANTING AS THE RESULT OF THE SR-57 NORTHBOUND WIDENING. REPLACEMENT PLANTING RELATED TO ORA081901 AND ORA120332	2018	\$2,688
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2H0706	73	SR-73	I-405		HOV CONNECTOR BETWEEN I-405 AND SR 73.	2040	\$291,422
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2H0707	73	SR-73	I-405	MACARTHUR	ADD 1 HOV LANE EACH DIRECTION FROM MACARTHUR TO 405	2040	\$207,577
STATE HIGHWAY	TCA	2M0726	73	SR-73	GLENWOOD DRIVE/PACIFIC PARK DRIVE		NB OFF-RAMP, SB ON-RAMP W/ C/D TO ALISO CREEK (PHASE II)	2019	\$9,000
STATE HIGHWAY	TCA	10254-10254	73				SAN JOAQUIN HILLS TRANSPORTATION CORRIDOR (SJHTC - SR 73). 15 MI TOLL RD BETWEEN I-5 IN SAN JUAN CAPISTRANO & RTE 73 IN IRVINE. CONSISTENT WITH SCAG/TCA MOU 4/5/01. EXISTING 3 M/F EA DIR. 1 ADDITIONAL M/F EA DIR, PLUS CLIMBING & AUX LANES BY 2020.	2020	\$3,511,880
STATE HIGHWAY	CALTRANS	2L224-ORA020808	90				IN ORANGE COUNTY, ON RTE 90 IMPERIAL HIGHWAY, IN THE CITIES OF YORBA LINDA AND ANAHEIM ON ROUTE 90 FROM EAST OF KELLOGG DRIVE UNDERCROSSING TO LA PALMA AVENUE. THE PROJECT IS TO PROVIDE ENHANCEMENT AND MITIGATION PLANTING. PPNO 4434B EA 12-056221	2015	\$1,669
STATE HIGHWAY	ANAHEIM	2T04128	91	SR-91	FAIRMONT DRIVE		CONSTRUCT OVERCROSSING AND SR-91 INTERCHANGE AT FAIRMONT BLVD	2030	\$132,209
STATE HIGHWAY	CALTRANS	2L224-ORA020807	91				IN ORANGE COUNTY, AT THE COAL CANYON ROAD INTERCHANGE, THE PROJECT IS TO INSTALL VEGETATION ENHANCEMENTS. EA12-OK3300	2015	\$802
STATE HIGHWAY	CALTRANS	2M01125	91				SR-91 WB (SR-55 THROUGH TUSTIN INTERCHANGE) EXTEND LANE AND RECONSTRUCT AUX. LANE. PPNO 4587A EA OC560)	2016	\$46,270

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2M01126	91	SR-91	SR-57	SR-55	CONNECT EXISTING AUXILIARY LANE THROUGH INTERCHANGES ON WB SR-91 BETWEEN SR-57 AND I-5 WITH ITS ELEMENTS PPNO 4516A EA 0C5700	2015	\$65,677
STATE HIGHWAY	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2M0736	91	SR-91	SR-241	I-15	ADD 1 MF LANE EB FROM 55 TO 57, AND 1 MF LANE WB FROM KRAEMER TO STATE COLLEGE; IMPROVE INTERCHANGES; AND ADD AUX LANES.	2025	\$425,000
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	2M0737	91	SR-91	SR-241		ADD 1 LANE EACH DIRECTION FROM SR 241 TO COUNTY LINE, AND OTHER OPERATIONAL IMPROVEMENTS. SEE RIVERSIDE COUNTY FOR ADDITIONAL DETAILS.	2035	Included in RIV071250B
STATE HIGHWAY	TCA	2120003	241	SR-241	JEFFREY		ADD INTERCHANGE AT JEFFREY AND 241.	2018	\$15,000
STATE HIGHWAY	TCA	2160002	241	241	WEIR CANYON		ADD INTERCHANGE	2018	\$15,060
STATE HIGHWAY	TCA	2160003	241	241	261		EAST ORANGE INTERCHANGE IMPROVEMENTS	2018	\$20,070
STATE HIGHWAY	TCA	2160004	241	241	261	PORTOLA	ADD 1 LANE EACH DIRECTION	2035	\$132,708
STATE HIGHWAY	TCA	2160005	241	241	PORTOLA	SANTA MARGARITA	ADD 2 LANES EACH DIRECTION	2035	\$265,417
STATE HIGHWAY	TCA	2160006	241	241	SANTA MARGARITA	OSO	ADD 1 LANE EACH DIRECTION	2035	\$56,875
STATE HIGHWAY	TCA	2T01135	241	241			HOV/HOT CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241 (1 LANE EACH DIR) AS REQ. BY 2020 PER SCAG/TCA MOU 4/05/01. PARENT PROJECT ORA050	2020	\$183,557
STATE HIGHWAY	TCA	ORA050-ORA050	241	241			EASTERN TRANSPORTATION CORRIDOR (ETC- SR 241/261/133) 26.4 MI TOLL ROAD CONNECTS SR 91 TO I-5 VIA SR 261 AND SR 133. CONSISTENT WITH SCAG/TCA MOU 4/05/01. EXISTING 2 M/F EA DIR. 2 ADDITIONAL M/F IN EA DIR, PLUS CLIMBING AND AUX LANES BY 2020.	2020	\$11,374,236

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
STATE HIGHWAY	TCA	ORA051-ORA051	241				FOOTHILL TRANSPORTATION CORRIDOR-NORTH (FTC-N - SR 241). 12.7 MI TOLL ROAD BETWEEN OSO PKWY AND ETC, CONSISTENT WITH SCAG/TCA MOU 4/05/01. EXISTING 2 M/F IN EA DIR. 2 ADDITIONAL M/F, PLS CLIMBING & AUX LANES BY 2020.	2020	\$2,959,495
STATE HIGHWAY	TCA	ORA052-ORA052	241				FOOTHILL TRANSPORTATION CORRIDOR-SOUTH (FTC-S - SR 241). 10.3 MI TOLL ROAD BETWEEN SAN DIEGO COUNTY LINE AND OSO PKWY, CONSISTENT WITH SCAG/TCA MOU 4/05/01. 2 M/F EA DIR FROM OSO PKWY TO COW CAMP RD BY 2017. 2 M/F EA DIR FROM COW CAMP RD TO SAN DIEGO CO LINE BY 2021. 1 ADDITIONAL M/F EA DIR PLS CLIMBING & AUX LANES BY 2030.	2030	\$25,294,111
STATE HIGHWAY	CALTRANS	2M04131	405				WIDEN RAMP FOR DECELERATION LANE - NB I-405 FROM 1 MILE NORTH OF JEFFERY RD TO CULVER DR. 0.6 MILES SPLIT FROM ORA001105	2014	\$3,230
STATE HIGHWAY	CALTRANS	ORA000193-ORA000194	405				HOV CONNECTORS FROM I-405 TO I-605, BETWEEN KATELLA AVE. (I-605 PM R001104) AND SEAL BEACH BLVD. (I-405 PM 022.643), WITH A SECOND HOV LANE IN EACH DIRECTION ON I-405 BETWEEN THE TWO DIRECT CONNECTORS. TOLL CREDITS FOR CMAQ.	2014	\$162,830
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA030605-ORA030605	405				I-405 FROM SR-73 TO I-605. ADD 1 MF LANE IN EACH DIRECTION, AND ADDITIONAL CAPITAL IMPROVEMENTS. COMBINED WITH ORA045, ORA151, ORA100507 AND ORA120310. PHASE 2 LISTED UNDER ORA030605A	2022	\$1,300,000
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA030605-ORA030605A	405				I-405 FROM SR-73 TO I-605. CONVERT EXISTING HOV TO HOT. ADD 1 ADDITIONAL HOT LANE EACH DIRECTION (BY 2035). PHASE 1 PROJECT LISTED UNDER ORA030605	2035	\$400,000
STATE HIGHWAY	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2M0728	405	I-405	I-5	SR-55	ADD 1 MF LANE EACH DIRECTION FROM I-5 TO SR-55 AND ADD SB AUX LANES FROM I33 TO IRV CTR DR	2023	\$374,540
STATE HIGHWAY	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2M0719	605	I-605	KATELLA ON-RAMP		IMPROVE INTERCHANGE	2035	\$19,390

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
STATE HIGHWAY	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA040607	999				ORANGE COUNTY - COUNTYWIDE ACTIVITIES: PLANNING, PROGRAMMING AND MONITORING (PPM)	2020	\$16,459
TRANSIT	ANAHEIM	2TR0701	0	ANAHEIM RAPID CONNECTION	ARTIC	ANAHEIM RESORT	A TRANSIT CORRIDOR FOR THE CITY OF ANAHEIM - ANAHEIM RAPID CONNECTION (ARC) FIXED GUIDEWAY SYSTEM CONNECTING THE ANAHEIM REGIONAL TRANSPORTATION INTERMODAL CENTER (ARTIC) THE PLATINUM TRIANGLE, AND THE ANAHEIM RESORT. ALTERNATIVES ANALYSIS, EIR/EIS, LPA AND CONCEPTUAL AND ADVANCED ENGINEERING, PROJECT DEVELOPMENT ACTIVITIES AND PRELIMINARY ENGINEERING.	2019	\$319,000
TRANSIT	ANAHEIM	ORA120318	0				ANAHEIM REGIONAL TRANS INTERMODAL CENTER (ARTIC) PHASE I - INCLUDE EXPAND OF EXIST AMTRAK/METROLINK STATION AT ANA STAD TO PROVIDE ACCESS W/ TRANS SVC.	2018	\$183,863
TRANSIT	FULLERTON	2TR0704-ORA113027	0				FULLERTON TRANSPORTATION CENTER ELEVATORS EXPANSION	2016	\$3,500
TRANSIT	LAGUNA BEACH	ORA199	0				TRANSIT OPERATING ASSISTANCE (LAGUNA BEACH)	2018	\$9,544
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	20MD0701-ORA080803	0				CAPITAL COST OF CONTRACTING (COSTS ASSOCIATED WITH CONTRACTING FOR SERVICES SUCH AS PARATRANSIT AND VANPOOL - OCTA) TRANSIT DEVELOPMENT CREDITS IN FY 2014-15 @ \$4,154, FY 2015-16 @ \$4,702, FY 2016-17 @ \$4,551, FY 2017-18 @ \$4,142, FY 2018-19 @ 4,131, AND F	2020	\$407,304
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2TR0704-ORA020820	0				METROLINK SERVICE TRACK EXPANSION AND GRADE CROSSING IMPROVEMENTS. PART OF A PLAN TO IMPLEMENT 30 MINUTE HEADWAYS COULD INCLUDE TURNBACK FACILITIES, LAYOVER FACILITIES, AND OR RELIABILITY IMPROVEMENTS FOR HIGH FREQUENCY METROLINK SERVICE OPERATIONS BETWEEN FULLERTON AND LAGUNA NIGUEL/MISSION VIEJO	2015	\$180,003
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2TR0704-ORA081621	0				SANTA ANA TRANSIT STATION - EXPANSION OF THE SANTA ANA REGIONAL TRANSPORTATION CENTER. INITIAL PLANNING AND CONCEPTUAL ENGINEERING PHASE	2015	\$1,500
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2TR0704-ORA081623	0				FULLERTON TRANSPORTATION CENTER - INITIAL PLANNING AND CONCEPTUAL ENGINEERING OF THE EXPANSION FOR THE FULLERTON TRANSPORTATION CENTER.	2015	\$875

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2TR0704-ORA110304	0				GOLDENWEST TRANSPORTATION CENTER. CONSTRUCT A SURFACE PARKING LOT (300 SPACES)	2016	\$2,100
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2TR0704-ORA110305	0				THE LAGUNA NIGUEL/MISSION VIEJO STATION IMPROVEMENTS. IMPROVEMENTS INCLUDE PEDESTRIAN ACCESSIBILITY, RESTROOMS, BENCHES, SHADE STRUCTURES, AN ADA UNDERCROSSING AND OTHER STRUCTURES OR AMENITIES.	2016	\$8,524
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2TR0704-ORA111209	0				LAGUNA NIGUEL TO SAN JUAN CAPISTRANO PASSING SIDING - ADD 1.8 MILES OF NEW RAILROAD TRACK ADJACENT TO THE EXISTING MAIN TRACK. MP 193.9 - MP 195.7 (PROJECT WILL UTILIZE TRANSIT DEVELOPMENT CREDITS MATCH - CMAQ FY13/14 FOR \$438 AND FY14/15 FOR \$1,832)	2018	\$25,274
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	HSRT0701	0				ENVIRONMENTAL CLEARANCE AND ADVANCED CONCEPTUAL DESIGN OF THE CALIFORNIA HIGH SPEED RAIL AUTHORITY, HIGH SPEED RAIL PROJECT FROM SAN FRANCISCO TO LOS ANGELES	2015	\$7,000
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA020118	0				PURCHASE REPLACEMENT PARATRANSIT VANS (215) - (198) IN FY11/12 AND (17) IN FY12/13. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93:126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET	2016	\$29,070
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA021202	0				BUS OPERATING ASSISTANCE FTA9 - FOR PARATRANSIT (MISSION VIEJO)	2020	\$25,801
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA021203	0				PREVENTIVE MAINTENANCE (MISSION VIEJO) TRANSIT DEVELOPMENT CREDITS IN FY 2014-15 FOR \$1,698, FY 2015-16 FOR \$1,698, FY 2016-17 FOR \$1,698, FY 2017-18 FOR \$1,698, FY 2018-19 FOR \$1,698, AND FY 2019-20 FOR \$1,698.	2020	\$59,401
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA030612	0				PLACENTIA TRANSIT STATION - E OF SR-57 AND MELROSE ST AND N OF CROWTHER AVE. CONSTRUCT NEW METROLINK STATION AND RAIL SIDING PPNO 9514	2016	\$23,420

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA090302	0				OCTA SHARE OF THE METROLINK ROLLING STOCK ACQUISITION, CARS & LOCOS, UP TO 87 CARS/CABS ORDERED IN FY 09 & IN FUTURE YRS, UP TO 22 CARS/CABS, UP TO 11 LOCOS ORDERED BY FY09, & UP TO 4 LOCOS IN FUTURE	2020	\$158,110
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA110618-ORA020819	0				GROUPED PROJECTS FOR OPERATING ASSISTANCE TO TRANSIT AGENCIES - SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - OPERATING ASSISTANCE TO TRANSIT AGENCIES	2020	\$796
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA110618-ORA110618	0				FTA SECTION 5317 NEW FREEDOMS (OCTA) VARIOUS PROJECTS AND TRANSPORTATION SERVICES BEYOND THOSE REQUIRED BY ADA, INCLUDING VOUCHER PROGRAMS	2020	\$5,214
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA110619-ORA020818	0				GROUPED PROJECTS FOR ACTIVITIES THAT DO NOT LEAD TO CONSTRUCTION. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - SPECIFIC ACTIVITIES WHICH DO NOT INVOLVE OR LEAD DIRECTLY TO CONSTRUCTION, SUCH AS: PLANNING AND TECHNICAL STUDIES, GRANTS FOR TRAINING AND RESEARCH PROGRAMS, PLANNING ACTIVITIES CONDUCTED PURSUANT TO TITLES 23 AND 49 U.S.C, FEDERAL-AID SYSTEMS REVISIONS, ENGINEERING TO ASSESS SOCIAL, ECONOMIC, AND ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION OR ALTERNATIVE.	2020	\$852
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA110619-ORA110619	0				FTA SECTION 5316 JOBS ACCESS REVERSE COMMUTE (OCTA) VARIOUS PROJECTS TO INCREASE TRANSPORTATION ACCESS TO JOBS FOR LOW INCOME INDIVIDUALS, INCLUDING VOUCHER PROGRAMS AND VANPOOLS	2020	\$12,042
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA110625	0				VARIOUS PLANNING & TRANSPORTATION PROJECTS DETERMINED BY THE ORANGE COUNTY COUNCIL OF GOVERNMENTS (OCCOG) TO REDUCE CONGESTION IN OC, INCLUDING SMARTH GROWTH AND INCREASED TRANSIT	2020	\$2,395
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA174	0				BUS OPERATING ASSISTANCE FTA9 - FOR PARATRANSIT (OCTA)	2020	\$159,171

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA37111	0				CAPITAL MAINTENANCE ON METROLINK SYSTEM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - REHABILITATION OR RECONSTRUCTION OF TRACK STRUCTURES, TRACK, TRACKBED IN EXISTING RIGHTS-OF-WAY INCLUDING THE PURCHASE OF REPLACEMENT LOCOMOTIVES WITH TIER-4 TECHNOLOGY.(NON-CAPACITY INCREASING), TOLL CREDIT MATCH FOR FTA 5337: FY 14/15 FOR \$1,677, FY 15/16 FOR \$2,478, FY 16/17 FOR \$2,878.	2020	\$52,331
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA37115	0				OPERATING ASSISTANCE FOR COMMUTER RAIL	2020	\$172,821
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA65002	0				RIDESHARE SERVICES RIDEGUIDE, DATABASE, CUSTOMER INFO, AND MARKETING (ORANGE COUNTY PORTION).	2020	\$6,732
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA020106-ORA020106	0				PREVENTIVE MAINTENANCE (OCTA) PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES (TRANSIT DEVELOPMENT CREDITS/TOLL CREDITS IN FY14/15 @ \$3,521, FY15/16 @ \$3,798, FY16/17 @ \$3,949, FY17/18 @ \$1,484, FY18/19 \$3,007, AND FY19/20 \$3,007)	2020	\$127,435
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA020106-ORA111211	0				PREVENTATIVE MAINTENANCE (ATN) PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES	2020	\$6,390
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA110632	0				1% TRANSIT ENHANCEMENTS - BICYCLE AND PEDESTRIAN FACILITIES COUNTYWIDE (MISSION VIEJO) PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED)	2020	\$917

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
TRANSIT	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA110634	0				1% TRANSIT ENHANCEMENTS - BICYCLE AND PEDESTRIAN FACILITIES COUNTYWIDE (OCTA) PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED)	2020	\$4,401
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2120001	0	VANPOOL			VANPOOL OPERATIONS	2040	\$63,119
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2L206	0	FIXED ROUTE BUS	COUNTYWIDE		COUNTYWIDE FIXED ROUTE, EXPRESS, AND PARATRANSIT CAPITAL (BASELINE).	2020	\$1,460,447
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2TR0702	0	COMMUNITY-BASED SHUTTLES PROGRAM	COUNTYWIDE		COMMUNITY BASED TRANSIT/ CIRCULATORS	2040	\$284,586
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2TR0703	0	ELDERLY & HANDICAPPED ASSISTANCE	COUNTYWIDE		SENIOR MOBILITY PROGRAM	2040	\$177,893
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2TR0708	0	GO LOCAL RAIL FEEDER PROGRAM	COUNTYWIDE		TRANSIT EXTENSIONS TO METROLINK - OPERATIONS	2040	\$852,044
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2TR0709	0	SAFE TRANSIT STOPS	COUNTYWIDE		SAFE TRANSIT STOPS	2040	\$31,411
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2TR1001	0	SANTA ANA AND GARDEN GROVE STREETCAR	SANTA ANA REGIONAL TRANSPORTATION CENTER (SARTC)	HARBOR BLVD/ WESTMINSTER AVE	SANTA ANA AND GARDEN GROVE STREETCAR BETWEEN SARTC AND A NEW TRANSIT CENTER IN GARDEN GROVE, NEAR THE INTERSECTION OF HARBOR BOULEVARD AND WESTMINSTER AVENUE	2018	\$225,000
TRANSIT	ORANGE, CITY OF	2TR0704-ORA085001	0				ORANGE TRANSPORTATION CENTER PARKING STRUCTURE - PROJECT WILL PROVIDE APPROXIMATELY 600 ADDITIONAL TRANSIT PARKING SPACES AT THE ORANGE STATION PARKING CENTER. (UTILIZE TRANSIT DEVELOPMENT CREDIT MATCH CMAQ FY 15/16 FOR \$337)	2016	\$27,257

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Orange									
TRANSIT	SOUTHERN CALIF REGIONAL RAIL AUTHORITY	21R0704-ORA080801	0				POSITIVE TRAIN CONTROL FOR METROLINK WILL HELP TO PREVENT TRAIN-TO-TRAIN COLLISIONS, SPEEDING AND OVER-SPEED DERAILMENTS, AND MOVEMENT OF A TRAIN THROUGH A WRONG RAIL SEGMENT OR INTO TRACK WORK ZONES. THE IMPLEMENTATION OF THE PROJECT WILL ENHANCE THE SAFETY AND SECURITY OF COMMUTER RAIL SERVICE, WHILE HELPING TO MEET 2015 FEDERAL MANDATE ENACTED IN THE RSIA OF 2008.	2015	\$38,928
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160007					SENIOR NON-EMERGENCY MEDICAL TRANSPORTATION PROGRAM	2040	\$142,314
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160008					IMPLEMENT SHORT-RANGE TRANSIT PLAN (CAPITAL)	2033	\$97,445
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160009					IMPLEMENT SHORT-RANGE TRANSIT PLAN (OPERATIONS)	2040	\$1,155,622
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160010					METROLINK CAPITAL (INCREASE FROM 54 TO 62 WEEKDAY TRAINS)	2040	\$99,377
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160011					METROLINK OPERATIONS (INCREASE FROM 54 TO 62 WEEKDAY TRAINS)	2040	\$146,382
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160013					METROLINK OPERATIONS (BASELINE - 54 WEEKDAY TRAINS)	2040	\$1,024,677
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160014					COUNTYWIDE FIXED ROUTE, EXPRESS, AND PARATRANSIT OPERATIONS (BASELINE)	2040	\$12,089,822

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	BANNING	3G01G19	0	HARGRAVE ST	I-10	LINCOLN ST	GRADE SEPARATION - 2 LANES OVER UPRR	2026	\$54,961
LOCAL HIGHWAY	BANNING	3G01G36	0	22ND ST	I-10	LINCOLN ST	GRADE SEPARATION - 2 LANES OVER UPRR TRACKS	2028	\$52,668
LOCAL HIGHWAY	BANNING	3G01G43	0	SAN GORGONIO AV	I-10	LINCOLN ST	GRADE SEPARATION - 2 LANES OVER UPRR TRACKS	2030	\$68,541
LOCAL HIGHWAY	BEAUMONT	3120003	0	POTRERO BLVD. EXTENSION	CALIFORNIA	MICHIGAN AVE.	CONSTRUCT NEW 4 LANE ARTERIAL HIGHWAY EXTENSION AND OVERPASS FACILITY AT SR79	2020	\$36,000
LOCAL HIGHWAY	BEAUMONT	3G01G26	0	CALIFORNIA AVE	3RD ST	I-10	GRADE SEPARATION - 2 LANES OVER UPRR TRACKS	2028	\$45,646
LOCAL HIGHWAY	BEAUMONT	3G0701	0	VIELE AV	B STREET	LUIS ESTRADA RD	GRADE SEPARATION - 2 LANES AT UPRR	2035	\$72,893
LOCAL HIGHWAY	BLYTHE	3A04A03	0	HOBSONWAY	ARROWHEAD BLVD	CARLTON AVE	WIDEN FROM 2 TO 4 LANES	2023	\$3,751
LOCAL HIGHWAY	BLYTHE	3A04A04	0	N. LOVEKIN BLVD	10TH AVE	8TH AVE	WIDEN EXISTING BRIDGE AT C-CANAL FROM 2 TO 4 LANES	2023	\$2,441
LOCAL HIGHWAY	BLYTHE	3A04A05	0	14TH AVE	RIVER VALLEY RD	7TH ST	WIDEN EXISTING BRIDGE AT D-CANAL FROM 2 TO 4 LANES	2027	\$2,461
LOCAL HIGHWAY	BLYTHE	3A04A06	0	HOBSONWAY	OLIVE LAKE BLVD	INTAKE BLVD	WIDEN EXISTING BRIDGE AT C-CANAL FROM 2 TO 4 LANES	2032	\$3,599
LOCAL HIGHWAY	BLYTHE	3A04A07	0	RIVIERA DR	18TH AVE	20TH AVE	CONSTRUCT 2 LANE OVERCROSSING AT THE LOWER OUTFALL DRAIN	2030	\$3,001
LOCAL HIGHWAY	BLYTHE	3A04A08	0	7TH ST	HOBSONWAY	RICE ST	WIDEN FROM 2 TO 4 LANES	2025	\$975
LOCAL HIGHWAY	BLYTHE	3A04A09	0	N. LOVEKIN BLVD	HOBSONWAY	10TH AVE	WIDEN FROM 2 TO 4 LANES	2022	\$5,070
LOCAL HIGHWAY	BLYTHE	3A04A10	0	BARNARD ST	DATE ST	INTAKE BLVD	CONSTRUCT/EXTEND 2 LANE ARTERIAL	2025	\$2,175

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	CALIMESA	RIV060102- RIV060102	0	COUNTY LINE RD	I-10	600' EAST OF CALIMESA BLVD	IN CALIMESA - WIDEN EB COUNTY LN RD FROM 1 TO 2 LNS (1-10 TO 600' E/O CALIMESA BLVD), CONSTRUCT 90 FT. ROUNDABOUT AT INTERSECTION OF CALIMESA BLVD AND COUNTY LN RD, WIDEN ALL ADJACENT CORNERS FOR TRANSITION TO ROUNDABOUT INCLUDING CURB AND GUTTER AS REQUIRED. ADDITIONAL IMPROVEMENTS INCLUDE DRAINAGE AND CONCRETE WORK (SAFETEA-LU-DEMO ID 445, 1316)	2016	\$2,366
LOCAL HIGHWAY	CATHEDRAL CITY	3160009	0	E. PALM CANYON	WEST CATHEDRAL CITY LIMITS	CATHEDRAL CANYON DRIVE	WIDEN FROM 4 TO 6 LANES	2020	\$11,525
LOCAL HIGHWAY	CATHEDRAL CITY	3160010	0	E. PALM CANYON	CATHEDRAL CANYON DRIVE	DATE PALM DR	WIDEN FROM 4 TO 6 LANES	2020	\$2,562
LOCAL HIGHWAY	CATHEDRAL CITY	3160011	0	E. PALM CANYON	DATE PALM DR	EAST CATHEDRAL CITY LIMITS	WIDEN FROM 4 TO 6 LANES	2020	\$2,631
LOCAL HIGHWAY	CATHEDRAL CITY	3A01CF096	0	VISTA CHINO	E BANK OF WHITEWATER BR.	LANDAU BLVD	WIDEN FROM 4 TO 6 LANES	2020	\$4,582
LOCAL HIGHWAY	CATHEDRAL CITY	3A01CV073	0	MOUNTAIN VIEW	20TH AVE	VARNER RD	WIDEN FROM 2 TO 6 LANES	2024	\$9,026
LOCAL HIGHWAY	CATHEDRAL CITY	3A01CV078	0	RAMON RD	GENE AUTRY TRAIL	W BANK OF THE WHITEWATER RVR	WIDEN FROM 4 TO 6 LANES	2018	\$3,868
LOCAL HIGHWAY	CATHEDRAL CITY	3A01CV089	0	VARNER RD	PALM DR	MOUNTAIN VIEW RD	WIDEN FROM 2 TO 4 LANES	2024	\$8,103
LOCAL HIGHWAY	CATHEDRAL CITY	3A01CV090	0	VARNER RD	MOUNTAIN VIEW RD	DATE PALM DR	WIDEN FROM 2 TO 4 LANES	2024	\$16,423
LOCAL HIGHWAY	CATHEDRAL CITY	3A01CV091	0	VARNER RD	DATE PALM DR	RAMON RD	WIDEN FROM 2 TO 4 LANES	2020	\$54,004
LOCAL HIGHWAY	CATHEDRAL CITY	3A01CV097	0	VISTA CHINO	DATE PALM	DA VALL DR	CONSTRUCT NEW 4-LANE ROAD	2024	\$23,636
LOCAL HIGHWAY	CATHEDRAL CITY	3A07018A	0	LANDAU	VISTA CHINO	I-10	CONSTRUCT NEW 6-LANE ROAD, INCLUDING OC OF UPRR	2030	\$28,293
LOCAL HIGHWAY	CATHEDRAL CITY	3A07018B	0	LANDAU	I-10	VALLEY CENTER BLVD	CONSTRUCT NEW 6-LANE ROAD	2030	\$15,292

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	CATHEDRAL CITY	3A07018C	0	LANDAU	VALLEY CENTER BLVD	VARNER RD	CONSTRUCT NEW 4-LANE ROAD	2030	\$22,939
LOCAL HIGHWAY	CATHEDRAL CITY	3A07027	0	DATE PALM DR. OVER WHITEWATER RIVER BRIDGE	VIA ESTRADA TO THE NORTH	PEREZ RD. TO THE SOUTH	IN EASTERN RIVERSIDE COUNTY IN THE COACHELLA VALLEY - DATE PALM DR OVER THE WHITEWATER RIVER: WIDENING OF DATE PALM DR FROM 4 TO 6 LNS (3 LNS IN EA DIR), FROM APPROX. 350 FT S/O THE BRIDGE TO 250 FT N/O THE BRIDGE (VIA ESTRADA TO THE NORTH AND PEREZ RD. TO THE SOUTH), INCLUDING THE CONSTRUCTION OF A RAISED MEDIAN AND SIDEWALK ALONG THE EAST SIDE OF THE PROJECT (BRIDGE NO. 56C0189).	2020	\$18,703
LOCAL HIGHWAY	CATHEDRAL CITY	3A07028	0	DATE PALM DR.	I-10	350' S/O VARNER RD.	IN EASTERN RIVERSIDE COUNTY IN THE COACHELLA VALLEY - DATE PALM DR WIDENING FROM I-10 TO VARNER RD.; WIDENING OF DATE PALM DR. FROM 2 TO 6 LNS (3 LNS IN EA DIR) FROM I-10 TO VARNER RD INCLUDING A BOX CULVERT SPANNING THE LONG CANYON WASH. OTHER IMPROVEMENTS INCLUDE ADDITIONAL TURNING LANES AT INTERSECTION OF DATE PALM DR. & VARNER RD., TRAFFIC SIGNALIZATION, SIDEWALKS, MEDIANS AND BIKE LANES.	2017	\$5,791
LOCAL HIGHWAY	CATHEDRAL CITY	3A07032	0	DATE PALM DR	DINAH SHORE DR	RAMON RD	WIDEN FROM 4 TO 6 LANES	2020	\$5,246
LOCAL HIGHWAY	CATHEDRAL CITY	3A07042	0	DA VALL RD	I-10	VARNER RD	CONSTRUCT NEW 6-LANE ROAD, INCLUDING BRIDGE AT LONG CANYON	2032	\$40,304
LOCAL HIGHWAY	CATHEDRAL CITY	3A07048	0	DATE PALM DR	GERALD FORD DR	DINAH SHORE DR	WIDEN FROM 4 TO 6 LANES	2020	\$5,008
LOCAL HIGHWAY	CATHEDRAL CITY	3A07055	0	DA VALL RD	DINAH SHORE	RAMON RD	WIDEN FROM 2 TO 6 LANES	2020	\$8,028
LOCAL HIGHWAY	CATHEDRAL CITY	3A07060	0	DATE PALM DR	EAST PALM CYN	BRIDGE SPANNING WHITE WATER RIVER	WIDEN FROM 4 TO 6 LANES, INCLUDING BRIDGE AT N. CATHERAL CHANNEL	2018	\$13,015
LOCAL HIGHWAY	CATHEDRAL CITY	3A07099	0	CATHEDRAL CYN DR	TERRACE RD	E PALM CYN	WIDEN FROM 2 TO 4 LANES	2022	\$3,452

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	CATHEDRAL CITY	3A07120	0	DA VALL RD	AVE 30	I-10	CONSTRUCT NEW 6-LANE ROAD, INCLUDING BRIDGE OVER THE RAILROAD	2027	\$34,669
LOCAL HIGHWAY	CATHEDRAL CITY	3A07127	0	DA VALL RD (WEST SIDE OF DA VALL RD)	MCCALLUM WAY	AVE 30	WIDEN FROM 2 TO 3 LANES ON THE WEST SIDE OF DA VALL RD WITHIN CATHEDRAL CITY BOUNDARY.	2026	\$4,156
LOCAL HIGHWAY	CATHEDRAL CITY	3A0802	0	VALLEY CENTER BLVD	PALM DR	DATE PALM DR	IN THE CITY OF CATHEDRAL CITY, CONSTRUCT VALLEY CENTER BLVD NORTH OF I-10 AND SOUTH OF VARNER RD AS A 4 LANES ARTERIAL FROM PALM DR TO DATE PALM DR	2035	\$57,063
LOCAL HIGHWAY	CATHEDRAL CITY	3A0803	0	VALLEY CENTER BLVD	DATE PALM DR	DA VALL DR (FUTURE EXTENSION)	IN THE CITY OF CATHEDRAL CITY, CONSTRUCT VALLEY CENTER BLVD NORTH OF I-10 AND SOUTH OF VARNER RD AS A 4 LANE ARTERIAL FROM DATE PALM DR TO FUTURE DA VALL RD EXTENSION	2035	\$53,059
LOCAL HIGHWAY	COACHELLA	3A01CV002	0	AVE 50	BRIDGE AT ALL AMERICANAL		CONSTRUCT 6-LANE BRIDGE	2020	\$3,603
LOCAL HIGHWAY	COACHELLA	3A01CV004	0	AVE 50	SR-86S TO I-10	I-10	WIDEN FROM 2 TO 6 LANES	2020	\$24,830
LOCAL HIGHWAY	COACHELLA	3A01CV005	0	AVE 50	VAN BUREN ST	HARRISON ST	WIDEN FROM 2 TO 6 LANES	2020	\$7,174
LOCAL HIGHWAY	COACHELLA	3A01CV014	0	AVE 52	CALHOUN ST	FREDRICK ST	WIDEN FROM 2 TO 6 LANES	2023	\$11,006
LOCAL HIGHWAY	COACHELLA	3A01CV015A	0	AVE 52	FREDRICK ST	HARRISON ST	WIDEN FROM 2 TO 6 LANES	2023	\$2,973
LOCAL HIGHWAY	COACHELLA	3A01CV015B	0	AVE 52	HARRISON ST	HWY 111	WIDEN FROM 2 TO 6 LANES	2024	\$1,830
LOCAL HIGHWAY	COACHELLA	3A01CV015C	0	AVE 52	HWY 111	SR-86S	WIDEN FROM 2 TO 6 LANES	2027	\$130,503
LOCAL HIGHWAY	COACHELLA	3A01CV016	0	AVE 54	VAN BUREN ST	HARRISON ST	WIDEN FROM 2 TO 4 LANES	2026	\$11,315
LOCAL HIGHWAY	COACHELLA	3A01CV017	0	AVE 54	HARRISON ST	TYLER ST	WIDEN FROM 2 TO 4 LANES	2024	\$12,011
LOCAL HIGHWAY	COACHELLA	3A01CV018	0	AVE 54	TYLER ST	HWY 111	WIDEN FROM 2 TO 4 LANES	2022	\$7,925

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	COACHELLA	3A01CV023	0	AVE 56 / AIRPORT BLVD (NORTH SIDE)	0.25 MI. W OF VAN BUREN ST	HARRISON ST	WIDEN FROM 2 TO 4 LANES	2023	\$14,201
LOCAL HIGHWAY	COACHELLA	3A01CV087	0	VAN BUREN ST	AVE 52	AVE 54	WIDEN FROM 2 TO 4 LANES	2023	\$613
LOCAL HIGHWAY	COACHELLA	3A01CV088	0	VAN BUREN ST	AVE 54	AVE 56/AIRPORT BLVD	WIDEN FROM 2 TO 4 LANES	2023	\$617
LOCAL HIGHWAY	COACHELLA	3A04CV113	0	AVE 50	HWY 111 TO SR-86S	SR-86S	WIDEN FROM 2 TO 4 LANES	2020	\$102,558
LOCAL HIGHWAY	COACHELLA	3A07011	0	AVE 54	HWY 111	FILLMORE	CONSTRUCT 4-LANE BRIDGE	2025	\$47,984
LOCAL HIGHWAY	COACHELLA	3A07036	0	VAN BUREN ST	AVE 48	AVE 50	WIDEN FROM 2 TO 6 LANES	2023	\$13,762
LOCAL HIGHWAY	COACHELLA	3A07037	0	VAN BUREN ST	AVE 50	AVE 52	WIDEN FROM 2 TO 6 LANES	2023	\$13,762
LOCAL HIGHWAY	COACHELLA	3A07039	0	AVE 50	JACKSON ST	VAN BUREN ST	WIDEN FROM 2 TO 4 LANES	2023	\$13,658
LOCAL HIGHWAY	COACHELLA	3A07040	0	GRAPEFRUIT BLVD	AVE 48/DILLON RD	AVE 50	WIDEN FROM 4 TO 6 LANES	2022	\$12,908
LOCAL HIGHWAY	COACHELLA	3A07051	0	DILLON RD	AVE 44	I-10	WIDEN FROM 2 TO 4 LANES	2023	\$11,474
LOCAL HIGHWAY	COACHELLA	3A07057	0				IN EASTERN RIVERSIDE COUNTY IN THE CITY OF COACHELLA - WIDENING OF AVENUE 48 FROM 2 TO 6 LANES (1 LN EA DIR TO 3 LNS EA DIR) FROM JACKSON RD TO VAN BUREN ST INCLUDING TRAFFIC SIGNAL MODIFICATIONS, STREET LIGHTING, DRAINAGE IMPROVEMENTS INCLUDING SIDEWALK AND BICYCLE LANES AND LANDSCAPING	2016	\$3,600
LOCAL HIGHWAY	COACHELLA	3A07069	0	GRAPEFRUIT BLVD	AVE 52	AVE 54	WIDEN FROM 2 TO 6 LANES	2020	\$7,074
LOCAL HIGHWAY	COACHELLA	3A07071	0	GRAPEFRUIT BLVD	AVE 50	AVE 52	WIDEN FROM 2 TO 4 LANES	2023	\$8,971
LOCAL HIGHWAY	COACHELLA	3A07074	0	HARRISON ST	AVE 54	AVE 56	WIDEN FROM 2 TO 4 LANES	2024	\$8,849

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	COACHELLA	RIV110825	0				IN THE CITY OF COACHELLA - AVE 50 OVER COACHELLA STORMWATER CHANNEL: REPLACEMENT OF A 2-LN LOW WATER X-ING (BRIDGE NO. 00L0055) WITH A 6-LN (3-LNS IN EA DIR) BRIDGE FROM 300-FT W/O APACHE TRAIL TO SR-86S INTERSECTION. OTHER IMPROVEMENTS INCLUDE BIKE LANE	2020	\$29,915
LOCAL HIGHWAY	CORONA	3160012	0	RADIO RD	SAMPSON AVE	WALKER LN	GRADE SEPARATION - 2 LANES OVER BNSF RR TRACKS	2022	\$25,000
LOCAL HIGHWAY	CORONA	3A04T027	0	MAGNOLIA AVE	ONTARIO AVE	KELLOGG AVE.	INTERSECTION UPGRADES ON MAGNOLIA AVE. BETWEEN ONTARIO AVE. AND KELLOGG AVE. TO ACCOMMODATE RESTRIPING FROM 4 TO 6 LANES.	2035	\$277
LOCAL HIGHWAY	CORONA	3A04WT030	0	MAIN ST	SOUTH GRAND BLVD.	ONTARIO AVE.	WIDEN FROM 2 TO 4 LANES.	2035	\$4,575
LOCAL HIGHWAY	CORONA	3A04WT032	0	RAILROAD ST	SHERMAN AVE	MAIN ST (AT GRAND)	WIDEN FROM 2 TO 4 LANES	2035	\$9,416
LOCAL HIGHWAY	CORONA	RIV010209	0	FOOTHILL PARKWAY	LINCOLN AVE	PASEO GRANDE	IN THE CITY OF CORONA - CONSTRUCT FOOTHILL PARKWAY WESTERLY EXTENSION 4 LANE ROAD FROM LINCOLN AVE. TO PASEO GRANDE (APPROX 2.5 MILES)	2016	\$67,481
LOCAL HIGHWAY	CORONA	RIV011240	0				IN CORONA ON EXISTING MCKINLEY ST - CONSTRUCT GRADE SEPARATION AT BNSF RAILROAD CROSSING (PROJECT STUDY REPORT & PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT ACTIVITIES)	2019	\$3,800
LOCAL HIGHWAY	CORONA	RIV011241	0				IN CORONA ON AUTO CENTER DRIVE - CONSTRUCT 4 LANE OVERTAKING (GRADE SEPARATION) OVER EXISTING BNSF TRACKS (\$1,240 TOLL CREDITS IN CONST TO MATCH PNRs).	2015	\$32,675
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120017	0	MISSION LAKES BLVD	SR62	INDIAN AVE.	WIDEN FROM 2 TO 4 LANES	2022	\$9,486
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120018	0	MOUNTAIN VIEW RD.	PIERSON BLVD. AT EAST TERMINUS OF DESERT VIEW AVE.	HACIENDA AVE.	WIDEN FROM 2 TO 4 LANES	2022	\$1,064
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120021	0	PIERSON BLVD.	AMBROSIO DR	MIRACLE HILL RD.	WIDEN FROM 2 TO 4 LANES	2023	\$2,150

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120022	0	PIERSON BLVD.	MIRACLE HILL RD.	EASTERN TERMINUS OF DESERTVIEW AVE.	WIDEN FROM 2 TO 4 LANES	2023	\$7,531
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120023	0	PALM DR.	DILLON RD.	TWO BUNCH PALMS TR.	WIDEN FROM 4 TO 6 LANES. OTHER IMPROVEMENTS INCLUDE SHOULDERS AND MEDIANS	2023	\$7,153
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120024	0	PALM DR.	PIERSON BLVD.	MISSION LAKE BLVD.	WIDEN FROM 4 TO 6 LANES. OTHER IMPROVEMENTS INCLUDE SHOULDERS AND MEDIANS	2023	\$5,298
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120025	0	WORSLEY RD.	PIERSON BLVD.	INDIAN AVE.	WIDEN FROM 2 TO 4 LANES	2023	\$13,676
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV047A	0	HACIENDA AVE	CHOLLA DR	PALM DR	WIDEN FROM 2 TO 4 LANES (2 LANES IN EACH DIRECTION) FROM CHOLLA DR. TO PALM DR.	2025	\$3,629
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV047B	0	HACIENDA AVE	LITTLE MORONGO RD	CHOLLA DR (MISSING LINK)	CONSTRUCT NEW FOUR 12-FT LANES WITH 14-FT MEDIANS BETWEEN LITTLE MORONGO RD AND CHOLLA DR.	2025	\$8,447
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV048	0	HACIENDA AVE	PALM DR	MOUNTAIN VIEW RD	WIDEN FROM 2 TO 4 LANES	2025	\$6,901
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV049	0	HACIENDA AVE	MOUNTAIN VIEW RD	DILLON RD (LONGCYN RD)	WIDEN FROM 2 TO 4 LANES	2025	\$12,356
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV053	0	INDIAN AVE	MISSION LAKES BLVD	PIERSON BLVD	IN THE COACHELLA VALLEY IN THE CITY OF DESERT HOT SPRINGS - INDIAN AVE. WIDENING: WIDENING OF INDIAN AVE. FROM 2 TO 6 THROUGH LANES (3 IN EACH DIR) BETWEEN MISSION LAKES BLVD., AND PIERSON BLVD.	2022	\$27,783
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV067	0	MISSION LAKES BLVD	INDIAN AVE	LITTLE MORONGO RD	WIDEN FROM 2 TO 4 LANES	2025	\$13,331
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV068	0	MISSION LAKES BLVD	LITTLE MORONGO RD	PALM DR	WIDEN FROM 2 TO 4 LANES	2025	\$6,901
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV071	0	MOUNTAIN VIEW	HACIENDA AVE	DILLON RD	WIDEN FROM 2 TO 4 LANES	2025	\$9,201
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV075	0	PIERSON BLVD	SR-62	INDIAN AVE	WIDEN FROM 2 TO 4 LANES	2025	\$14,947
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV076	0	PIERSON BLVD	INDIAN AVE	LITTLE MORONGO RD	WIDEN FROM 2 TO 4 LANES	2025	\$9,904

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV085	0	TWO BUNCH PALMS TR	LITTLE MORONGO RD	PALM DR	WIDEN FROM 2 TO 4 LANES	2025	\$7,496
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV086	0	TWO BUNCH PALMS TR	PALM DR	MIRACLE HILL RD	WIDEN FROM 2 TO 4 LANES	2025	\$5,319
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV103	0	LITTLE MORONGO RD	TWO BUNCH PALMS TR	DILLON RD	WIDEN FROM 2 TO 4 LANES	2025	\$16,632
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV104	0	LITTLE MORONGO RD	MISSION LAKES BLVD	PIERSON BLVD	WIDEN FROM 2 TO 4 LANES	2025	\$4,600
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV105	0	LITTLE MORONGO RD	PIERSON BLVD	TWO BUNCH PALMS TR	WIDEN FROM 2 TO 4 LANES	2025	\$13,331
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A07001	0	MISSION LAKES BLVD	PALM DR	EASTERN TERMINUS AT VERBENA DR	WIDEN FROM 2 TO 4 LANES	2025	\$2,300
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A07023	0	INDIAN AVE.	PIERSON BLVD.	SR62	IN THE COACHELLA VALLEY IN THE CITY OF DESERT HOT SPRINGS - INDIAN AVE WIDENING- WIDENING OF INDIAN AVE FROM 2 TO 6 THROUGH LANES (3 IN EA DIR), BETWEEN HWY 62 AND MISSION LAKES BLVD., INCLUDING THE CONSTRUCTION OF AN ALL WEATHER BRIDGE OVER MISSION CREEK	2019	\$44,000
LOCAL HIGHWAY	EASTVALE	3120002	0	LIMONITE AVE.	ARCHIBALD	HAMNER	WIDENING OF LIMONITE AVE FROM 4 TO 6 LANES	2030	\$8,034
LOCAL HIGHWAY	EASTVALE	3A01WT124	0	ARCHIBALD AVE	SAN BERNARDINO COUNTY LINE	65TH ST	WIDEN FROM 2 TO 4 LANES	2028	\$36,308
LOCAL HIGHWAY	EASTVALE	3A01WT158	0	HAMNER AVE	MISSION BLVD	BELLEGRAVE AVE	WIDEN FROM 2 TO 6 LANES	2030	\$14,542
LOCAL HIGHWAY	EASTVALE	3A04A34	0	PHILADELPHIA AVE	MILLIKEN AVE	I-15	WIDEN FROM 1 EB EXISTING TO 2 LANES	2035	\$1,763
LOCAL HIGHWAY	EASTVALE	3A04WT186	0	SCHLEISMAN RD	SAN BERNARDINO COUNTY LINE	HARRISON AVE	WIDEN FROM 2 TO 4 LANES	2030	\$22,643
LOCAL HIGHWAY	EASTVALE	3A04WT188	0	SCHLEISMAN RD	SUMNER AVE	HAMNER AVE	WIDEN FROM 2 TO 4 LANES	2030	\$9,782
LOCAL HIGHWAY	HEMET	3160013	0	CAWSTON AVE	COVE ST	MUSTANG WAY	WIDEN FROM 2 TO 4 LANES	2019	\$3,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	HEMET	3160014	0	HEMET ST	HEMET ST BRIDGE OVER BAUTISTA CREEK		CONSTRUCT 2 LANE BRIDGE ACROSS BAUTISTA CREEK	2025	\$21,305
LOCAL HIGHWAY	HEMET	3160015	0	LYON AVE	LYON AVE BRIDGE OVER SALT CREEK CHANNEL		CONSTRUCT 4 LANE BRIDGE ACROSS SALT CREEK CHANNEL	2023	\$20,000
LOCAL HIGHWAY	HEMET	3160016	0	CAWSTON AVE	CAWSTON AVE BRIDGE OVER SALT CREEK CHANNEL		CONSTRUCT 4 LANE BRIDGE ACROSS SALT CREEK CHANNEL	2024	\$20,647
LOCAL HIGHWAY	HEMET	3160017	0	WARREN RD	WARREN RD BRIDGE OVER SALT CREEK CHANNEL		CONSTRUCT 6 LANE BRIDGE ACROSS SALT CREEK CHANNEL	2022	\$20,000
LOCAL HIGHWAY	HEMET	3160018	0	ESPLANADE AVE	WARREN RD	SAN JACINTO ST	WIDEN FROM 2 TO 4 LANES	2019	\$5,000
LOCAL HIGHWAY	HEMET	3160019	0	STETSON AVE	WEST OF CAWSTON AVE	WESTERLY CITY LIMITS	WIDEN FROM 2 TO 6 LANES	2025	\$8,522
LOCAL HIGHWAY	HEMET	3160020	0	LYON AVE	DOMENIGONI PKWY	CHAMBERS ST	CONSTRUCT NEW 4 LANE ARTERIAL	2025	\$15,979
LOCAL HIGHWAY	HEMET	3160021	0	STETSON AVE	CAWSTON AVE	STATE ST	WIDEN FROM 2 TO 4 LANES	2019	\$2,750
LOCAL HIGHWAY	HEMET	3160022	0	MENLO AVE	WESTERLY END	PARK AVE	WIDEN FROM 2 TO 4 LANES	2020	\$20,000
LOCAL HIGHWAY	HEMET	3A01WT039	0	STATE ST	JOHNSTON AVE	FLORIDA AVE (SR-74)	WIDEN FROM 2 TO 4 LANES	2028	\$1,750
LOCAL HIGHWAY	HEMET	3A01WT040	0	STETSON AVE	WEST OF CAWSTON AVE	WARREN RD	RELOCATE AND CONSTRUCT 4 LANE ARTERIAL	2025	\$8,387
LOCAL HIGHWAY	HEMET	3A01WT041	0	WARREN RD	ESPLANADE AVE	DOMENIGONI PKWY	WIDEN FROM 2 TO 4 LANES	2026	\$21,984
LOCAL HIGHWAY	HEMET	3A04WT034	0	DOMENIGONI PKWY	WARREN RD	SANDERSON AVE	WIDEN FROM 4 TO 6 LANES	2021	\$8,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	INDIAN WELLS	3A07258	0	HWY 111	EL DORADO DR.	EAST CITY LIMITS.	IN EASTERN RIVERSIDE CO. IN THE COACHELLA VALLEY - HWY 111 WIDENING WITHIN INDIAN WELLS CITY LIMITS: WIDENING FROM 4 TO 6 THRU LNS (3 LNS IN EA DIR) BTWN EL DORADO & EAST CITY LIMITS (W/O WASHINGTON), INCLUDING THE INSTALL OF A RAISED, LANDSCAPE MEDIAN AND RIGHT TURN ONLY LANE AT INDIAN WELLS LN (RTP ID'S 3A07258 & 3A07259).	2015	\$32,779
LOCAL HIGHWAY	INDIAN WELLS	3A07316	0	HWY 111	DEEP CANYON CHANNEL (EAST CITY LIMITS)	570' WEST OF VILLAGE CENTER DR. (WEST CITY LIMITS)	IN EASTERN RIVERSIDE CO. IN THE COACHELLA VALLEY - HWY 111 WIDENING W/IN INDIAN WELLS CITY LIMITS: WID FROM 4 TO 6 THRU LNS (3 LNS IN EA DIR) BTWN THE WCL (570' W/O VILLAGE CTR DR) & EL DORADO DR (RTP ID'S 3A07316 & 3A07257) INCLUDING THE INSTAL OF A RAISED, LANDSCAPE MEDIAN, LEFT TURN PH @ EL DORADO DR, DUAL LEFT TURN PH @ THE SB AND EB COOK ST, RT TURN ONLY LNS AT THE EAST, WEST, AND SB COOK ST.	2014	\$27,788
LOCAL HIGHWAY	INDIO	3160023	0	ADAMS ST	AVE 38	AVE 40	WIDEN FROM 2 TO 4 LANES	2022	\$1,400
LOCAL HIGHWAY	INDIO	3160024	0	AVE 38	ADAMS ST	MADISON ST	WIDEN FROM 2 TO 4 LANES	2022	\$2,500
LOCAL HIGHWAY	INDIO	3160025	0	AVE 40	ADAMS ST	JEFFERSON ST	WIDEN FROM 2 TO 4 LANES	2022	\$1,400
LOCAL HIGHWAY	INDIO	3160026	0	CALHOUN ST	CAPRICORN AVE	DR. CARREON BLVD	WIDEN FROM 3 TO 4 LANES	2022	\$400
LOCAL HIGHWAY	INDIO	3160027	0	CLINTON ST	MILES ST	DE ORO AVE	WIDEN FROM 3 TO 4 LANES	2022	\$500
LOCAL HIGHWAY	INDIO	3160028	0	DILLON RD	CABAZON RD	HWY 86 I/C	WIDEN FROM 2 TO 4 LANES, NOT INCLUDING BRIDGE OVER COACHELLA VALLEY STORM WATER CHANNEL	2022	\$1,100
LOCAL HIGHWAY	INDIO	3160029	0	DILLON RD	BRIDGE OVER COACHELLA VALLEY STORM WATER CHANNEL		WIDEN FROM 2 TO 4 LANES	2022	\$17,500
LOCAL HIGHWAY	INDIO	3160030	0	DILLON RD	AVE 44	NORTH CITY LIMITS	WIDEN FROM 2 TO 4 LANES	2024	\$1,962

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	INDIO	3160031	0	INDIO BLVD	I-10 IC	JEFFERSON ST	WIDEN FROM 4 TO 6 LANES, NOT INCLUDING RAILROAD CROSSING	2020	\$700
LOCAL HIGHWAY	INDIO	3160032	0	INDIO BLVD	UNION PACIFIC RAILROAD CROSSING		WIDEN FROM 4 TO 6 LANES	2020	\$13,000
LOCAL HIGHWAY	INDIO	3160033	0	MADISON ST	AVE 38	AVE 40	WIDEN FROM 3 TO 4 LANES	2022	\$1,000
LOCAL HIGHWAY	INDIO	3160034	0	MADISON ST OC	MADISON ST OC AT I-10		NEW 4 LANE OVERCROSSING	2022	\$50,000
LOCAL HIGHWAY	INDIO	3A01CV003	0	AVENUE 50	JEFFERSON ST	MADISON ST (EXCL BR. AT ALL AMERICAN CANAL)	WIDEN FROM 2 TO 4 LANES	2020	\$5,374
LOCAL HIGHWAY	INDIO	3A01CV011	0	AVENUE 52	MADISON ST	MONROE ST	WIDEN FROM 2 TO 4 LANES	2020	\$5,102
LOCAL HIGHWAY	INDIO	3A01CV012	0	AVENUE 52	MONROE ST	JACKSON ST	WIDEN FROM 2 TO 4 LANES	2021	\$10,527
LOCAL HIGHWAY	INDIO	3A01CV054	0	JACKSON ST	AVE 48	AVE 50	WIDEN FROM 2 TO 4 LANES	2021	\$5,177
LOCAL HIGHWAY	INDIO	3A01CV059A	0	MADISON ST	AVE 52	AVE 50	WIDENING FROM 2 TO 4 LANES	2020	\$11,077
LOCAL HIGHWAY	INDIO	3A01CV060	0	MADISON ST	AVE 50	AVE 48	WIDEN FROM 2 TO 4 LANES	2020	\$11,824
LOCAL HIGHWAY	INDIO	3A01CV061	0	MADISON ST	HWY 111	AVE 48	WIDENING FROM 3 TO 4 LANES	2020	\$7,271
LOCAL HIGHWAY	INDIO	3A01CV063	0	MADISON ST	MILES AVE	FRED WARING DR (MISSING LINK)	CONSTRUCT NEW 4 - LANE ROAD, INCLUDING BRIDGE AT ALL AMERICAN CANAL AND WHITEWATER RIVER.	2020	\$22,947
LOCAL HIGHWAY	INDIO	3A01CV064	0	MADISON ST	FRED WARING DR	INDIO BLVD	WIDEN FROM 2 TO 4 LANES	2020	\$5,947
LOCAL HIGHWAY	INDIO	3A01CV10A	0	JACKSON ST	AVE 44	HWY 111	WIDEN FROM 4 TO 6 LANES	2022	\$8,833
LOCAL HIGHWAY	INDIO	3A01CV10B	0	JACKSON ST	I-10 IC	AVE 44	WIDEN FROM 4 TO 6 LANES	2024	\$1,846

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	INDIO	3A01CV111	0	JACKSON ST	HWY 111	AVE 48	WIDEN FROM 4 TO 6 LANES	2021	\$11,134
LOCAL HIGHWAY	INDIO	3A01CV116	0	JEFFERSON ST	AVE 40	AVE 38	WIDEN FROM 2 TO 4 LANES	2021	\$4,289
LOCAL HIGHWAY	INDIO	3A01CV123	0	JACKSON ST	AVE 41	I-10 IC	WIDEN FROM 4 TO 6 LANES	2021	\$13,195
LOCAL HIGHWAY	INDIO	3A07017	0	AVENUE 44	WHITEWATER RIVER	DILLON RD	WIDEN FROM 2 TO 4 LANES	2020	\$4,122
LOCAL HIGHWAY	INDIO	3A07025	0	AVENUE 48	JEFFERSON ST	MADISON ST	WIDEN FROM 4 TO 6 LANES	2022	\$10,297
LOCAL HIGHWAY	INDIO	3A07029	0	AVENUE 44	MONROE ST	WHITEWATER RIVER	WIDEN FROM 2 TO 4 LANES.	2020	\$4,122
LOCAL HIGHWAY	INDIO	3A07030	0	MONROE ST	AVE 41	AVE 42	WIDEN FROM 2 TO 6 LANES	2022	\$7,815
LOCAL HIGHWAY	INDIO	3A07031	0				IN EASTERN RIVERSIDE COUNTY FOR THE CITY OF INDIO - RECONSTRUCT AND IMPROVE HIGHWAY 111 FROM 760 FT WEST OF MADISON ST TO RUBIDOUX ST INCLUDING UPDATING ALL TRAFFIC SIGNALS AND UPDATE ALL SIDEWALKS, RAMPS AND DRIVEWAYS TO CURRENT ADA STANDARDS. WIDEN OF HIGHWAY 111 FROM 4 LANES (2 IN EACH DIR) TO 6 LANES (3 IN EACH DIR).	2016	\$10,920
LOCAL HIGHWAY	INDIO	3A07049	0	HIGHWAY 111	RUBIDOUX BLVD.	JACKSON ST	WIDEN FROM 4 TO 6 LANES	2022	\$12,644
LOCAL HIGHWAY	INDIO	3A07050	0	VARNER RD / AVE 42	CLINTON ST	MONROE ST	WIDEN FROM 2 TO 6 LANES	2022	\$13,543
LOCAL HIGHWAY	INDIO	3A07052	0	AVENUE 50	MONROE ST	JACKSON ST	WIDEN FROM 3 TO 4 LANES	2022	\$5,030
LOCAL HIGHWAY	INDIO	3A07053	0	HIGHWAY 111	SHIELDS RD.	MADISON ST	WIDEN FROM 4 TO 6 LANES	2020	\$2,413
LOCAL HIGHWAY	INDIO	3A07056	0	AVENUE 50	MADISON ST	MONROE ST	WIDEN FROM 2 TO 4 LANES	2022	\$5,591
LOCAL HIGHWAY	INDIO	3A07064	0	AVE 42	MONROE ST	JACKSON ST	WIDEN FROM 4 TO 6 LANES	2022	\$7,335

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	INDIO	3A07065	0	AVENUE 50	JACKSON ST	VAN BUREN ST (CENTER LINE)	WIDEN FROM 2 TO 4 LANES	2022	\$5,144
LOCAL HIGHWAY	INDIO	3A07079	0	VARNER RD / AVE 42	JEFFERSON ST	CLINTON ST	WIDEN FROM 2 TO 6 LANES, INCLUDING BRIDGE OVER ALL AMERICAN CANAL	2022	\$11,355
LOCAL HIGHWAY	INDIO	3A07086	0	JACKSON ST	AVE 50	AVE 52	WIDEN FROM 3 TO 4 LANES	2022	\$4,285
LOCAL HIGHWAY	INDIO	3A07087	0	HIGHWAY 111	JACKSON ST	INDIO BLVD	WIDEN FROM 4 TO 6 LANES	2018	\$6,455
LOCAL HIGHWAY	INDIO	3A07137	0				IN THE CITY OF INDIO - AVE 44 BRIDGE REPLACEMENT: REPLACE EXISTING AVENUE 44 TWO LANE LOW WATER CROSSING OVER THE COACHELLA VALLEY STORMWATER CHANNEL WITH A FOUR LANE BRIDGE (BRIDGE NO. 00L0056), INCLUDING 6 FT SIDEWALK ON EACH SIDE OF THE BRIDGE.	2020	\$19,230
LOCAL HIGHWAY	INDIO	3A07171	0	JEFFERSON ST	VARNER RD	AVE 40	WIDEN FROM 2 TO 6 LANES	2022	\$3,861
LOCAL HIGHWAY	INDIO	ITS08	0	JACKSON ST.	AVE. 44	AVE. 45	IN COACHELLA VALLEY IN THE CITY OF INDIO - JACKSON ST TRAFFIC SIGNAL INTERCONNECT AND TRAFFIC SIGNAL INSTALL: INSTALL A NEW TS AT JACKSON ST & MARKET ST/DILLON AVE. & INSTALL OF A WIRELESS INTERCONNECT SYSTEM ON JACKSON ST BTWN AVE. 44 TO THE NO. & AVE.	2014	\$367
LOCAL HIGHWAY	JURUPA VALLEY	3120036	0	JURUPA RD	CEDAR ST	E'LY OF FELSPAR ST	GRADE SEPARATION - 2 LANES OVER UPRRR TRACKS	2030	\$126,151
LOCAL HIGHWAY	JURUPA VALLEY	3A01WT127	0	BELLGRAVE AVE	CANTU-GALLEANO RANCH RD/ BIRTCHE DR INTERSECTION	VAN BUREN BLVD	WIDEN FROM 2 TO 4 LANES	2035	\$6,918
LOCAL HIGHWAY	JURUPA VALLEY	3A01WT163	0	LIMONITE AVE	BAIN ST.	DOWNNEY ST	WIDEN FROM 2 TO 4 LANES	2025	\$4,261
LOCAL HIGHWAY	JURUPA VALLEY	3A01WT164	0	LIMONITE AVE	VAN BUREN BLVD	BALDWIN ST	WIDEN FROM 4 TO 6 LANES	2030	\$1,869

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	JURUPA VALLEY	3A04A33	0	PHILADELPHIA AVE	WINEVILLE RD	ETIWANDA AVE	WIDEN FROM 1 EB EXISTING TO 2 LANES	2035	\$1,484
LOCAL HIGHWAY	JURUPA VALLEY	3A04A35	0	RIVERSIDE DR	I-15	ETIWANDA AVE	WIDEN FROM 2 TO 4 LANES	2030	\$2,243
LOCAL HIGHWAY	JURUPA VALLEY	3A04A36	0	RIVERSIDE DR AT DAY CREEK	WINEVILLE RD	ETIWANDA AVE	WIDEN BRIDGE FROM 2 TO 4 LANES	2035	\$567
LOCAL HIGHWAY	JURUPA VALLEY	3A04WT125	0	ARMSTRONG RD	SAN BERNARDINO COUNTY LINE	VALLEY WAY	WIDEN FROM 2 TO 4 LANES	2035	\$8,940
LOCAL HIGHWAY	JURUPA VALLEY	3A04WT140	0	CANTU-GALLEANO RANCH RD	3,350' EASTERLY OF WINEVILLE RD	BELLGRAVE AVE/ BIRTCHE DR INTERSECTION	CONSTRUCT 4 LANE ARTERIAL, INCLUDING 4-LANE BRIDGE CROSSING CHANNEL	2030	\$2,492
LOCAL HIGHWAY	JURUPA VALLEY	3A07014	0	SCHLEISMAN RD	I-15	ARLINGTON AVE	CONSTRUCT 4 LANE ARTERIAL	2035	\$37,518
LOCAL HIGHWAY	JURUPA VALLEY	3A07016	0	LIMONITE AVE	WINEVILLE AVE.	ETIWANDA AVE	WIDEN EB LANE FROM 1 LANE TO 2 LANES.	2020	\$7,000
LOCAL HIGHWAY	JURUPA VALLEY	3G01G40	0	BELLGRAVE AV	BAIN ST	RUTILE ST	GRADE SEPARATION - 2 LANES OVER UPRR TRACKS	2030	\$188,241
LOCAL HIGHWAY	LA QUINTA	3A01CV010	0	AVE 52	JEFFERSON STREET	MADISON STREET	WIDEN FROM 2 TO 4 LANES IN AREAS WITH MISSING SECTIONS ON THE NORTH SIDE OF AVENUE 52.	2018	\$944
LOCAL HIGHWAY	LA QUINTA	3A01CV059B	0	MADISON ST	AVE 52	AVE 50	WIDEN WEST SIDE OF MADISON FROM 1 TO 2 LANES. JOINT PROJECT WITH CITY OF INDIO WHO IS RESPONSIBLE FOR THE EAST SIDE OF MADISON.	2017	\$12,023
LOCAL HIGHWAY	LA QUINTA	3A07061	0				IN EASTERN RIVERSIDE COUNTY IN THE CITY OF LA QUINTA - ON DUNE PALMS RD: REPLACE 3-LANE LOW WATER CROSSING WITH 4 LANE BRIDGE OVER THE COACHELLA VALLEY STORMWATER CHANNEL (WHITEWATER RIVER - BRIDGE NO.00L0070)	2020	\$17,510
LOCAL HIGHWAY	LA QUINTA	3A07070	0	AVE 50	JEFFERSON STREET	MADISON STREET	WIDEN FROM 2 TO 4 LANES. SHARED PROJECT BETWEEN THE CITY OF LA QUINTA AND INDIO. THE SOUTH SIDE OF AVENUE 50 WIDENING FROM 1 TO 2 LANES.	2018	\$1,383
LOCAL HIGHWAY	LA QUINTA	3A07102	0	AVE 58	JEFFERSON ST	MADISON ST	WIDEN SOUTH SIDE FROM 1 TO 2 LANES	2020	\$3,442

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	LA QUINTA	3A07106	0	AVE 58	MADISON ST	MONROE ST	WIDEN SOUTH SIDE FROM 1 TO 2 LANES IN AREAS WITH MISSING SECTIONS.	2020	\$690
LOCAL HIGHWAY	LAKE ELSINORE	3A01WT044	0	MISSION TR	RAILROAD CANYON RD	CORYDON ST	WIDEN FROM 4 TO 6 LANES	2025	\$7,716
LOCAL HIGHWAY	LAKE ELSINORE	3A01WT045	0	SR-74 (GRAND AVE)	RIVERSIDE DR (SR-74)	ORTEGA HWY (SR-74)	WIDEN FROM 2 TO 6 LANES	2035	\$16,036
LOCAL HIGHWAY	LAKE ELSINORE	3A04A11	0	NICHOLS RD	COLLIER AVE	EL TORO RD	WIDEN FROM 2 TO 6 LANES	2035	\$12,363
LOCAL HIGHWAY	LAKE ELSINORE	3A04A13	0	AUTO CENTER DR (CASINO DR)	FRANKLIN ST	DIAMOND DR (RAILROAD CYN RD)	WIDEN BRIDGE OVER SAN JACINTO RIVER FROM 2 TO 4 LANES	2025	\$9,587
LOCAL HIGHWAY	LAKE ELSINORE	3A04A14	0	FRANKLIN ST	AVENUE 6	CANYON ESTATES DR	WIDEN STREET AND BRIDGE OVER I-15 FROM 2 TO 4 LANES	2035	\$1,782
LOCAL HIGHWAY	LAKE ELSINORE	3A04A15	0	MALAGA RD	MISSION TR	CASINO DR/ LAKEVIEW TERRACE	WIDEN FROM 2 TO 4 LANES	2030	\$12,088
LOCAL HIGHWAY	LAKE ELSINORE	3A04WT042	0	GRAND AVE	MACHADO ST	SR-74	WIDEN FROM 2 TO 4 LANES	2032	\$3,527
LOCAL HIGHWAY	LAKE ELSINORE	3A04WT043	0	LAKE ST	I-15	LINCOLN ST	WIDEN FROM 2 TO 6 LANES	2025	\$34,089
LOCAL HIGHWAY	LAKE ELSINORE	3A04WT046	0	SR-74 (RIVERSIDE DR)	LAKESHORE DR	GRAND AVE	WIDEN FROM 2 TO 6 LANES	2030	\$14,954
LOCAL HIGHWAY	LAKE ELSINORE	3A04WT198	0				IN LAKE ELSINORE - TEMESCAL CANYON RD BRIDGE REPLACEMENT/WIDENING: REPLACE TEMESCAL CANYON RD. 2 LANE BRIDGE WITH A 4 LANE BRIDGE OVER TEMESCAL WASH, 0.22 MI. W/O LAKE STREET (BRIDGE NO. 56C0050).	2020	\$19,452
LOCAL HIGHWAY	MENIFEE	3A01WT152	0	ETHANAC RD	SHERMAN RD	MATTHEWS RD	WIDEN FROM 2 TO 4 LANES INCL. GRADE SEPARATION OVER BNSF RR (GRADE SEP PORTION IS NOT PART OF GRADE SEP LIST AND SHOULD REMAIN HERE)	2027	\$62,922
LOCAL HIGHWAY	MENIFEE	3A01WT166	0	MCCALL BLVD	I-215	ASPEL RD	WIDEN FROM 4 TO 6 LANES	2027	\$5,330
LOCAL HIGHWAY	MENIFEE	3A01WT167	0	MCCALL BLVD	ASPEL RD	MENIFEE RD	WIDEN FROM 2 TO 4 LANES	2027	\$4,276

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	MENIFEE	3A01WT170	0	MENIFEE RD	RAMONA EXPWY	SR-74 (PINACATE RD)	WIDEN FROM 2 TO 4 LANES	2027	\$28,593
LOCAL HIGHWAY	MENIFEE	3A01WT171	0	MENIFEE RD	SR-74 (PINACATE RD)	SIMPSON RD	WIDEN FROM 2 TO 4 LANES INCL. GRADE SEPARATION OVER RR (GRADE SEP PORTION IS NOT PART OF GRADE SEP LIST AND SHOULD REMAIN HERE)	2027	\$57,290
LOCAL HIGHWAY	MENIFEE	3A01WT172	0	MENIFEE RD	SIMPSON RD	ALDERGATE DR	CONSTRUCT 4 LANE ARTERIAL	2027	\$8,875
LOCAL HIGHWAY	MENIFEE	3A01WT176	0	NEWPORT RD	GOETZ RD	MURRIETA RD	CONSTRUCT 6 LANE ARTERIAL	2027	\$23,732
LOCAL HIGHWAY	MENIFEE	3A01WT207	0	SCOTT RD	MURRIETA RD	I-215	WIDEN FROM 2 TO 4 LANES	2022	\$7,618
LOCAL HIGHWAY	MENIFEE	3A04A31	0	GARBANI RD	I-215	MENIFEE RD	RECONSTRUCT AND WIDEN FROM 2 TO 4 LANES	2030	\$3,617
LOCAL HIGHWAY	MENIFEE	3A04A32	0	GARBANI RD	BRADLEY RD	I-215	CONSTRUCT 4-LANE ARTERIAL	2030	\$4,110
LOCAL HIGHWAY	MENIFEE	3A04WT079	0	MENIFEE RD	HOLLAND RD	GARBANI RD	CONSTRUCT 4 LANE ARTERIAL	2022	\$8,493
LOCAL HIGHWAY	MENIFEE	3A04WT080	0	MENIFEE RD	GARBANI RD	SCOTT RD	WIDEN FROM 2 TO 4 LANES	2022	\$3,696
LOCAL HIGHWAY	MENIFEE	3A04WT155	0	GOETZ RD	NORMANDY RD	JUANITA DR	WIDEN FROM 2 TO 4 LANES	2027	\$2,925
LOCAL HIGHWAY	MENIFEE	3A04WT156	0	GOETZ RD	JUANITA DR	LESSER LN	WIDEN FROM 2 TO 4 LANES	2027	\$10,987
LOCAL HIGHWAY	MENIFEE	3A04WT175	0	MURRIETA RD	ETHANAC RD	MCCALL BLVD	WIDEN FROM 2 TO 4 LANES	2027	\$8,659
LOCAL HIGHWAY	MENIFEE	3A04WT177	0	NEWPORT RD	MURRIETA RD	I-215	WIDEN FROM 4 TO 6 LANES	2027	\$33,553
LOCAL HIGHWAY	MENIFEE	3A04WT178	0	NEWPORT RD	I-215	MENIFEE RD	WIDEN FROM 4 TO 6 LANES	2027	\$4,511
LOCAL HIGHWAY	MENIFEE	RIV010205B	0	SCOTT RD	I-215	EL CENTRO	WIDEN SCOTT RD FROM 4 TO 6 LANES BETWEEN I-215 AND EL CENTRO	2025	\$11,674
LOCAL HIGHWAY	MORENO VALLEY	3160035	0	CACTUS AVE	NASON ST	REDLANDS BLVD	WIDEN FROM 2 TO 4 LANES	2022	\$7,449

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	MORENO VALLEY	3160036	0	INDIAN ST BRIDGE OVER CHANNEL LATERAL A	SUPERIOR AVE	SAN MICHELE RD	CONSTRUCT BRIDGE TO CLOSE ROADWAY GAP AND PROVIDE MINIMUM 2 LANES (1 LANE IN EACH DIRECTION) BETWEEN SUPERIOR AVE AND SAN MICHELE RD	2018	\$2,880
LOCAL HIGHWAY	MORENO VALLEY	3160037	0	HEACOCK ST	HEACOCK BRIDGE LATERAL A	CACTUS AVE	WIDEN FROM 2 TO 4 LANES	2020	\$7,500
LOCAL HIGHWAY	MORENO VALLEY	3A01WTO49A	0	ALESSANDRO BLVD	OLD 215	FREDERICK BL	IN THE CITY OF MORENO VALLEY - WIDEN ALESSANDRO BLVD BETWEEN I-215 AND FREDERICK ST FROM 4 TO 6 LANES.	2018	\$12,401
LOCAL HIGHWAY	MORENO VALLEY	3A01WTO49B	0	ALESSANDRO BLVD	FREDERICK ST	PERRIS BLVD	WIDEN FROM 4 TO 6 LANES	2022	\$5,300
LOCAL HIGHWAY	MORENO VALLEY	3A01WTO50C	0	ALESSANDRO BLVD	PERRIS BLVD	NASON ST	WIDEN ALESSANDRO BLVD FROM PERRIS BLVD TO NASON ST FROM 2 TO 6 LANES	2022	\$13,000
LOCAL HIGHWAY	MORENO VALLEY	3A01WTO51	0	ALESSANDRO BLVD	NASON ST	GILMAN SPRINGS RD	IN THE CITY OF MORENO VALLEY - WIDEN ALESSANDRO BLVD BETWEEN NASON ST AND GILMAN SPRINGS RD FROM 2 TO 4 LANES; REALIGN ALESSANDRO BLVD WITHIN PROJECT LIMITS BETWEEN THEODORE ST AND GILMAN SPRINGS RD. IMPROVEMENTS INCLUDE MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION, LEFT TURN POCKETS, DEDICATED RIGHT TURN, DRAINAGE, LANDSCAPING, SIDEWALKS, BIKE LANES, AND TRAILS.	2018	\$62,000
LOCAL HIGHWAY	MORENO VALLEY	3A01WTO53	0	GILMAN SPRINGS RD	SR-60	ALESSANDRO BLVD	IN THE CITY OF MORENO VALLEY - WIDEN GILMAN SPRINGS RD BETWEEN SR-60 AND ALESSANDRO BLVD FROM 2 TO 6 LANES. IMPROVEMENTS INCLUDE MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION, LEFT TURN POCKETS, DEDICATED RIGHT TURN, DRAINAGE, ACCESS ROADS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	2018	\$41,500
LOCAL HIGHWAY	MORENO VALLEY	3A01WTO57B	0	LASSELLE ST	EUCALYPTUS	ALESSANDRO	WIDEN FROM 2 TO 4 LANES	2022	\$2,300
LOCAL HIGHWAY	MORENO VALLEY	3A01WTO62	0	PERRIS BLVD	RECHE VISTA DR	MANZANITA AVE	WIDEN FROM 2 TO 4 LANES	2022	\$3,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	MORENO VALLEY	3A01WT153	0	GILMAN SPRINGS RD	ALESSANDRO BLVD	BRIDGE ST	IN THE CITY OF MORENO VALLEY - WIDEN GILMAN SPRINGS RD BETWEEN ALESSANDRO BLVD AND BRIDGE ST FROM 2 TO 6 LANES. IMPROVEMENTS INCLUDE MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION, LEFT TURN POCKETS, DEDICATED RIGHT TURN, DRAINAGE, ACCESS ROADS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	2018	\$51,000
LOCAL HIGHWAY	MORENO VALLEY	3A04WT052	0	EUCALYPTUS AVE	I-215	TOWNGATE BLV	WIDEN FROM 4 TO 6 LANES	2022	\$3,848
LOCAL HIGHWAY	MORENO VALLEY	3A04WT054	0	HEACOCK ST	CACTUS AVE	SAN MICHELE RD	IN THE CITY OF MORENO VALLEY - WIDEN HEACOCK ST BETWEEN CACTUS AVE AND SAN MICHELE RD FROM 2 TO 4 LANES INCLUDING CURB, GUTTER, SIDEWALK, AND SIGNAL.	2016	\$10,800
LOCAL HIGHWAY	MORENO VALLEY	3A04WT055	0	INDIAN ST	SAN MICHELE RD	HARLEY KNOX RD	WIDEN FROM 2 TO 4 LANES	2022	\$4,134
LOCAL HIGHWAY	MORENO VALLEY	3A04WT056B	0	BOX SPRINGS RD	500' WEST OF CLARK ST	DAY ST	IN THE CITY OF MORENO VALLEY - WIDEN BOX SPRINGS RD BETWEEN 500' WEST OF CLARK ST AND DAY ST FROM 2 TO 4 LANES. INCLUDES UTILITY RELOCATION, GRADING, DRAINAGE, CURB, GUTTER, RETAINING WALLS, SIGNAGE, AND STRIPING.	2019	\$3,178
LOCAL HIGHWAY	MORENO VALLEY	3A04WT056F	0	IRONWOOD AVE	PERRIS BLVD	VISTA DE CERROS DR.	IN THE CITY OF MORENO VALLEY - WIDEN IRONWOOD AVE BETWEEN PERRIS BLVD AND VISTA DE CERROS DR. FROM 2 TO 5 LANES (2 LANES IN EACH DIRECTION AND 1 CENTER TURNING LANE) . ADDITIONAL IMPROVEMENTS INCLUDE SIGNAL MODIFICATIONS, LIGHTING, DRAINAGE, CURB, GUTTER, STRIPING, AND SIDEWALK.	2019	\$13,397
LOCAL HIGHWAY	MORENO VALLEY	3A04WT056G	0	IRONWOOD AVE	NASON ST	REDLANDS BLVD	WIDEN FROM 2 TO 4 LANES	2022	\$8,063
LOCAL HIGHWAY	MORENO VALLEY	3A04WT064	0	PIGEON PASS RD	CANTARINI	N HIDDEN SPRINGS	WIDEN FROM 2 TO 4 LANES	2022	\$6,000
LOCAL HIGHWAY	MORENO VALLEY	3A04WT065	0	RECHE CANYON RD	RECHE VISTA DR	MORENO BEACH DR	WIDEN FROM 2 TO 4 LANES	2022	\$25,000
LOCAL HIGHWAY	MORENO VALLEY	3A04WT068	0	SAN MICHELE RD	HEACOCK ST	INDIAN AVE	WIDEN FROM 2 TO 4 LANES	2022	\$1,900

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	MORENO VALLEY	3A07105	0	MORENO BEACH DR	RECHE CANYON RD	SR-60	WIDEN FROM 2 TO 4 LANES	2022	\$6,000
LOCAL HIGHWAY	MORENO VALLEY	3A07140	0	PERRIS BLVD	IRONWOOD AVE	SUNNYMEAD BLD	WIDEN FROM 4 TO 6 LANES	2022	\$1,930
LOCAL HIGHWAY	MORENO VALLEY	3A07148	0	REDLANDS BLVD	IRONWOOD AVE	KALMIA AVE	WIDEN 2 TO 4 LANES / STREET IMPROVEMENT	2022	\$684
LOCAL HIGHWAY	MORENO VALLEY	3A07154	0	NASON ST	ELDER AVE	IRONWOOD AVE	WIDEN 2 TO 4 LANES / STREET IMPROVEMENT	2022	\$1,000
LOCAL HIGHWAY	MORENO VALLEY	3A07155	0	MORENO BEACH DR	CACTUS AVE	AUTO MALL DR	IN THE CITY OF MORENO VALLEY - WIDEN MORENO BEACH DR BETWEEN CACTUS AVE AND AUTO MALL DR FROM 2 TO 6 LANES. INCLUDES SIGNALS AT COTTONWOOD AVE, ALESSANDRO BLVD, AND CACTUS AVE.	2018	\$23,000
LOCAL HIGHWAY	MORENO VALLEY	3A07156	0	REDLANDS BLVD	SR-60	CACTUS AVE	IN THE CITY OF MORENO VALLEY - WIDEN REDLANDS BLVD BETWEEN SR-60 AND CACTUS AVE FROM 2 TO 4 LANES. IMPROVEMENTS INCLUDE MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION, LEFT TURN POCKETS, DEDICATED RIGHT TURN, DRAINAGE, LANDSCAPING, SIDEWALKS, BIKE LANES, AND TRAILS.	2017	\$18,300
LOCAL HIGHWAY	MORENO VALLEY	3A07159	0	REDLANDS BLVD	KALMIA AVE	LOCUST AVE	WIDEN 2 TO 4 LANES / STREET IMPROVEMENT	2022	\$372
LOCAL HIGHWAY	MORENO VALLEY	3A07160	0	HEACOCK ST-SI	EUCALYPTUS	FIR	STREET IMPROVEMENT / WIDENING 2 TO 4 LANES GAPS	2022	\$1,800
LOCAL HIGHWAY	MORENO VALLEY	3A07161	0	REDLANDS BLVD	SPRUCE AVE	IRONWOOD AVE	WIDEN 2 TO 4 LANES / STREET IMPROVEMENT	2022	\$2,000
LOCAL HIGHWAY	MORENO VALLEY	3A07168	0	HEACOCK ST-SI	DRACAEA	EUCALYPTUS	STREET IMPROVEMENT / WIDENING 2 TO 4 LANES GAPS	2022	\$105
LOCAL HIGHWAY	MORENO VALLEY	3A07169	0	HEACOCK ST-SI	IRONWOOD AVE	MANZANITA AVE	STREET IMPROVEMENT / WIDENING 2 TO 4 LANES GAPS	2022	\$57
LOCAL HIGHWAY	MORENO VALLEY	3A07170	0	PERRIS BLVD	DRACAEA	FIR	WIDEN FROM 4 TO 6 LANES / STREET IMPROVEMENT	2023	\$36

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	MORENO VALLEY	3A0801	0	HEACOCK ST	SAN MICHELE RD	OLEANDER AVE (IN PERRIS)	IN THE CITY OF MORENO VALLEY - WIDEN HEACOCK ST BETWEEN SAN MICHELE RD AND HARLEY KNOX RD (PERRIS CITY LIMITS), FROM 2 TO 4 LANES; REALIGN HEACOCK ST WITHIN PROJECT LIMITS BETWEEN NANDINA AND OLEANDER; REPLACE BRIDGE OVER PVSD LATERAL B.	2016	\$6,100
LOCAL HIGHWAY	MORENO VALLEY	3A0805-RIV090911	0	KITCHING ST	GENTIAN AVE	ALESSANDRO BLVD	IN MORENO VALLEY, WIDEN KITCHING ST FROM 2 TO 4 LANES FROM GENTIAN AVE TO CACTUS AVE, INCLUDING SIDEWALK INSTALLATION WITHIN PROJECT LIMITS.	2014	\$4,555
LOCAL HIGHWAY	MORENO VALLEY	3A0806	0	THEODORE ST	WB SR-60 RAMPS	IRONWOOD AVE	IN MORENO VALLEY, WIDEN THEODORE ST FROM 2 TO 4 LANES FROM SR-60 WB RAMPS TO IRONWOOD AVE, INCLUDING TRAFFIC SIGNALS, CHANNELIZATION IMPROVEMENTS, LEFT-TURN POCKETS, DEDICATED RIGHT-TURN LANES, DRAINAGE IMPROVEMENTS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	2017	\$4,791
LOCAL HIGHWAY	MORENO VALLEY	3A0807	0	THEODORE ST	EUCALYPTUS AVE	EB SR-60 RAMPS	IN MORENO VALLEY, WIDEN THEODORE ST FROM 2 TO 4 LANES + 2 AUX LANES FROM EUCALYPTUS AVE TO SR-60 EB RAMPS, INCLUDING MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION IMPROVEMENTS, LEFT-TURN POCKETS, DEDICATED RIGHT-TURN LANES, DRAINAGE IMPROVEMENTS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	2017	\$4,791
LOCAL HIGHWAY	MORENO VALLEY	3A0808	0	THEODORE ST	ALESSANDRO BLVD	EUCALYPTUS AVE	IN MORENO VALLEY, WIDEN THEODORE ST FROM 2 TO 4 LANES FROM SR-60 WB RAMPS TO IRONWOOD AVE, INCLUDING TRAFFIC SIGNALS, CHANNELIZATION IMPROVEMENTS, LEFT-TURN POCKETS, DEDICATED RIGHT-TURN LANES, DRAINAGE IMPROVEMENTS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	2017	\$15,456

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	MORENO VALLEY	3A10WT02	0	EUCALYPTUS AVE.	REDLANDS BLVD.	THEODORE ST.	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF MORENO VALLEY - EUCALYPTUS AVE. EXTENSION: CONSTRUCTION OF 3 THROUGH LANES (2 LANES WB & 1 LANE EB) BETWEEN REDLANDS BLVD. AND THEODORE STREET, INCLUDING THE INSTALLATION OF MEDIANS, LEFT TURN POCKETS, DEDICATED RIGHT TURN LANES, DRAINAGE IMPROVEMENTS, LANDSCAPING, SIDEWALKS, AND A CLASS I BIKE PATH.	2015	\$7,266
LOCAL HIGHWAY	MORENO VALLEY	RIV011210	0				IN MORENO VALLEY/COUNTY - REALIGN RECHE VISTA DR (PERRIS BLVD TO NORTH CITY LIMITS - APPROX 2,450') & INSTALL SIGNAL (PERRIS / HEACOCK/RECHE VISTA DR)	2015	\$4,600
LOCAL HIGHWAY	MORENO VALLEY	RIV071240- RIV071240	0	CACTUS AVE.	VETERANS WAY	HEACOCK AVE.	IN THE CITY OF MORENO VALLEY - EAST BOUND CACTUS AVE WIDENING BETWEEN VETERANS WAY & HEACOCK: WIDENING OF EAST BOUND CACTUS AVE FROM 2 TO 3 LANES, INCLUDING TRAFFIC SIGNAL MODIFICATIONS WITHIN THE PROJECT REACH, CHANNELIZATION, AND SIGNAL INTERCONNECT SYSTEM (6 SIGNALS).	2015	\$3,241
LOCAL HIGHWAY	MORENO VALLEY	RIV111201	0	NASON ST.	FIR AVE.	ALESSANDRO BLVD.	IN MORENO VALLEY - NASON ST WIDENING: NASON ST WIDENING FROM FIR AVE TO ALESSANDRO BLVD. THE PROJECT WILL WIDEN NASON ST FROM 2 TO 4 THROUGH LANES, INCLUDING CURB AND GUTTER, SIDEWALKS, MEDIANS, SIGNAL MODIFICATIONS AND UTILITY WORK.	2017	\$11,200
LOCAL HIGHWAY	MURRIETA	3120005	0	ELM STREET	ADAMS AVENUE	JACKSON AVENUE	WIDEN FROM 2 TO 4 LANES WITH I-15 OVERCROSSING	2030	\$31,155
LOCAL HIGHWAY	MURRIETA	3120006	0	IVY STREET	JEFFERSON AVENUE	WASHINGTON AVENUE	WIDEN FROM 2 TO 4 LANES	2023	\$2,001
LOCAL HIGHWAY	MURRIETA	3120007	0	ANTELOPE ROAD	CLINTON KEITH ROAD	SCOTT ROAD	CONSTRUCT - REALIGN ANTELOPE RD FROM CLINTON KEITH RD. TO SCOTT ROAD - 4 THROUGH LANES, 2 LANE IN EACH DIRECTION.	2030	\$24,924
LOCAL HIGHWAY	MURRIETA	3120008	0	GUAVA AVENUE	WASHINGTON AVENUE	MONROE AVENUE	WIDEN FROM 2 TO 4 LANES	2030	\$12,462

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	MURRIETA	3120010	0	MADISON AVE.	MURRIETA HOT SPRINGS RD.	DATE ST.	WIDEN FROM 2 TO 4 LANES	2030	\$18,693
LOCAL HIGHWAY	MURRIETA	3120012	0	WHITEWOOD RD.	JACKSON ST.	MURRIETA HOT SPRINGS RD. AND WHITEWOOD RD.	IN MURRIETA – WHITEWOOD RD EXTENSION: EXT. OF WHITEWOOD RD FROM JACKSON AVE NO. TO THE INTERSECTION OF MURRIETA HOT SPRINGS RD & WHITEWOOD RD (PA&ED). THE PRECISE LOCATION OF WHITEWOOD RD WILL BE DETERMINED BY AN ALIGNMENT STUDY. THE RD WILL BE IMPROVED TO A 4-LN CROSS-SECTION W/RAISED OR PAINTED MEDIAN (MAJOR ST. DESIGNATION), PROVIDING BETTER TRAFFIC CIRCULATION BTWN TEMECULA & MURRIETA.	2015	\$5,000
LOCAL HIGHWAY	MURRIETA	3120013	0	LOS ALAMOS RD. - NORTH SIDE	HANCOCK AVE.	WHITEWOOD AVE.	WIDENING FROM 4 TO 6 LANES.	2035	\$2,916
LOCAL HIGHWAY	MURRIETA	3120014	0	MONROE AVE.	MURRIETA HOT SPRINGS RD.	LOS ALAMOS AVE.	CONSTRUCT A 4 LANE FACILITY - MONROE AVE. FROM MURRIETA HOT SPRINGS RD. TO LOS ALAMOS RD.	2023	\$15,000
LOCAL HIGHWAY	MURRIETA	3A01WT072	0	CLINTON KEITH RD	COPPERCRAFT	TOULON DR	WIDEN FROM 4 TO 6 LANES	2030	\$2,050
LOCAL HIGHWAY	MURRIETA	3A01WT075	0	JEFFERSON AVE	NUTMEG ST	PALOMAR ST	CONSTRUCT 6 LANE ARTERIAL	2035	\$7,611
LOCAL HIGHWAY	MURRIETA	3A01WT076	0	JEFFERSON AVE	NUTMEG ST	MURRIETA HOT SPRINGS RD	WIDEN FROM 4 TO 6 LANES	2035	\$13,930
LOCAL HIGHWAY	MURRIETA	3A01WT083	0	CLINTON KEITH RD	TOULON DR	I-215	WIDEN FROM 4 TO 6 LANES	2030	\$44,241
LOCAL HIGHWAY	MURRIETA	3A01WT174	0	MURRIETA HOT SPRINGS RD	MARGARITA RD	SR-79 (WINCHESTER)	WIDEN FROM 4 TO 6 LANES	2020	\$4,500
LOCAL HIGHWAY	MURRIETA	3A04WT078	0	WHITEWOOD RD.	KELLER RD	CLINTON KEITH RD	CONSTRUCT 4 LANE ARTERIAL	2020	\$8,342
LOCAL HIGHWAY	MURRIETA	RIV031204	0	GUAVA ST. BRIDGE OVER MURRIETA CREEK	WASHINGTON AVE.	ADAMS AVE.	IN MURRIETA - CONSTRUCT NEW 2 LANE GUAVA ST. BRIDGE (400') OVER MURRIETA CREEK FROM WASHINGTON AVE TO ADAMS AVE W/ SHOULDERS & ALL REQUIRED APPROACHES (BR#: 56C0162) (\$27,528 TOLL CREDITS UTILIZED FOR R/W IN FY 2010/2011).	2020	\$7,575

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	MURRIETA	RIV11131	0	KELLER RD.	WHITEWOOD R.	SR79 (WINCHESTER RD)	IN MURRIETA - KELLER RD. EXTENSION: EXTENSION OF KELLER RD. FROM WHITEWOOD RD (EAST) TO SR79 (WINCHESTER RD). THE PROJECT EXTENSION WILL INCLUDE 4 LANES (2 LNS IN E DIR), A LEFT TURN LANE, BIKE LANES, AND INSTALLATION OF CURB, GUTTER AND SIDEWALK	2020	\$34,000
LOCAL HIGHWAY	NORCO	3A04WT086	0	1ST ST	PARKRIDGE AVE	HAMNER AVE	WIDEN FROM 2 TO 4 LANES	2022	\$2,020
LOCAL HIGHWAY	NORCO	3A04WT087	0	2ND ST	RIVER RD	HAMNER AVE	WIDEN FROM 2 TO 4 LANES	2020	\$5,449
LOCAL HIGHWAY	NORCO	3A04WT088	0	CORYDON AVE	RIVER RD	NORCO DR	WIDEN FROM 2 TO 4 LANES	2030	\$9,227
LOCAL HIGHWAY	NORCO	3A04WT089	0	HAMNER	COTA STREET	HAMNER AVE	WIDEN FROM 4 TO 6 LANES	2023	\$1,433
LOCAL HIGHWAY	NORCO	3A04WT090	0	HILLSIDE AVE	1ST ST	HIDDEN VALLEY PKWY	CONSTRUCT 2 LANE ARTERIAL	2027	\$2,343
LOCAL HIGHWAY	NORCO	3A04WT091	0	NORCO DR	CORYDON AVE	HAMNER AVE	WIDEN FROM 2 TO 4 LANES	2024	\$6,055
LOCAL HIGHWAY	PALM DESERT	3A01CV030	0	COUNTRY CLUB DRIVE	ELDORADO DR	OASIS CLUB DRIVE	WIDEN FROM 4 TO 6 LANES	2025	\$4,678
LOCAL HIGHWAY	PALM DESERT	3A01CV031	0	COUNTRY CLUB DRIVE	OASIS CLUB DRIVE	WASHINGTON STREET	WIDEN FROM 4 TO 6 LANES	2030	\$5,146
LOCAL HIGHWAY	PALM DESERT	3A01CV033	0	COUNTRY CLUB DRIVE	PORTOLA AVENUE	COOK STREET	WIDEN FROM 4 TO 6 LANES	2025	\$4,465
LOCAL HIGHWAY	PALM DESERT	3A01CV040A	0	FRANK SINATRA DR	ELDORADO DR	TAMARISK ROW DR	WIDEN FROM 4 TO 6 LANES	2025	\$1,787
LOCAL HIGHWAY	PALM DESERT	3A01CV040B	0	FRANK SINATRA DR	COOK ST	ELDORADO DR	WIDEN FROM 4 TO 6 LANES	2025	\$7,485
LOCAL HIGHWAY	PALM DESERT	3A07122	0	PORTOLA AVENUE	1,500' N/O FRANK SINATRA DRIVE	2,000' S/O GERALD FORD DRIVE	WIDEN FROM 4 TO 6 LANES	2025	\$4,464
LOCAL HIGHWAY	PALM DESERT	3A07123	0	COUNTRY CLUB DRIVE	COOK STREET	ELDORADO DR	WIDEN FROM 4 TO 6 LANES	2027	\$4,225

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	PALM DESERT	3A07136	0	COOK STREET	FRANK SINATRA	COUNTRY CLUB DR.	WIDEN FROM 4 TO 6 LANES	2021	\$10,859
LOCAL HIGHWAY	PALM DESERT	3A07200	0	COUNTRY CLUB DR	MONTEREY AVE	PORTOLA AVE	WIDEN FROM 4 TO 6 LANES	2025	\$10,382
LOCAL HIGHWAY	PALM DESERT	3A07298	0	PORTOLA AVE	MAGNESIA FALLS DR	COUNTRY CLUB DR	WIDEN FROM 4 TO 6 LANES	2025	\$12,476
LOCAL HIGHWAY	PALM DESERT	3A07299	0	COOK ST	BR. AT WHITEWATER CHNL		WIDEN FROM 4 TO 6 LANES	2021	\$13,765
LOCAL HIGHWAY	PALM DESERT	3A07301	0	COOK ST	COUNTRY CLUB	WHITEWATER BRG.	WIDEN FROM 4 TO 6 LANES	2021	\$10,650
LOCAL HIGHWAY	PALM DESERT	3A07304	0	FRANK SINATRA DR	MONTEREY AVE	PORTOLA AVE	WIDEN FROM 4 TO 6 LANES	2025	\$9,419
LOCAL HIGHWAY	PALM DESERT	3A07305	0	PORTOLA AVE	COUNTRY CLUB DR	2070' S/O FRANK SINATRA DR	WIDEN FROM 4 TO 6 LANES	2025	\$8,452
LOCAL HIGHWAY	PALM DESERT	3A07306	0	FRANK SINATRA DR	PORTOLA AVE	COOK ST	WIDEN FROM 4 TO 6 LANES	2025	\$6,914
LOCAL HIGHWAY	PALM DESERT	3A07311	0	COOK ST	WHITEWATER BR.	FRED WARING DR	WIDEN FROM 4 TO 6 LANES	2021	\$3,292
LOCAL HIGHWAY	PALM DESERT	3A07312	0	GERALD FORD DR	COOK ST	FRANK SINATRA DR	WIDEN FROM 3 TO 4 LANES	2027	\$1,828
LOCAL HIGHWAY	PALM DESERT	3A07314	0	PORTOLA AVE	HWY 111	MAGNESIA FALLS DR	WIDEN FROM 4 TO 6 LANES	2025	\$1,233
LOCAL HIGHWAY	PALM SPRINGS	3A04A21	0	SALVIA RD.	GARNETT HILL	GENE AUTRY TR.	CONSTRUCT 4 LANE ARTERIAL CONNECTOR	2031	\$12,345
LOCAL HIGHWAY	PALM SPRINGS	3A04A22	0	SUNRISE PARKWAY	SUNRISE WAY NORTH OF SAN RAFAEL DR	N. INDIAN CANYON DR.	CONSTRUCT/EXTEND 4 LANE ARTERIAL CONNECTOR	2025	\$13,529
LOCAL HIGHWAY	PALM SPRINGS	3A07002	0	N. INDIAN CANYON DR.	N. BANK OF WHITEWATER RIVER	S. BANK OF WHITEWATER RIVER	NEW BRIDGE TO REPLACE EXISTING LOW WATER CROSSING AT WHITEWATER RIVER.	2031	\$166,218

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	PALMSPRINGS	3A07004	0	GENEAUTRY TRAIL	N. BANK OF WHITEWATER RIVER	S. BANK OF WHITEWATER RIVER	NEW BRIDGE TO REPLACE EXISTING LOW WATER CROSSING AT WHITEWATER RIVER.	2020	\$111,500
LOCAL HIGHWAY	PALMSPRINGS	3A07005	0	RAMON RD	S. INDIAN CYN	SUNRISE WAY (INCL BARISTO STORM CHNL XING)	WIDEN FROM 4 TO 6 LANES	2031	\$169,482
LOCAL HIGHWAY	PALMSPRINGS	3A07009	0	CROSSLEY RD / GOLF CLUB DR	N. BANK OF WASH	S. BANK OF WASH	NEW BRIDGE OVER PALM CANYON WASH.	2025	\$53,950
LOCAL HIGHWAY	PALMSPRINGS	3A07026	0	DILLON RD	SR-62	INDIAN AVE	WIDEN FROM 2 TO 4 LANES	2025	\$15,819
LOCAL HIGHWAY	PALMSPRINGS	3A07054	0	INDIAN AVE	19TH AVE	300 FT. SOUTH OF 18TH AVE.	WIDEN FROM 2 TO 4 LANES	2025	\$8,807
LOCAL HIGHWAY	PALMSPRINGS	3A07095	0	CROSSLEY RD	DINAH SHORE DR.	FAIRWAY CR	WIDEN FROM 2 TO 4 LANES	2025	\$3,364
LOCAL HIGHWAY	PALMSPRINGS	3A07100-RIV/110124	0				IN THE COACHELLA VALLEY IN THE CITY OF PALM SPRINGS - RAMON RD. WIDENING BETWEEN SAN LUIS REY DR & LANDAU BLVD.; WIDENING OF RAMON RD. FROM A 4-LN ARTERIAL TO A 6-LN ARTERIAL (3- LNS IN EACH DIR) BETWEEN SAN LUIS REY DR & LANDAU BLVD., INCLUDING THE WIDENING/REPLACEMENT OF THE WHITEWATER RIVER BRIDGE (BRIDGE NO. 56C0287), INCLUDING SEISMIC RETROFIT AND SCOUR COUNTERMEASURES AS NECESSARY.	2020	\$35,401
LOCAL HIGHWAY	PALMSPRINGS	3A07112	0	CROSSLEY RD	SUNNY DUNES RD	DINAH SHORE DR.	WIDEN FROM 2 TO 4 LANES	2023	\$2,184
LOCAL HIGHWAY	PALMSPRINGS	3A07114	0	S. PALM CYN DR	TAHQUITZ CYN RD	RAMON RD	WIDEN FROM 3 TO 4 LANES	2025	\$3,863
LOCAL HIGHWAY	PALMSPRINGS	3A07118	0	N. PALM CYN DR	ALEJO RD	TAHQUITZ CYN RD	WIDEN FROM 3 TO 4 LANES	2025	\$3,686
LOCAL HIGHWAY	PALMSPRINGS	3A07126	0	SUNRISE PARKWAY	N. INDIAN CANYON DR	NORTH PALM CANYON DRIVE (SR 111)	CONSTRUCT/EXTEND 4 LANE ARTERIAL CONNECTOR	2031	\$20,318
LOCAL HIGHWAY	PALMSPRINGS	3A07145	0	RAMON RD	S. PALM CYN DR	S. INDIAN CYN DR	WIDEN FROM 4 TO 6 LANES	2021	\$1,201

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	PALMSPRINGS	RIV031205	0	RAMON RD.	EL CIELO RD.	SUNRISE WAY	IN THE CITY OF PALM SPRINGS - WIDEN RAMON RD FROM 4 TO 6 LNS (3 IN EA DIR), FROM EL CIELO RD TO SUNRISE WY, WITH INTERSECTION WIDENING AT EL CIELO RD (ADD WB RT TURN LANE), AT FARRELL DR (ADD SB LEFT TURN LANE), & AT SUNRISE WY (ADD SB LEFT, NB LEFT, AND WB LEFT).	2021	\$4,750
LOCAL HIGHWAY	PALMSPRINGS	RIV031206	0				ON S. PALM CANYON DR OVER ARENAS CANYON SOUTH DRAINAGE CHANNEL: REPLACE EXISTING 4 LANE LOW-WATER CROSSING WITH A NEW 4-LANE BRIDGE, INCLUDING DRAINAGE IMPROVEMENTS CONSISTING OF LEVEE CHANNELIZATION (HBRR #: 00L0027).	2020	\$4,875
LOCAL HIGHWAY	PALMSPRINGS	RIV990727	0	INDIAN CANYON DR.	UPRR OVERCROSSING	GARNET AVE.	IN PALM SPRINGS: WIDEN INDIAN CANYON DR FROM 2 TO 6 LANES (3 IN EACH DIRECTION), FROM UPRR OVERCROSSING TO GARNET AVE (HBRR#:56C0025).	2020	\$19,860
LOCAL HIGHWAY	PERRIS	3160038	0	ETHANAC RD	GOETZ RD	KEYSTONE DR	WIDEN FROM 2 TO 6 LANES, INCLUDING BRIDGE OVER SAN JACINTO STORM CHANNEL.	2020	\$10,500
LOCAL HIGHWAY	PERRIS	3160039	0	ETHANAC RD	GOETZ RD	I-215	WIDEN FROM 2 TO 4 LANES	2020	\$4,000
LOCAL HIGHWAY	PERRIS	3160040	0	NUEVO RD	PERRIS BLVD	DUNLAP DR	WIDEN FROM 4 TO 6 LANES	2030	\$6,854
LOCAL HIGHWAY	PERRIS	3160041	0	NUEVO RD	EVANS RD	WILSON AVE	WIDEN FROM 2 TO 4 LANES, INCLUDING BRIDGE OVER PERRIS VALLEY STORM DRAIN	2020	\$7,500
LOCAL HIGHWAY	PERRIS	3A01WT100	0	EVANS RD	NUEVO RD	I-215	CONSTRUCT 4 LANE ARTERIAL	2022	\$17,646
LOCAL HIGHWAY	PERRIS	3A01WT101	0	GOETZ RD	CASE RD	ETHANAC RD	WIDEN FROM 2 TO 4 LANES	2024	\$19,332
LOCAL HIGHWAY	PERRIS	3A01WT105	0	PERRIS BLVD	RAMONA EXPWY	NUEVO RD	WIDEN FROM 4 TO 6 LANES	2020	\$20,000
LOCAL HIGHWAY	PERRIS	3A01WT106	0	PERRIS BLVD	NUEVO RD	11TH ST	WIDEN FROM 2 TO 4 LANES	2020	\$25,682
LOCAL HIGHWAY	PERRIS	3A01WT107	0	PLACENTIA AVE	INDIAN AVE	MURRIETA RD	WIDEN FROM 2 TO 4 LANES	2025	\$37,555

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	PERRIS	3A01WT110B	0	RAMONA EXPWY	EVANS RD	RIDER ST	WIDEN FROM 4 TO 6 LANES	2020	\$13,483
LOCAL HIGHWAY	PERRIS	3A04A23	0	"A" STREET	NUEVO RD	4TH ST	WIDEN FROM 2 TO 4 LANES	2020	\$9,631
LOCAL HIGHWAY	PERRIS	3A04WT092	0	11TH ST/CASE RD	PERRIS BLVD	GOETZ RD	WIDEN FROM 2 TO 4 LANES	2020	\$2,568
LOCAL HIGHWAY	PERRIS	3A04WT093	0	ELLIS AVE	SR-74	I-215	CONSTRUCT 2 LANE ARTERIAL AND 2 LANE GRADE SEPARATION OVER BNSF RR (KEEP GRADE SEPARATION IN ARTERIAL SECTION)	2030	\$27,075
LOCAL HIGHWAY	PERRIS	3A04WT099	0	EVANS RD	ORANGE AVE	NUEVO RD	CONSTRUCT 4 LANE ARTERIAL	2017	\$7,000
LOCAL HIGHWAY	PERRIS	3A04WT102	0	GOETZ RD	LESSER LN	ETHANAC RD	WIDEN FROM 2 TO 4 LANES	2022	\$9,571
LOCAL HIGHWAY	PERRIS	3A07262	0	CASE RD	GOETZ RD	I-215	WIDEN FROM 2 TO 4 LANES, INCLUDING 2 BRIDGES OVER SAN JACINTO RIER AND INTERCHANGE AT I-215	2022	\$82,036
LOCAL HIGHWAY	PERRIS	3A07264	0	DUNLAP	ORANGE	ELLIS AVE	WIDEN FROM 2 TO 4 LANES	2022	\$5,469
LOCAL HIGHWAY	PERRIS	3A07265	0	INDIAN AVE	NORTH CITY LIMIT	ORANGE AVE	WIDEN FROM 2 TO 4 LANES	2020	\$11,193
LOCAL HIGHWAY	PERRIS	3A07266	0	MAPES AVE	GOETZ RD	WEST CITY LIMIT	CONSTRUCT 4 LANE ARTERIAL	2022	\$9,571
LOCAL HIGHWAY	PERRIS	3A07267	0	MCPHERSON RD	ETHANAC RD	MAPES AVE	CONSTRUCT 2 LANE ARTERIAL	2030	\$5,448
LOCAL HIGHWAY	PERRIS	3A07268	0	MARKHAM ST	WADE	REDLANDS AVE	WIDEN FROM 2 TO 4 LANES	2020	\$7,462
LOCAL HIGHWAY	PERRIS	3A07269	0	MORGAN ST	NEVADA	INDIAN AVE	WIDEN FROM 2 TO 4 LANES	2017	\$1,187
LOCAL HIGHWAY	PERRIS	3A07270	0	MORGAN ST	INDIAN AVE	BRADLEY RD	CONSTRUCT 4 LANE ARTERIAL	2030	\$26,360
LOCAL HIGHWAY	PERRIS	3A07271	0	MOUNTAIN AVE	MCPHERSON	A ST	WIDEN FROM 2 TO 4 LANES	2030	\$3,515
LOCAL HIGHWAY	PERRIS	3A07272	0	MURRIETA RD	CASE RD	ETHANAC RD	WIDEN FROM 2 TO 4 LANES	2020	\$8,989

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	PERRIS	3A07273	0	ORANGE AVE	INDIAN AVE	DUNLAP DR	WIDEN FROM 2 TO 4 LANES	2030	\$40,419
LOCAL HIGHWAY	PERRIS	3A07274	0	REDLANDS AVE	HARLEY KNOX BLVD.	PLACENTIA AVE	CONSTRUCT 4 LANE ARTERIAL	2020	\$19,262
LOCAL HIGHWAY	PERRIS	3A07275	0	REDLANDS AVE	PLACENTIA AVE	ELLIS AVE	WIDEN FROM 2 TO 4 LANES	2025	\$7,511
LOCAL HIGHWAY	PERRIS	3A07276	0	RIDER ST	NEVADA	EVANS RD	WIDEN FROM 2 TO 4 LANES	2030	\$26,360
LOCAL HIGHWAY	PERRIS	3A07277	0	SAN JACINTO AVE	WEST CITY LIMIT	NAVAJO	WIDEN FROM 2 TO 6 LANES	2030	\$5,834
LOCAL HIGHWAY	PERRIS	3A07278	0	SAN JACINTO AVE	NAVAJO	A ST	CONSTRUCT 4 LANE ARTERIAL	2030	\$5,834
LOCAL HIGHWAY	PERRIS	3A07279	0	SAN JACINTO AVE	A ST	REDLANDS AVE	WIDEN FROM 2 TO 4 LANES, INCLUDING BRIDGE OVER I-215.	2030	\$32,412
LOCAL HIGHWAY	PERRIS	3A07280	0	SAN JACINTO AVE	REDLANDS AVE	DUNLAP DR	WIDEN FROM 2 TO 6 LANES, INCLUDING BRIDGE OVER PERRIS VALLEY STORN DRAIN.	2030	\$19,447
LOCAL HIGHWAY	PERRIS	3A07282	0	WATSON	A ST	MCPHERSON RD	CONSTRUCT 4 LANE ARTERIAL	2030	\$14,059
LOCAL HIGHWAY	PERRIS	3A07283	0	WEBSTER AVE	HARLEY KNOX BLVD.	MARKHAM	CONSTRUCT 6 LANE ARTERIAL	2020	\$8,000
LOCAL HIGHWAY	PERRIS	3A07284	0	WEBSTER AVE	MARKHAM	RAMONA EXPWY	WIDEN FROM 2 TO 6 LANES	2020	\$4,000
LOCAL HIGHWAY	RANCHO MIRAGE	3A07024	0	FRANK SINATRA DR	WHITEWATER RIVER BRIDGE	AT FRANK SINATRA DRIVE	REPLACE A 4 LANE AT GRADE LOW-WATER CROSSING WITH A NEW 4 LANE BRIDGE	2018	\$43,433
LOCAL HIGHWAY	RANCHO MIRAGE	3A07067	0	MONTEREY AVE.	DINAH SHORE DR.	GERALD FORD DR.	IN COACHELLA VALLEY IN RANCHO MIRAGE - WIDENING OF SOUTH BOUND MONTEREY AVE. FROM 2 TO 3 LANES FROM DINAH SHORE DR TO GERALD FORD DR. (APPROX. 3,480 L.F.). OTHER IMPROVEMENTS INCLUDE INSTALLATION OF CURB AND GUTTER, DRAINAGE IMPROVEMENTS (RETENTION BASINS), SIGNING AND STRIPING, AND TRAFFIC SIGNAL MODIFICATION AT GINGER ROGERS RD.	2015	\$1,850

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	RANCHO MIRAGE	3A07128	0	MONTEREY AVE.	HOVLEY LN WEST	PARK VIEW DR.	IN EASTERN RIVERSIDE COUNTY IN THE COACHELLA VALLEY - MONTEREY AVE WIDENING FROM 4 TO 6 THROUGH LANES (ADDING A 3RD NB & SB THROUGH LANE) FROM HOVLEY LANE WEST TO PARK VIEW DR IN THE CITIES OF RANCHO MIRAGE AND PALM DESERT, INCLUDING ITS MODIFICATION, AND SIGNING AND STRIPING IMPROVEMENTS (RTPID 3A07116 & 3A07128).	2019	\$5,345
LOCAL HIGHWAY	RANCHO MIRAGE	3A07138	0	BOB HOPE DR	FRANK SINATRA DR	GERALD FORD DR	WIDEN FROM 4 TO 6 LANES	2017	\$6,319
LOCAL HIGHWAY	RANCHO MIRAGE	3A07149	0	FRANK SINATRA DR	INTERSECTION OF FRANK SINATRA DR. AND BOB HOPE DR.		INTERSECTION IMPROVEMENTS AT FRANK SINATRA DR. AND BOB HOPE DR.	2018	\$1,680
LOCAL HIGHWAY	RIVERSIDE COUNTY	RIV041043	0	RECHE VISTA DR			WIDEN RECHE VISTA DR 2 TO 4 LNS (HEACOCK ST/ PERRIS BLVD- RECHE CYN RD); WIDEN RECHE CYN RD 2 TO 4 LNS (RECHE VISTA-BARTON/HUNTS) PLUS REALIGN, SIGNALS, MEDIANS (PA&ED).	2030	\$5,440
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT123	0	ALESSANDRO BLVD	TRAUTWEIN RD	I-215	WIDEN FROM 4 TO 6 LANES	2030	\$9,830
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT128	0	BENTON RD	SR-79	EASTERN BYPASS	WIDEN FROM 2 TO 4 LANES	2030	\$11,480
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT136	0	BUTTERFIELD STAGE RD+ POURROY RD	MURRIETA HOT SPRINGS RD	SR-79 (WINCHESTER)	CONSTRUCT 4 LANE ARTERIAL	2030	\$65,351
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT151	0	ETHANAC RD	SR-74	KEYSTONE DR	CONSTRUCT 4 LANE ARTERIAL	2030	\$10,272
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT154	0	GILMAN SPRINGS RD	BRIDGE ST	SANDERSON AVE	WIDEN FROM 2 TO 4 LANES	2030	\$14,062
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT159	0				IN WESTERN RIVERSIDE COUNTY IN THE CITY OF NORCO - ON HAMNER AVE OVER SANTA ANA RIVER .5 MILES N/O OF SIXTH STREET, REPLACE 2 LANE BRIDGE WITH A 6 LANE BRIDGE (BRIDGE NO. 56C0446).	2030	\$56,339

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT173	0	MURRIETA HOT SPRINGS RD	POURROY RD	SR-79 (EASTERN BYPASS)	CONSTRUCT 4 LANE ARTERIAL	2030	\$15,673
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT182	0	RAMONA EXPWY	RIDER ST	PICO AVE	WIDEN FROM 4 TO 6 LANES	2035	\$5,661
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT183	0	RAMONA EXPWY	PICO AVE	BRIDGE ST	WIDEN FROM 2 TO 6 LANES	2035	\$80,945
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT185	0	SANDERSON AVE (SR-79)	GILLMAN SPRINGS RD (AT SR-79)	RAMONA EXPWY	WIDEN FROM 4 TO 6 LANES	2030	\$36,898
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT192	0	GILLMAN SPRINGS	SANDERSON AVE	STATE ST	WIDEN FROM 2 TO 4 LANES	2035	\$15,428
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT196	0	SR-79 (EASTERN BYPASS)	SR79 (WINCHESTER RD NEAR SCOTT RD)	I-15	CONSTRUCT 4 LANE ARTERIAL	2030	\$411,389
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT199	0	VAN BUREN BLVD	MOCKINGBIRD CANYON RD	WOOD RD	WIDEN FROM 4 TO 6 LANES	2019	\$14,709
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04CV027	0				IN EASTERN RIVERSIDE COUNTY IN THE COACHELLA VALLEY - ON AVE 56/AIRPORT DR, REPLACE 2 LANE BRIDGE WITH A 4 LANE BRIDGE OVER WHITEWATER RIVER .21 MILES E/O HWY 111 (BRIDGE NO.56C0020).	2023	\$15,755
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT129	0	BRIGGS RD	SR-74 (PINACATE RD)	SIMPSON RD	CONSTRUCT 4 LANE ARTERIAL	2035	\$27,937
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT130	0	BRIGGS RD	SIMPSON RD	NEWPORT RD	CONSTRUCT 4 LANE ARTERIAL	2035	\$32,649
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT131	0	BRIGGS RD	NEWPORT RD	SCOTT RD	WIDEN FROM 2 TO 4 LANES	2035	\$17,007
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT132	0	BRIGGS RD	SCOTT RD	SR-79 (WINCHESTER RD)	CONSTRUCT 4 LANE ARTERIAL	2035	\$36,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT137A-RV090903	0	CAJALCO RD.	TEMESCAL CANYON RD.	I-215	IN RIVERSIDE COUNTY ON CAJALCO RD – CAJALCO RD. WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON RD. TO HARVILL AVE AND FROM 4 TO 6 LANES FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND A BRIDGE RECONSTRUCTION OVER A WATER CROSSING (RTP IDS: 3A04WT137 AND 3A04WT138) (PA&ED ONLY) (\$803 IN FY 09/10 AND \$344.01 IN FY 16/17 OF TC USED FOR STPL MATCH IN PA&ED).	2025	\$173,185
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT139	0	PIGEON PASS RD. CORRIDOR	MT VERNON AVE	HIDDEN SPRINGS RD	IN WESTERN RIVERSIDE COUNTY IN THE UNINCORPORATED AREA OF THE COUNTY OF RIVERSIDE - PIGEON PASS RD CORRIDOR: CONSTRUCT A NEW 4-LANE PIGEON PASS RD CORRIDOR FACILITY BETWEEN MT. VERNON AVE. AND HIDDEN SPRINGS RD, INCLUDING SIGNALS AND MEDIANS (THIS IS AN AC CONVERSION PROJECT) (PA&ED ONLY).	2035	\$62,641
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT141	0	CENTER ST	MT VERNON AVE	RECHE CANYON RD	CONSTRUCT 4 LANE ARTERIAL	2035	\$29,395
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT144	0	CHERRY VALLEY BLVD	DESERT LAWN DR	NOBLE ST	WIDEN FROM 2 TO 4 LANES	2035	\$18,059
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT145	0	CHERRY VALLEY BLVD	NOBLE ST	HIGHLAND SPRINGS AVE	CONSTRUCT 4 LANE ARTERIAL	2035	\$19,772
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT146	0	CLINTON KEITH RD (PHASE III & IV)	MEADOWLARK LN	SR-79	WIDEN FROM 3 TO 6 LANES	2027	\$32,497
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT148	0	DOMENIGONI PKWY	SR-79 (WINCHESTER RD)	WARREN RD	WIDEN FROM 4 TO 6 LANES	2035	\$28,401
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT149	0	EL CERRITO RD	I-15	ONTARIO AVE	WIDEN FROM 2 TO 4 LANES	2030	\$2,633
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT150	0	ELLIS AVE	POST RD	SR-74	WIDEN FROM 2 TO 4 LANES	2035	\$14,717
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT160	0	HARLEY JOHN RD	WASHINGTON ST	CAJALCO RD	WIDEN FROM 2 TO 4 LANES	2030	\$6,072

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT161	0	HORSETHIEF CANYON RD	TEMESCAL CANYON RD	I-15	WIDEN FROM 2 TO 4 LANES	2030	\$5,932
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT165	0				IN WESTERN RIVERSIDE COUNTY IN THE CITY OF JURUPA VALLEY - MARKET STREET BRIDGE REPLACEMENT: REPLACE THE EXISTING TWO LANE (ONE LANE IN EACH DIRECTION) MARKET STREET BRIDGE OVER THE SANTA ANA RIVER, 0.4 MILES NORTHWEST OF SR60 WITH A FOUR LANE (TWO LANES IN EACH DIRECTION) BRIDGE. BRIDGE NO. 56C0024	2020	\$40,900
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT168	0	MCCALL BLVD	MENIFEE RD	SR-79 (WINCHESTER)	CONSTRUCT 2 LANE ARTERIAL INCL. GRADE SEPARATION OVER BNSF RR (GRADE SEP PORTION IS NOT PART OF GRADE SEP LIST AND SHOULD REMAIN HERE)	2035	\$16,629
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT169	0	MCCALL BLVD	SR-79 (WINCHESTER RD)	WARREN RD	CONSTRUCT 2 LANE ARTERIAL INCL. GRADE SEPARATION OVER BNSF RR - GRADE SEP PORTION IS NOT PART OF GRADE SEP LIST AND SHOULD REMAIN IN THE ARTERIAL SECTION.	2035	\$43,699
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT179	0	NUEVO RD	DUNLAP DR	MENIFEE RD	WIDEN FROM 2 TO 4 LANES	2030	\$13,824
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT184	0	RECHE CANYON RD	SAN BERNARDINO COLINE	RECHE VISTA DR	WIDEN FROM 2 TO 4 LANES	2030	\$28,003
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT197	0	TEMESCAL CANYON RD	EL CERRITO RD.	INDIAN TRUCK TRAIL	WIDEN FROM 2 TO 4 LANES	2030	\$36,416
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT198B	0	TEMESCAL CANYON RD	INDIAN TRUCK TRAIL	NEW TEMESCAL WASH, 0.22 MI. W/O LAKE ST.	WIDEN FROM 2 TO 4 LANES	2035	\$30,002
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT202	0	WASHINGTON ST	HERMOSA DR	HARLEY JOHN RD	WIDEN FROM 2 TO 4 LANES	2030	\$19,460
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT203	0	WOOD RD	KRAMERIA AVE	CAJALCO RD	WIDEN FROM 2 TO 4 LANES	2030	\$14,137
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07007	0	VAN BUREN BLVD	ORANGE TERRACE PKWY	OPPORTUNITY WAY	WIDEN FROM 4 TO 6 LANES	2025	\$3,983

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07172	0	AVE 48	VAN BUREN ST TO W	W OF HWY 86	WIDEN FROM 2 TO 6 LANES	2027	\$5,730
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07175	0	AVE 56 / AIRPORT BLVD	MONROE ST	JACKSON ST	WIDEN FROM 2 TO 4 LANES	2033	\$6,874
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07176	0	AVE 56 / AIRPORT BLVD	JACKSON ST	0.25 MILES W OF VAN BUREN ST	WIDEN FROM 2 TO 6 LANES	2031	\$4,385
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07177	0	AVE 56 / AIRPORT BLVD	HARRISON ST	TYLER ST	WIDEN FROM 2 TO 6 LANES	2029	\$7,410
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07178	0	AVE 56 / AIRPORT BLVD	TYLER ST	POLK ST	WIDEN FROM 2 TO 6 LANES	2026	\$5,503
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07179	0	AVE 56 / AIRPORT BLVD	POLK ST	PALM ST	WIDEN FROM 2 TO 6 LANES	2024	\$1,882
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07181	0	AVE 56 / AIRPORT BLVD (SOUTH SIDE)	0.25 MI. W OF VAN BUREN ST	HARRISON ST	WIDEN FROM 4 TO 6 LANES (SUBSEQUENT TO PH I WIDENING FROM 2 TO 4 LANES)	2033	\$10,332
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07182	0	AVE 56 / AIRPORT BLVD	SPRR TO E SIDE OF BR. AT COACHELLA VLLY STORM CHNL	SR86S	WIDEN FROM 2 TO 6 LANES	2027	\$17,694
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07184	0	AVE 58	MONROE ST	JACKSON ST	WIDEN FROM 2 TO 4 LANES	2032	\$6,190
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07185	0	AVE 58	JACKSON ST	VAN BUREN ST	WIDEN FROM 2 TO 4 LANES	2030	\$7,023
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07187	0	AVE 62	MONROE ST	JACKSON ST	WIDEN FROM 2 TO 6 LANES	2035	\$12,729
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07188	0	AVE 62	JACKSON ST	VAN BUREN ST	WIDEN FROM 2 TO 6 LANES	2034	\$14,764
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07189	0	AVE 62	VAN BUREN ST	HARRISON ST	WIDEN FROM 2 TO 6 LANES	2033	\$14,195
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07190	0	AVE 62	HARRISON ST	TYLER ST	WIDEN FROM 2 TO 6 LANES	2032	\$9,628
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07191	0	AVE 62	TYLER ST	POLK ST	WIDEN FROM 2 TO 6 LANES	2031	\$9,331

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07192	0	AVE 62	POLK ST	FILLMORE ST	WIDEN FROM 2 TO 6 LANES	2035	\$19,074
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07193	0	AVE 62	FILLMORE ST	PIERCE ST	WIDEN FROM 2 TO 6 LANES	2033	\$45,825
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07194	0	AVE 62	PIERCE ST	SR86S	WIDEN FROM 2 TO 6 LANES	2030	\$12,394
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07196	0	AVE 66	AVE 66 BR./ LOW WATER XING	BTWN W/O COACHELLA VALLEY STORM WATER CHNL AND PERCE ST	WIDEN FROM 2 TO 6 LANES	2030	\$5,357
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07197	0	BOB HOPE DR	DINAH SHORE	RAMON RD	WIDENING OF THE SOUTH BOUND LANE FROM 2 TO 3 LANES.	2025	\$4,289
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07199	0	CHASE SCHOOL RD	I-10	RAMON RD	CONSTRUCT 4 LANE ARTERIAL	2030	\$34,035
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07204	0	DILLON RD	INTERSECTION OF DILLON RD & INDIAN AVE	EASTERLY	WIDEN FROM 2 TO 6 LANES	2026	\$1,355
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07205	0	DILLON RD	INDIAN AVE	PALM DR	WIDEN FROM 2 TO 4 LANES, INCLUDING A NEW BRIDGE AT MISSION CR.	2027	\$16,891
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07206	0	DILLON RD	INTERSECTION OF DILLON RD & PALM DR	EASTERLY	WIDEN FROM 4 TO 6 LANES	2026	\$1,355
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07207	0	DILLON RD	PALM DR	MOUNTAIN VIEW	WIDEN FROM 2 TO 4 LANES, INCLUDING INTERSECTION IMPROVEMENTS AT DILLON & PALM DR (TRAFFIC SIGNAL IMPROVEMENTS).	2027	\$8,103
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07212	0	DILLON RD	BR. AT WHITEWATER CHNL	EASTERLY	WIDEN FROM 2 TO 4 LANES	2030	\$2,032
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07213	0	DILLON RD	WHITEWATER BR.	HWY 111	WIDEN FROM 2 TO 4 LANES	2025	\$4,512
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07219	0	INDIAN AVE	DILLON RD	14TH AVE	WIDEN FROM 2 TO 6 LANES	2026	\$7,574
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07220	0	INDIAN AVE	14TH AVE	PIERSON BLVD	WIDEN FROM 2 TO 6 LANES	2027	\$6,895

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07221	0	INDIAN AVE	INTERSECTION OF INDIAN AVE AND 20TH AVE	NORTHERLY	WIDEN FROM 3 TO 6 LANES	2021	\$1,158
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07222	0	INDIAN AVE	20TH AVE	19TH AVE	WIDEN FROM 2 TO 4 LANES	2022	\$3,028
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07223	0	INDIAN AVE	19TH AVE	DILLON RD	WIDEN FROM 2 TO 4 LANES	2027	\$13,265
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07228	0	MONTEREY AVE	I-10	RAMON RD	WIDEN FROM 4 TO 6 LANES	2032	\$6,202
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07230	0	MOUNTAIN VIEW	DILLON RD	20TH AVE	WIDEN FROM 2 TO 4 LANES	2024	\$6,821
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07235	0	RAMON RD	INTERSECTION OF RAMON RD & VARNER RD	DATE GARDEN DR.	WIDEN FROM 4 TO 6 LANES	2030	\$302
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07238	0	RAMON RD	MONTEREY AVE	THOUSAND PALMS CYN RD	WIDEN FROM 2 TO 4 LANES	2029	\$22,466
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07240	0	TWO BUNCH PALMS TR	INDIAN AVE	LITTLE MORONGO RD	CONSTRUCT 6 LANE ARTERIAL	2030	\$17,235
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07244	0	VAN BUREN ST	INDIO BLVD	AVE 48	WIDEN THE EAST SIDE OF VAN BUREN FROM 2 TO 3 LANES.	2028	\$6,117
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07252	0	VARNER RD	WASHINGTON ST	ADAMS ST	WIDEN FROM 3 TO 4 LANES	2032	\$1,536
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07253	0	WASHINGTON ST	I-10	AVE 38	WIDEN FROM 4 TO 6 LANES	2026	\$4,524
LOCAL HIGHWAY	RIVERSIDE COUNTY	3601604	0	MAGNOLIA AVE.	BUCHANAN AVE.	LINCOLN ST.	IN NORTHWEST RIVERSIDE COUNTY ON MAGNOLIA AVE: REPLACE EXISTING 4 LANE (2 LNS IN EA. DIR) R/R X-ING WITH A 4-LN (2 LNS IN EA DIR - NON-CAPACITY) O.C. GRADE SEPARATION ON MAGNOLIA AVE BTWN BUCHANAN AVE. (ON THE EAST) AND LINCOLN STREET (ON THE WEST).	2015	\$51,632
LOCAL HIGHWAY	RIVERSIDE COUNTY	360703	0	AVENUE 62	WEST OF SR111	WEST OF SR 86 S	GRADE SEPARATION - 2 LANES AT UPRR TRACKS AND SR111	2031	\$163,395

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3G0705	0				IN EASTERN RIVERSIDE CO. IN THE COACHELLA VALLEY - 66TH AVE GRADE SEPARATION: CONSTRUCT A TWO-LN(1-LN IN EA DIR) 66TH AVE ELEVATED STRUCTURE OVER THE UPRR, HAMMOND RD., AND SH-111, FROM WESTERLY OF LINCOLN ST TO JOHNSON ST ON THE EAST IN THE COMMUNITY OF MECCA. ADD IMPROVEMENTS WILL BE CONSTRUCTED TO TIE BACK INTO THE EXISTING ALIGNMENT.	2018	\$25,250
LOCAL HIGHWAY	RIVERSIDE COUNTY	RIV060124-RIV060124	0	SUNSET AVE	I-10	LINCOLN AVE	IN BANNING ON SUNSET AVE AT I-10 FROM S/O RAMSEY ST TO S/O LINCOLN ST: LOWER SUNSET AVE TO CONSTRUCT NEW 4-LANE UC AT UPRR CROSSING (NON-CAPACITY) AND RECONSTRUCT THE I-10/IC RAMPS TO MEET THE NEW STREET GRADE (SAFETEA-LU CA438, #1261) (EA:33471)	2015	\$34,764
LOCAL HIGHWAY	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV031218-RIV031218	0	MID COUNTY PKWY	I-215 IN PERRIS	SR79 IN SAN JACINTO	IN WESTERN RIV CO - NEW MID CO PKWY: CONS 6 THRU LN (3 LNS IN EA DIR) APPROX 16 MI. BTWN I-215 IN PERRIS EAST TO SR79 IN SAN JACINTO, INC. CONS/ RECONS OF 13 ICS, ADD OF AUX LN REDLANDS-EVANS & EB AUXILIARY LN EVANS-ANTELOPE. I-215 IMP: ADD 1 MF LN IN EA DIR NUEVO RD -VAN BUREN BLVD, & 1AUX LN IN EA DIR MID CO PKWY-CAJALCO/RAMONA EXP & FROM MID CO PKWY-NUEVO.	2020	\$1,691,500
LOCAL HIGHWAY	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV041047	0				THROUGHOUT RIVERSIDE COUNTY - GROUPED PROJECTS FOR TRANSPORTATION ENHANCEMENT ACTIVITIES - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - TRANSPORTATION ENHANCEMENT ACTIVITIES (EXCEPT REHABILITATION AND OPERATION OF HISTORIC TRANSPORTATION BUILDINGS, STRUCTURES, OR FACILITIES). \$292 IN TOLL CREDITS WILL BE UTILIZED TO MATCH STPL CONS	2015	\$2,543
LOCAL HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3EL04	0	ECONOMIC DEVELOPMENT	WESTERN COUNTY		INFRASTRUCTURE AND FACILITY IMPROVEMENTS INCENTIVES	2039	\$45,604

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3ITS08	0	ITS	COUNTYWIDE		ITS INLAND EMPIRE LUMP SUM (GRADE CROSSING IMPROVEMENTS, IE 511, REGIONAL MOBILITY MANAGER, ETC.)	2039	\$77,774
LOCAL HIGHWAY	RIVERSIDE, CITY OF	30M0701-RIV071272	0				IN RIVERSIDE ON RIVERSIDE AVE: REPLACE EXISTING 4-LANE (2 LNS IN EA DIR) R/R/ X-ING WITH A 4 LN (2 LNS IN EA DIR - NON-CAPACITY) U.C. G. S. ALONG RIVERSIDE AVE BTWN MERRILL AVE AND 400FT N/O ELIZABETH ST. ADD IMP INCLUDE INSTALLATION OF APPROX 1,100 FT	2015	\$32,154
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A01WT112	0	ARLINGTON AVE	MAGNOLIA AVE	ALESSANDRO BLVD	WIDEN FROM 4 TO 6 LANES	2021	\$13,494
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A01WT114	0	CENTRAL AVE	MAGNOLIA AVE	SR91	WIDEN FROM 4 TO 6 LANES BTWN SR-91 AND MAGNOLIA	2021	\$2,730
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A04WT115	0	IOWA AVE	NORTH CITY LIMIT	BLAINE ST	WIDEN FROM 4 TO 6 LANES	2021	\$8,559
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A04WT117	0	OVERLOOK PKWY	CHATEAU RIDGE LN	SANDTRACK RD	CONSTRUCT MISSING 4 LANE LINKS	2021	\$10,000
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A04WT118	0	TYLER ST	WELLS AVE	ARLINGTON AVE	WIDEN FROM 2 TO 4 LANES	2021	\$5,650
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A04WT120	0	WASHINGTON ST	VICTORIA AVE	HERMOSADR	WIDEN FROM 2 TO 4 LANES	2021	\$7,732
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A04WT121	0	WOOD RD	JOHN F KENNEDY DR	VAN BUREN BLVD	WIDEN FROM 2 TO 4 LANES	2021	\$4,445
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A07107	0	CANYON CREST DR	COUNTRY CLUB	VIA VISTA	WIDEN 2 TO 4 LANES	2018	\$6,000
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A07315	0	VAN BUREN BLVD	JACKSON ST	GARFIELD	WIDEN FROM 4 TO 6 LANES	2021	\$20,000
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3G01G05	0	CHICAGO AV	THORTON ST	COLUMBIA AVE	GRADE SEPARATION - 4 LANES OVER BNSF RRR TRACKS	2035	\$145,786

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3G01G06	0				IN RIVERSIDE ON STREETER AVENUE: REPLACE EXISTING 4 LANE (2 LNS IN EA DIR) R/R X-ING WITH A 4 LN (2 LNS IN EA DIR - NON-CAPACITY) U.C. GRADE SEPARATION ON STREETER AVE BETWEEN LANTANA ST AND BEATTY DR, AND INSTALL APPROX. 1,000 FT OF PCC S/W ON EACH SIDE	2015	\$36,000
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3G01G07	0	SPRUCE ST (BNSF)	SR-91	I-215	GRADE SEPARATION - 4 LANES OVER BNSF RR TRACKS	2035	\$58,314
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3G01G10	0	MARY STREET	MARGUERITA AVE.	INDIANA AVE.	IN RIVERSIDE ON MARY STREET: REPLACE EXISTING 4 LN (2 LNS IN EA DIR) R/R X-ING WITH A 4 LN (2 LNS IN EA DIR - NON-CAPACITY) U.C. GRADE SEPARATION ON MARY ST BETWEEN MARGUERITE AVE AND INDIANA AVE.	2019	\$38,000
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3G01G22	0	TYLER ST	SR-91	COMANCHE AVE	GRADE SEPARATION - 4 LANES OVER BNSF RR TRACKS	2030	\$124,620
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3G01G23	0	ADAMS ST	INDIANA AVE	LINCOLN ST	GRADE SEPARATION - 4 LANES OVER BNSF RR	2035	\$160,856
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3G01G31	0	PIERCE ST	MAGNOLIA AVE	INDIANA AVE	GRADE SEPARATION - 3 LANES OVER BNSF RR TRACKS	2030	\$49,848
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3GLO4-RIV11121	0				IN RIVERSIDE ON THIRD STREET: REPLACE EXISTING 4 LANE (2 IN EACH DIRECTION) R/R X-ING WITH A 4-LN (2 LNS IN EA DIR - NON-CAPACITY) U.C. GRADE SEPARATION ON THIRD ST BETWEEN VINE ST AND PARK AVE.	2019	\$28,100
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3GLO4-RIV11208	0	MADISON ST.	INDIANA AVE.	PETERS ST/ YSMAEL VILLEGAS ST.	IN RIVERSIDE - MADISON ST GRADE SEPARATION: CONSTRUCT A 4-LN (2 LNS IN EA DIR) NON-CAPACITY ENHANCING MADISON ST/BNSF UNDERPASS BETWEEN INDIANA AVE AND PETERS ST/YSMAEL VILLEGAS ST.	2020	\$38,000
LOCAL HIGHWAY	SAN JACINTO	3A01WT210	0	RAMONA EXPWY (PHASE III)	EAGLE RD	LAKE PARK DR	WIDENING FROM 4 TO 6 LANES	2022	\$11,716
LOCAL HIGHWAY	SAN JACINTO	3A01WT213	0	SR79 - SAN JACINTO AVE.	NORTH RAMONA BLVD	7TH ST	WIDEN FROM 2 TO 4 LANES	2022	\$9,108

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	SAN JACINTO	3A01WT214	0	STATE ST	GILLMAN SPRINGS RD	QUANDT RANCH RD	WIDEN FROM 2 TO 4 LANES	2020	\$7,120
LOCAL HIGHWAY	SAN JACINTO	3A01WT215	0	WARREN RD	RAMONA EXPWY	ESPLANADE AVE	WIDEN FROM 2 TO 4 LANES	2022	\$6,000
LOCAL HIGHWAY	SAN JACINTO	3A04WT208	0	ESPLANADE AVE	WARREN RD	STATE ST	WIDEN FROM 2 TO 4 LANES	2018	\$10,553
LOCAL HIGHWAY	SAN JACINTO	3A07287	0	CAWSTON AVE	ESPLANADE AVE	RAMONA EXPWAY	CONSTRUCT 4 LANE ARTERIAL	2022	\$4,500
LOCAL HIGHWAY	SAN JACINTO	3A07288	0	COTTONWOOD AVE	WARREN RD	STATE ST	WIDEN FROM 2 TO 4 LANES	2020	\$5,000
LOCAL HIGHWAY	SAN JACINTO	3A07289	0	HEWITT ST	MAIN ST	SOUTH CITY LIMIT	WIDEN FROM 2 TO 4 LANES	2030	\$4,362
LOCAL HIGHWAY	SAN JACINTO	3A07291	0	PALM AVE	ESPLANADE AVE	SEVENTH ST	CONSTRUCT 4 LANE ARTERIAL	2022	\$2,598
LOCAL HIGHWAY	SAN JACINTO	3A07292	0	PALM AVE	SEVENTH ST	RAMONA BLVD	WIDEN FROM 2 TO 4 LANES	2022	\$6,636
LOCAL HIGHWAY	SAN JACINTO	3A07294	0	SEVENTH ST	WARREN RD	CAWSTON AVE	CONSTRUCT 4 LANE ARTERIAL	2030	\$9,970
LOCAL HIGHWAY	SAN JACINTO	3A07295	0	SEVENTH ST	CAWSTON AVE	RAMONA EXPWAY (CURRENTLY MOUNTAIN AVE)	WIDEN FROM 2 TO 4 LANES	2030	\$16,168
LOCAL HIGHWAY	SAN JACINTO	3A07296	0	SOBOBA RD	CHABELA DR	CITY LIMIT	WIDEN FROM 2 TO 4 LANES	2022	\$5,469
LOCAL HIGHWAY	TEMECULA	991203	0	OVERLAND DR.	COMMERCE CENTER DR	AVENIDA ALVARADO/ DIAZ RD	EXTEND OVERLAND DRIVE (4 LANES) FROM COMMERCE CENTER DRIVE TO AVENIDA ALVARADO/ DIAZ ROAD INTERSECTION INCLUDING CONSTRUCTION OF 4 LANE BRIDGE OVER MURRIETA CREEK (TO BE IMPLEMENTED IN PHASES)	2016	\$19,301
LOCAL HIGHWAY	TEMECULA	3120001	0	RANCHO WAY	DIAZ RD.	MARGARITA RD.	CONSTRUCT RANCHO WAY - 4 LANE LOCAL ARTERIAL FROM DIAZ RD. TO MARGARITA RD.	2035	\$52,483
LOCAL HIGHWAY	TEMECULA	3160042	0	YNEZ RD	RANCHO VISTA RD	LA PAZ ST	WIDEN FROM 2 TO 4 LANES	2020	\$3,701

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	TEMECULA	3A01WT217	0	RANCHO CALIFORNIA RD	JEFFERSON AVE	MARGARITA RD	WIDEN FROM 4 TO 6 LANES	2035	\$14,408
LOCAL HIGHWAY	TEMECULA	3A01WT218	0	SR-79 SOUTH (TEMECULA PKWY)	I-15	PECHANGA PKWY	WIDEN FROM 6 TO 8 LANES	2023	\$2,164
LOCAL HIGHWAY	TEMECULA	3A01WT221	0	FRENCH VALLEY (WESTERN BYPASS SEGMENT 1)	YNEZ RD	DIAZ RD	CONSTRUCT 6 LANE ARTERIAL	2018	\$20,353
LOCAL HIGHWAY	TEMECULA	3A01WT222A	0	DIAZ ROAD	DENDY PARKWAY	RANCHO CALIFORNIA RD	WIDEN FROM 2 TO 4 LANES	2023	\$12,006
LOCAL HIGHWAY	TEMECULA	3A07129	0	DIAZ ROAD	NORTH CITY LIMITS	DENDY PARKWAY	CONSTRUCT 4 LANE ARTERIAL	2023	\$3,025
LOCAL HIGHWAY	TEMECULA	991206-991206	0				BUTTERFIELD STAGE RD EXTENSIONS: EXTEND MURRIETA HOT SPRINGS RD (4 LNS) FROM BUTTERFIELD STAGE RD TO SERAPHINA RD; BUTTERFIELD STAGE RD (4 LNS) FROM RANCHO CALIFORNIA RD TO MURRIETA HOT SPRINGS RD; & NICHOLAS RD (4 LNS) FROM BUTTERFIELD STAGE RD TO CALLE GIRASOL	2014	\$43,536
LOCAL HIGHWAY	TEMECULA	RIV060113	0				CONSTRUCT NEW 4 LANE BRIDGE OVER MURRIETA CREEK (PART OF WESTERN BYPASS CORRIDOR) INCLUDING APPROACHES, CURB & GUTTER, SIDEWALKS, & STORM DRAIN FACILITIES	2016	\$10,366
LOCAL HIGHWAY	TEMECULA	RIV060114	0				IN SOUTHWEST TEMECULA: DESIGN AND CONSTRUCT 4 LANE WESTERN BYPASS CORRIDOR (PHASE 1) FROM SR79 SOUTH TO RANCHO CALIFORNIA RD	2020	\$13,500
LOCAL HIGHWAY	TEMECULA	RIV62029	0	SR 79 SOUTH	LA PAZ ST	SR 79 SOUTH	IN SOUTHWEST RIVERSIDE COUNTY IN TEMECULA ON TEMECULA PKWY (FORMERLY SR79) AT LA PAZ ST: ACQUIRE LAND, DESIGN AND CONSTRUCT PARK-AND-RIDE LOT - 157 SPACES. OTHER IMPROVEMENTS INCLUDE THE CONSTRUCTION OF 10 BICYCLE LOCKERS, PASSENGER LOAD/UNLOAD ZONE AND ADA ACCESSIBLE PARKING.	2015	\$2,364

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	VARIOUS AGENCIES	3AL104	0	ARTERIAL IMPROVEMENTS	COACHHELLA VALLEY		EASTERN COUNTY WIDEN/RECONSTRUCT/REHABILITATE REGIONAL ARTERIALS	2026	\$116,699
LOCAL HIGHWAY	VARIOUS AGENCIES	3AL204	0	ARTERIAL IMPROVEMENTS	COUNTY WIDE		WIDEN/CONSTRUCT REGIONAL ARTERIALS	2026	\$553,031
LOCAL HIGHWAY	VARIOUS AGENCIES	3AL304	0	ARTERIAL IMPROVEMENTS	WESTERN COUNTY		WESTERN COUNTY WIDEN/REHABILITATE ARTERIAL IMPROVEMENTS	2026	\$211,437
LOCAL HIGHWAY	VARIOUS AGENCIES	3ITS07	0	ITS	COUNTY WIDE		ITS LUMP SUM FOR RIVERSIDE COUNTY ARTERIALS	2039	\$137,592
LOCAL HIGHWAY	VARIOUS AGENCIES	3N104	0	NON-MOTORIZED	COUNTY WIDE		VARIOUS PEDESTRIAN AND BIKEWAY NON-MOTORIZED IMPROVEMENT PROJECTS	2040	\$115,079
LOCAL HIGHWAY	VARIOUS AGENCIES	RIV050201	0				IN RIVERSIDE COUNTY GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM; PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLE 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	2020	\$161,197
LOCAL HIGHWAY	WILDOMAR	3A01WT071	0	CLINTON KEITH RD	I-15	COPPERCRAFT	WIDEN FROM 2 TO 6 LANES	2020	\$219,555
LOCAL HIGHWAY	WILDOMAR	3A01WT133	0	BUNDY CANYON RD	I-15	MURRIETA RD	WIDEN FROM 2 TO 4 LANES	2020	\$35,549
LOCAL HIGHWAY	WILDOMAR	3A01WT134	0	BUNDY CANYON RD	MISSION TRAIL	I-15	WIDEN FROM 2 TO 4 LANES	2025	\$4,992
LOCAL HIGHWAY	WILDOMAR	3A01WT180	0	PALOMAR ST	MISSION TRAIL	JEFFERSON	WIDEN FROM 2 TO 4 LANES	2025	\$38,456
LOCAL HIGHWAY	WILDOMAR	3A04WT126	0	BAXTER RD	I-15	CENTRAL ST	WIDEN FROM 2 TO 4 LANES	2025	\$17,929
LOCAL HIGHWAY	WILDOMAR	3A04WT142	0	CENTRAL ST	BAXTER RD	PALOMAR ST	WIDEN FROM 2 TO 4 LANES	2030	\$4,500
LOCAL HIGHWAY	WILDOMAR	3A04WT143	0	CENTRAL ST	GRAND AVE	PALOMAR ST	WIDEN FROM 2 TO 4 LANES	2030	\$3,112
LOCAL HIGHWAY	WILDOMAR	3A04WT157	0	GRAND AVE	ORTEGA HWY (SR-74)	CENTRAL ST	WIDEN FROM 2 TO 4 LANES	2025	\$30,765

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
LOCAL HIGHWAY	JURUPA VALLEY	3120016		MARKET ST	RUBIDOUX BLVD.	NORTH OF THE SANTA ANA RIVER THROUGHOUT RIVERSIDE, ORANGE COUNTY, & LOS ANGELES COUNTY	WIDEN FROM 2 TO 4 LANES	2030	\$31,155
PASSENGER RAIL	RCTC/SCRRA	3CR0701	0	METROLINK COMMUTER RAIL	THROUGHOUT RIVERSIDE, ORANGE COUNTY, & LOS ANGELES COUNTY	THROUGHOUT RIVERSIDE, ORANGE COUNTY, & LOS ANGELES COUNTY	METROLINK COMMUTER RAIL EXISTING LINES SERVICES EXPANSION - RIVERSIDE, 91, AND IEOC LINES	2035	\$11,180
PASSENGER RAIL	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3CR0702	0	PERRIS VALLEY LINE EXTENSION TO SAN JACINTO	CITY OF PERRIS	CITY OF SAN JACINTO	METROLINK PERRIS VALLEY LINE COMMUTER RAIL EXTENSION FROM PERRIS TO SAN JACINTO (~16.5 MILES), STATIONS AT WINCHESTER RD (SR-79 @ ASBURY ST), HEMET AIRPORT (SANDERSON AVE @ STETSON RD), SAN JACINTO (STATE ST @ 7TH ST)	2035	\$256,007
PASSENGER RAIL	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3CR104	0	METROLINK COMMUTER RAIL	COUNTY WIDE	COUNTY WIDE	METROLINK IMPROVEMENTS (TRACK AND ROLLING STOCK)	2035	\$10,000
STATE HIGHWAY	CATHEDRAL CITY	3M0722	0	I-10	AT LANDAU	BTWN VISTA CHINO & VARNER RD	CONSTRUCT NEW 6-LANE MIXED FLOW, PARTIAL CLOVERLEAF IC WITH AUXILIARY LANES AND 4 TWO LANE RAMPS PLUS 6 LANE GRADE SEPARATION BRIDGE OVER UPRR BETWEEN PALM DR IC AND DATE PALM DRIVE IC	2035	\$117,779
STATE HIGHWAY	RIVERSIDE COUNTY	3A04WT190	0	SR-74 (ETHANAC)	MATTHEWS RD	SR-79 (WINCHESTER)	WIDEN FROM 2 TO 4 LANES (MATTHEWS TO BRIGGS). WIDEN FROM 4 TO 6 LANES (BRIGGS TO SR-79).	2035	\$24,109
STATE HIGHWAY	RIVERSIDE COUNTY	3A04WT191	0	SR-74	I-15	ETHANAC RD	WIDEN FROM 4 TO 6 LANES	2035	\$29,799
STATE HIGHWAY	RIVERSIDE COUNTY	3A07186	0	AVE 62	AVE 62 SR-86 IC	BTWN W/O SR111 TO BUCHANAN ST	CONSTRUCT NEW IC AND RAMPS AND WIDEN OC FROM 2 TO 6 LANES	2035	\$67,863
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3C01MA01	0	CETAP EAST-WEST CORRIDOR	I-15	I-215	CETAP: PROVIDE NEW EAST-WEST TRANSPORTATION CORRIDOR BETWEEN I-15 IN THE WEST, I-215 IN THE EAST, SOUTH OF LAKE MATHEWS IN THE NORTH, AND SR 74 IN THE SOUTH.	2035	\$2,367,661
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3ITS0717	0	FREEWAY SERVICE PATROL			FREEWAY SERVICE PATROL FROM ORANGE COUNTY LINE TO RIVERSIDE COUNTY.	2020	\$30,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	BEAUMONT	3A04WT003	10	I-10 (PM 8.81 TO 9.81)	AT HIGHLAND SPRINGS AVE	BTWN 5TH ST AND SOUTH RAMPS	RECONSTRUCT/WIDEN HIGHLAND SPRINGS AVE IC FROM 4 TO 6 LANES AND RECONSTRUCT/WIDEN RAMPS	2035	\$65,458
STATE HIGHWAY	BEAUMONT	3M04WT001	10	I-10 (PM 7.07 TO 8.07)	AT SR-79/BEAUMONT AVE	BTWN 6TH ST AND 1ST ST	RECONSTRUCT/WIDEN SR-79/BEAUMONT AVE IC FROM 4 TO 6 LANES AND RECONSTRUCT/WIDEN RAMPS	2027	\$28,130
STATE HIGHWAY	BEAUMONT	3M04WT004	10	I-10 (PM 7.71 TO 8.71)	AT PENNSYLVANIA AVE	BTWN 6TH ST AND 3RD ST	RECONSTRUCT PENNSYLVANIA AVE IC AND RECONSTRUCT/WIDEN RAMPS	2030	\$29,435
STATE HIGHWAY	BEAUMONT	RIV060115-RIV060115	10	OAK VALLEY PKWY/ SAN TIMOTEO CYN RD	500 FT W/O DESERT LAWN DR	JUST E/O GOLF CLUB DR	AT I-10/OAK VALLEY PKWY IC: RECONSTRUCT/WIDEN IC FROM 2 TO 6 THROUGH LANES FROM APPROX 500 FT. W/O DESERT LAWN DR TO GOLF CLUB DR, WIDEN RAMPS - EB ENTRY 1 TO 2 LANES, EB & WB EXIT 1 TO 4 LANES, WB ENTRY 1 TO 3 LANES,, ADD NEW EB/WB ENTRY LOOP RAMPS (2 LANES), ENTRY RAMPS INCLUDE HOV PREFERENTIAL LANE, AND RAMPS INCLUDE EXTENDED ACCELERATION/ DECELERATION LANE (EA: 0G280).	2021	\$25,425
STATE HIGHWAY	CALIMESA	3M04WT003	10	I-10 (PM R0-86-4 TO R0-86-4)	SEVENTH PLACE	CALIMESA BLVD.	RECONSTRUCT IC TO A 2-LANE ROUNDABOUT RECONFIGURATION, AND RECONSTRUCT/WIDEN RAMPS	2019	\$15,000
STATE HIGHWAY	CALIMESA	RIV060116-RIV060116	10	CHERRY VALLEY BLVD	CALIMESA BLVD	ROBERTS RD	I-10/CHERRY VALLEY BLVD IC: REPLACEMENT OF EXISTING CURVED OVERCROSSING WITH TWO 90 FT. RADIUS ON/OFF RAMPS ROUNDABOUTS AND WILL EXTEND 1800 LINEAR FEET FROM ROBERTS ROAD (SOUTH) TO APPROXIMATELY 500 FT E/O CALIMESA BLVD. ASSOCIATED PROJECT IMPROVEMENTS INCLUDE REALIGNMENT OF CALIMESA BLVD AND RAMP REALIGNMENT FOR ALL FOUR RAMPS WITH MINOR RAMP WIDENING (CMAQ PM 2.5 BENEFITS PROJECT).	2017	\$15,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	CALIMESA	RIV060117	10	SINGLETON RD	WOODHOUSE RD	CALIMESA BLVD	ON I-10/SINGLETON RD IC; RECONSTRUCT/WIDEN 2 TO 4 THROUGH LANES (WOODHOUSE TO CALIMESA BLVD), RECONSTRUCT/WIDEN RAMPS - EB ENTRY 1 TO 2 LNS W/ HOV PREFERENTIAL LN, WB EXIT 1 TO 3 LNS, ADD EB EXIT RAMP (3 LNS), WB ENTRY RAMP (2 LNS W/ HOV PREFERENTIAL LN), INCLUDE EXTENDED RAMP ACCEL/DECEL LNS, RELOCATE CALIMESA BLVD/SINGLETON RD INTERSECTION, ADD SB EXTENDED DEDICATED RIGHT-TURN LN (EA: 0F980)	2018	\$38,400
STATE HIGHWAY	CALIMESA	RIV131201- RIV131201	10	I-10	7TH PLACE	CALIMESA BLVD.	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - RECONSTRUCTION OF EXISTING INTERCHANGE AT I-10/COUNTY LINE WITH TWO 90 FT RADIUS ON/OFF RAMPS ROUNDABOUTS, EXTENDING 1300 LINEAR FEET FROM COUNTY LINE LANE TO APPROX. 300 FT. W/O CALIMESA BLVD. THE PROJECT WILL INCLUDE RAMP REALIGNMENT FOR ALL FOUR RAMPS WITH MINOR RAMP WIDENING.	2017	\$15,000
STATE HIGHWAY	CATHEDRAL CITY	3M0720- RIV071251	10	DA VALL DR	VARNER RD	RAMON RD	ON I-10 AT APPROX PM 41:17: CONSTRUCT NEW DA VALL DR IC (6 LNS) & RAMPS (2 LNS) FROM VARNER RD TO RAMON RD INCLUDING BRIDGE OVER UPRR AND LONG CYN CREEK CHANNEL, ADD EB/WB AUX LANES (DATE PALM DR IC TO DA VALL & DA VALL TO RAMON RD)	2021	\$69,800
STATE HIGHWAY	COACHELLA	3M0715	10	I-10 (PM 58.39 TO 59.39)	AT DILLON RD	BTWN VISTA DEL NORTE AND VISTA DEL SUR	RECONSTRUCT/WIDEN IC RAMPS	2020	\$22,022
STATE HIGHWAY	COACHELLA	RIV030901- RIV030901	10	AVENUE 50	1/2 MILE N/O I-10	1/2 MILE S/O I-10	ON I-10 IN EASTERN COACHELLA (AT 3.4 MILES E/O DILLON RD & 9.1 MILES W/O CACTUS CITY SRRA); CONSTRUCT NEW 6 THROUGH LANE AVENUE 50 IC (3 LANES EACH DIR. APPROX 600' N/O I-10 AND 1100' S/O I-10), EB EXIT RAMP (3 LANES), WB EXIT RAMP (2 LANES), EB & WB ENTRY RAMPS (2 LANES), EB & WB LOOP ENTRY RAMPS (2 LANES) & ADD ACC LN 3,800' W/B DIR, WEST OF IC (EA: 45210)	2019	\$186,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	INDIO	3A07020-RIV071252	10	JACKSON ST	AVENUE 42	S/O WHITEWATER RIVER CHANNEL	ON I-10 IN INDIO AT JACKSON ST IC (AT PM 55.575); RECONSTRUCT/WIDEN IC FROM 2 TO 6 THROUGH LANES INCLUDING BRIDGE OVER WHITEWATER RIVER CHANNEL FROM SHOWCASE PKWY TO SOUTH OF WHITEWATER RIVER CHANNEL, RECONSTRUCT/WIDEN RAMPS 1 TO 2 LANES, MODIFY TRAFFIC SIGNALS	2021	\$56,000
STATE HIGHWAY	INDIO	3A07021-RIV071253	10	GOLF CENTER PKWY	AVENUE 44	SOUTH OF WHITEWATER RIVER CHANNEL	ON I-10 IN INDIO AT GOLF CENTER PKWY IC: RECONSTRUCT/WIDEN IC FROM 4 TO 6 THROUGH LANES INCLUDING BRIDGE OVER WHITEWATER RIVER CHANNEL BETWEEN AVENUE 44 TO S/O WHITEWATER RIVER CHANNEL, RECONSTRUCT/WIDEN RAMPS 1 TO 2 LANES, AND EXTEND RAMPS WITH ACCELERATION/DECELERATION LANES	2021	\$27,000
STATE HIGHWAY	INDIO	3A07022-RIV071254	10	MONROE ST	AVENUE 42	S/O WHITEWATER RIVER CHANNEL	ON I-10 IN INDIO AT MONROE ST IC: RECONSTRUCT/WIDEN IC FROM 2 TO 6 THROUGH LANES INCLUDING BRIDGE OVER WHITEWATER RIVER CHANNEL FROM AVENUE 42 TO S/O WHITEWATER RIVER CHANNEL, RECONSTRUCT/WIDEN RAMPS 1 TO 2 LANES, AND EXTEND RAMPS WITH ACCELERATION/DECELERATION LANES (EA: 0K730K)	2021	\$47,000
STATE HIGHWAY	PALM DESERT	RIV031209-RIV031209	10	PORTOLA AVE	DINAH SHORE DR	VARNER RD	AT I-10/PORTOLA AVE (B/W MONTEREY IC & COOK IC): CONSTRUCT NEW 6 THRU LANE PORTOLA AVE (EB EXIT 2 LNS, WB EXIT 3 LNS, EB & WB ENTRY 2 LNS, WB ENTRY LOOP RAMP 2 LNS, ENTRY INCL HOV LN, WIDENING INCLUDES BRIDGE OVER UPRR & RELOCATE/WIDEN VARNER 2 TO 4 LNS, ADD EB/WB AUX LNS (MONTEREY TO PORTOLA AND PORTOLA TO COOK), EXTEND 4TH WB LANE COOK TO PORTOLA (EA	2019	\$71,993

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	RIVERSIDE COUNTY	30M0701-RIV110302	10	I-10	3500" W/O EXISTING RAMPS TO HOBSON WAY	RIVIERA DR/ INSPECTION STATION	ON I-10 IN THE CITY OF BLYTHE - PROVIDE NEW W/B ON AND W/B OFF RAMPS TO HOBSON WAY APPROX 3,500' W/O EXISTING RAMPS TO RIVIERA DR/INSPECTION STATION. THE NEW RAMPS WILL REPLACE EXISTING CONNECTION TO RIVIERA DR. \$93 TC UTILIZATION FY 2014/15 FOR STPL CONSTRUCTION FUNDS.	2015	\$4,343
STATE HIGHWAY	RIVERSIDE COUNTY	47520-47520	10	JEFFERSON ST	VARNER RD	UPRR	AT I-10/JEFFERSON ST IC: RECONSTRUCT, REALIGN, & WIDEN IC 2 TO 6 LANES (SOUTHERLY OF VARNER RD TO UPRR), WIDEN RAMPS, ADD NEW ENTRY RAMPS, INCLUDING RAMP METERING (NO HOV PREFERENTIAL LANE INCLUDED), ADD ACCEL/DECEL LANES AT WB ENTRY AND EB EXIT (<1/4 MILE), AND ADD DEDICATED RIGHT-TURN LANES. (EA: 47520)	2018	\$80,967
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3M04MA05	10	I-10/SR-60 JCT/ SPLIT	SR60/I-10 JCT/ SPLIT		CONSTRUCT NEW INTERCHANGE	2030	\$282,443
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3TK04MA12	10	I-10	SAN BERNARDINO COUNTY LINE	JCT I-10/SR60	ON I-10 NEAR BEAUMONT: ADD/CONSTRUCT NEW EASTBOUND TRUCK CLIMBING LANE FROM SAN BERNARDINO COUNTY LINE TO I-10/SR60 JCT (EA: 35300)	2025	\$35,709
STATE HIGHWAY	CALTRANS	3A04A26	15	I-15	AT BELLEGRAVE AVE	BTWN HAMNER AVE & WINEVILLE RD	ADD SIGNALS AND RAMPS. 0.1MI.	2030	\$5,492
STATE HIGHWAY	CORONA	RIV010208-RIV010208	15	CAJALCO RD	TEMESCAL CYN RD	BEDFORD CYN RD	AT I-15/CAJALCO RD IC NEAR CORONA: DESIGN, RECONSTRUCT/REALIGN & WIDEN CAJALCO RD FROM 2 TO 6 THRU LNS FROM TEMESCAL CYN RD TO BEDFORD CYN RD, RECONSTRUCT/WIDEN SB ENTRY FROM I-2 LNS, SB EXIT FROM 2-5 LNS, NB ENTRY FROM I+2 LNS, NB EXIT FROM 2-4 LNS, ADD AUX LNS	2018	\$74,199
STATE HIGHWAY	EASTVALE	RIV050532	15	SCHLEISMAN RD	LINDSEY CT	WINEVILLE AVE	ON I-15 NEAR THE CITY OF NORCO - CONSTRUCT NEW SCHLEISMAN RD IC (6 THROUGH LANES) AND RAMPS (2 LANES) AND NB/SB AUX LANE BETWEEN SCHLEISMAN RD IC AND LIMONITE RD IC (EA: 0E140K)	2035	\$91,481

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	LAKE ELSINORE	3160004	15	I-15	I-15	MAIN ST.	ON I-15 AT MAIN ST I/C - WIDENING OF MAIN ST UC FROM ONE LANE IN EA DIR TO TWO LANES IN EA DIR, FROM 200 FT W/O THE SB OFF-RAMP TO CAMINO DEL NORTE INTERSECTION (700 FT); ADD AN ADDITIONAL LEFT TURN POCKET TO THE I-15 NB AND SB ON-RAMPS; WIDEN I-15 SB OFF RAMP FROM TWO LANES TO FOUR LANES APPROACHING MAIN ST, WITH TWO LEFT TURNING LANES AND TWO RIGHT TURNING LANES (1,500 LF); WIDEN I15 SB ON RAMP FROM ONE LANE TO TWO LANES (12 FT WIDE EACH PLUS 8 FT SHOULDER ONTO I-215) (2,500 LF); WIDEN NB OFF-RAMP FROM ONE LANE TO THREE LANES BUT STRIPED FOR TWO LANES (36 FT WIDE PLUS AN 8 FT SHOULDER) AND EXPAND TO THREE LANES ONCE NEW FRANKLIN I/C IS CONSTRUCTED (1,860 LF); WIDEN NB ON-RAMP FROM ONE LANE TO TWO LANES ONTO I-15 WITH TAPERING ACCELERATION LANE (1,900 LF). CONSTRUCT NEW TRAFFIC SIGNALS AT THE ON AND OFF RAMPS INTERSECTIONS.	2028	\$21,270
STATE HIGHWAY	LAKE ELSINORE	3A04A16	15	I-15	AT SECOND ST (CHANEY AVE)	BTWN COLLIER AVE AND CAMINO DEL NORTE	CONSTRUCT NEW 4 LANE ARTERIAL CONNECTING OVERCROSS OVER I-15	2032	\$56,579
STATE HIGHWAY	LAKE ELSINORE	3A04A17	15	I-15	AT RIVERSIDE DR	BTWN COLLIER AVE AND DEXTER AVE	CONSTRUCT NEW 4 LANE OC OVER I-15	2022	\$30,604
STATE HIGHWAY	LAKE ELSINORE	3M0734	15	I-15	AT MALAGA RD	BTWN CASINO DR LAKEVIEW TERRACE AND GRAPE ST	CONSTRUCT NEW 4 LANE OC OVER I-15	2028	\$35,346
STATE HIGHWAY	LAKE ELSINORE	3M0735	15	I-15 (PM 17.01 TO 18.01)	AT OLIVE ST	BTWN ORCHARD ST AND GRAPE ST	CONSTRUCT NEW 4 LANE I/C AND RAMPS	2018	\$43,392
STATE HIGHWAY	LAKE ELSINORE	3M0736	15	I-15 (PM 23.35 TO 24.35)	AT NICHOLS RD	BTWN RAMPS	RECONSTRUCT/WIDEN I/C FROM 2 TO 6 LANES AND RECONSTRUCT/WIDEN RAMPS	2025	\$47,122

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	LAKE ELSINORE	3M0737	15	I-15	AT LAKE ST	BTWN WALKER CYN RD TEMSCAL CYN RD	RECONSTRUCT/WIDEN IC FROM 2 TO 6 LANES AND RECONSTRUCT/WIDEN RAMPS	2022	\$20,275
STATE HIGHWAY	LAKE ELSINORE	RIV010206- RIV010206	15	RAILROAD CYN RD	.7 MILES S/O RR CYN RD. (PM 18.52)	MAIN ST. (PM 20.96)	AT I-15/RR CYN RD IC: CONST 5-MULTI LIN ROUNDABOUTS (SUMMERHILL DR - MISSION TR), WIDEN NB ENTRANCE RAMP FROM 2-3 LNS, WIDEN SB ENTRANCE RAMP FROM 1-3 LNS, AND RAMP ACCEL/ DECEL LNS AT RR CYN RD (PH I); CONST NEW I-15/ FRANKLIN ST IC, ADD AUX LNS FROM FRANKLIN ST IC TO MAIN ST IC & FROM FRANKLIN ST IC TO RR CYN IC, REALIGN/WIDEN MAIN ST SB ON RAMP 1-2 LNS, AND CONST FRONTAGE RD ON WS AND ES OF I-15 F	2027	\$618,520
STATE HIGHWAY	LAKE ELSINORE	RIV060109- RIV060109	15	SR74/CENTRAL AVE	1,000' W/O COLLIER AVE	RIVERSIDE ST.	AT I-15/SR74 (CENTRAL AVE) IC JCT MOD. BTWN 1,000 FT W/O COLLIER AVE TO RIVERSIDE ST; ADD NB LOOP ENTRY RAMP WITH ACCEL LN, REALIGN NB ENTRY & EXIT RAMPS, ADD SB ACCEL/DECEL LNS, ADD NB DECEL LN, WIDEN SR74 FROM RIVERSIDE DR. TO CENTRAL AVE 2 TO 4 THROUGH LANES AND FROM COLLIER AVE TO CAMBERN AVE FROM 6 TO 8 THRU LNS, CONST NEW RIVERSIDE AVE OC & SR74 PM 15.5 TO 18.5 (EA: 0F3100).	2021	\$57,750
STATE HIGHWAY	MURRIETA	3M0730	15	I-15	AT MURRIETA HOT SPRINGS RD		AT I-15/MURRIETA HOT SPRINGS RD IC - CONSTRUCT NEW NB LOOP ON RAMP AND REALIGN EXISTING NB OFF RAMP (EA: 0J650K)	2017	\$8,100
STATE HIGHWAY	NORCO	3M04WT005	15	I-15 (PM 45.1 TO 46.1)	AT 6TH ST	BTWN HAMNER AVE & SIERRA AVE	RECONSTRUCT INTERCHANGE/RAMPS/ CHANNELIZATION IMPROVEMENTS	2030	\$23,916
STATE HIGHWAY	NORCO	3M04WT007	15	I-15 (PM 42.37 TO 43.37)	AT HIDDEN VALLEY PKWY	BTWN HAMNER AVE & BEYOND NB EXIT RAMP	RECONSTRUCT INTERCHANGE/RAMPS/ CHANNELIZATION IMPROVEMENTS	2025	\$4,403
STATE HIGHWAY	NORCO	3M0733	15	I-15 (PM 43.13 TO 44.13)	AT 2ND ST	BTWN HAMNER AVE & VALLEY VIEW AVE	RECONSTRUCT/WIDEN IC FROM 2 TO 4 LANES AND WIDEN RAMPS	2025	\$7,963
STATE HIGHWAY	RCTC	3160001	15	I-15	CAJALCO RD. (PM 36.8)	SR74 (PM 22.3)	CONSTRUCT 2 TOLL EXPRESS LANES (TEL) (1 TEL IN EA DIR) FROM CAJALCO RD (PM 36.8) TO SR74 (PM 22.3).	2029	\$453,174

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	RCTC	3160002	15	I-15	SR74 (PM 22.3)	TO JCT. I-15/I-215 (PM 8.7)	CONSTRUCT 2 HOV LNS (1 LN EA DIR) FROM SR74 (PM 22.3) TO JCT I-15/I-215 (PM 8.7).	2039	\$375,664
STATE HIGHWAY	RIVERSIDE COUNTY	3M0728	15	I-15 (PM 32.60 TO 33.60)	AT TEMESCAL CANYON	NORTH OF GLENN IVY JUST BEYOND AND BTWN RAMPS	RECONSTRUCT/WIDEN TEMESCAL CANYON IC FROM 2 TO 4 LANES AND RECONSTRUCT RAMPS	2030	\$24,910
STATE HIGHWAY	RIVERSIDE COUNTY	3M0729	15	I-15 (28.36 TO 29.36)	AT HORSETHIEF CANYON RD	JUST BEYOND AND BTWN RAMPS	RECONSTRUCT/WIDEN IC FROM 2 TO 4 LANES AND RECONSTRUCT RAMPS	2030	\$56,079
STATE HIGHWAY	RIVERSIDE COUNTY	RIV01233-RIV01233	15	LIMONITE AVE	HAMNER AVE	WINEVILLE AVE	AT I-15/LIMONITE AVE IC - RECONSTRUCT/WIDEN LIMONITE AVE FROM 4 TO 6 THROUGH LANES BETWEEN HAMNER AVE AND WINEVILLE AVE. RECONSTRUCT/WIDEN NB AND SB EXIT RAMPS FROM 3 TO 4 LANES, REPLACE NB AND SB ENTRY RAMPS WITH ENTRY LOOP RAMPS FROM 2 TO 3 LANES, ENTRY RAMPS INCLUDE HOV LANE, RAMPS INCLUDE EXTENDED ACCELERATION/DECELERATION LANES AND EXTENDED RIGHT TURN LANES (EA 0E150).	2018	\$48,246
STATE HIGHWAY	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV071267-RIV071267	15	I-15	SR60 (PM 51.4)	CAJALCO RD. (PM 36.8)	I-15 IN RIVERSIDE COUNTY: CONSTRUCT 4 TOLL EXPR LNS (TEL) (2 TE EA DIR) FROM SR60 (PM 51.4) TO HIDDEN VALLEY PKWY (PM 42.9) AND CONS 2 TE LNS (1 TE EA DIR) FROM HIDDEN VALLEY PKWY (PM 42.9) TO CAJALCO RD (PM 36.8). ADVANCE SIGNAGE WILL BE INSTALLED AT THE SOUTH END BETWEEN PM 34.7 TO PM 36.8 (CAJALCO RD) AND AT THE NORTH END BETWEEN PM 51.4 (SR60) TO PM 1.3 IN SAN BERNARDINO COUNTY.	2020	\$450,000
STATE HIGHWAY	TEMECULA	3M0721	15	I-15 (PM 4.48 TO 5.48)	AT I-15/RANCHO CALIFORNIA	BTWN YNEZ RD AND JEFFERSON AVE	RECONFIGURE 4 TO 6 LANE IC AND RAMPS AT I-15 AND RANCHO CALIFORNIA. TYPE OF LANES FOR ARTERIAL WIDENING WILL BE THROUGH LANES.	2035	\$59,124
STATE HIGHWAY	TEMECULA	RIV031215-RIV031215	15	FRENCH VALLEY PKWY	JEFFERSON ST	YNEZ RD	FRENCH VALLEY PKWY IC/ARTERIAL PHASES: CONSTRUCT 6 LN IC (JEFFERSON TO YNEZ) & RAMPS, NB/SB AUX LN, CD LNS (3 LNS NB&SB) & MODIFY WINCHESTER RD IC (I-215 PM: 8.43-9.75) (EA-43270)	2018	\$187,691

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	TEMECULA	RIV62031- RIV62031	15	SR79 SOUTH	FRONT ST	BEDFORD CT	I-15/SR79 S.O. IC: REMOVE SB EXIT RAMP, ADD NEW SB EXIT LOOP RAMP, REALIGN SB EXIT RAMP (2 LNS) W/ AUX LN. WIDEN SB ENTRY 1 TO 3, NB EXIT 1 TO 4, NB ENTRY 1 TO 3 & RECON SR79S.	2016	\$45,841
STATE HIGHWAY	WILDOMAR	3M0727	15	I-15 (PM 158 TO 16.8)	AT BUNDY CANYON RD	BTWN ORANGE ST AND CHERRY ST	RECONSTRUCT/WIDEN BUNDY CANYON RD IC FROM 2 TO 4 LANES AND RECONSTRUCT RAMPS	2025	\$24,112
STATE HIGHWAY	BEAUMONT	RIV050535- RIV050535	60	POTRERO BLVD	HEARTLAND PKWY SOUTH	4TH ST	ON SR60 BTWN JACK RABBIT TR & SR60/1-10 JCT: PH1-CONST. NEW POTRERO 6 LN OC (3 LNS EACH DIR) W/TEMP CONNECT TO WESTERN KNOLLS (EA34141/34143). PH2: NEW IC ON/OFF RAMPS. CONST. WB/EB EXIT & ENTRY RAMPS (2 LNS) & WB/EB LOOP ENTRY RAMPS (2 LNS) (ENTRY RAMPS INCL HOV LANE), INCL EB/WB AUX LNS AT EXIT RAMPS, REALIGN WESTERN KNOLLS AVE, AND REMOVE WESTERN KNOLLS AVE CONNECTION TO SR60 (EA34142/34143).	2020	\$79,746
STATE HIGHWAY	CALTRANS	3TK04MA13	60	SR-60	NEAR GILMAN SPRINGS RD	WEST OF JCT 1-10/SR60	ON SR-60 NEAR BEAUMONT: CONSTRUCT NEW EASTBOUND AND WESTBOUND TRUCK LANES FROM GILMAN SPRINGS RD TO 1.47 MILES WEST OF JACK RABBIT TRAIL AND UPGRADE EXISTING INSIDE AND OUTSIDE SHOULDERS TO STANDARD WIDTHS (10-FT INSIDE SHOULDER AND 10-FT OUTSIDE SHOULDER) (EA: ON69U) - CMAQ PM2.5 BENEFITS PROJECT. \$802.9 TC WILL BE UTILIZED FOR CMAQ ENG IN FY 14/15.	2019	\$126,282
STATE HIGHWAY	EASTVALE	3A04A30	60	SR-60 (PM SBD 9.46 TO 10.46)	AT MILLIKEN AVE	BTWN HARREL AVE & IBERIA	RECONSTRUCT/WIDEN IC, RAMPS, AND CHANNELIZATION IMPROVEMENTS	2020	\$4,133
STATE HIGHWAY	JURUPA VALLEY	3A04A29	60	SR-60 (PM 9.06 TO 10.06)	AT RUBIDOUX BLVD	BTWN 30TH & 34TH STS	RECONSTRUCT/WIDEN IC, RAMPS AND CHANNELIZATION IMPROVEMENTS	2030	\$28,507
STATE HIGHWAY	JURUPA VALLEY	3M01WT020	60	SR-60 (PM 2.53 TO 3.53)	AT MISSION BLVD	BTWN GRANITE HILL DR & SEVAINE WAY	RECONSTRUCT INTERCHANGE/RAMPS	2035	\$65,604

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	MORENO VALLEY	3A07045	60	INDIAN ST	SUNNYMEAD BLVD	HEMLOCK AVE	IN THE CITY OF MORENO VALLEY - RECONSTRUCT INDIAN ST X-ING SR 60 FROM 150' S/O SUNNYMEAD BLVD, TO HEMLOCK AVE; COMPLETE RECONSTRUCT. OF THE BRIDGE TO PROVIDE 16'6" CLEARANCE & 4 THROUGH LANES (2 LNS IN EA DIR) & ASSOC. ST IMP. WITHIN THE PROJECT LIMITS (LEFT TURN POCKETS AT SUNNYMEAD AND HEMLOCK INTERSECT., RIGHT-TURN ONLY SB AT SUNNYMEAD, NEW TS AT HEMLOCK/ INDIAN ST., & INTERCONNECT MOD).	2018	\$14,120
STATE HIGHWAY	MORENO VALLEY	3M04WT017	60	SR-60 (PM 14.84 TO 15.84)	AT HEACOCK ST	BTWN HEMLOCK AVE & AMP; SUNNYMEAD BLVD	WIDEN/RECONSTRUCT HEACOCK IC, RAMPS, AND CHANNELIZATION IMPROVEMENTS. NO ADDITIONAL LANES PLANNED.	2025	\$23,873
STATE HIGHWAY	MORENO VALLEY	3M0712-RIV080902	60	REDLANDS BLVD	AT SR-60		AT SR-60/REDLANDS BLVD - WIDEN OC FROM 2 TO 6 THRU LANES; WIDEN WB EXIT & ENTRY RAMPS FROM 1 LANE TO 2 LANES AT EXIT/ENTRY, 3 LANES AT ARTERIAL AND HOV AT ENTRY; WIDEN EB EXIT & ENTRY RAMPS FROM 1 LANE TO 2 LANES AT EXIT/ ENTRY AND HOV AT ENTRY; ADD AUX LANES 1000' EACH DIRECTION WEST OF IC AND 1700' EACH DIRECTION EAST OF IC	2020	\$52,000
STATE HIGHWAY	MORENO VALLEY	3M0713	60	SR-60 (PM 15.85 TO 16.85)	AT PERRIS BLVD	BTWN SUNNYMEAD BLVD & IRONWOOD	RECONSTRUCT/WIDEN ARTERIAL FROM 4 TO 6 LANES AND RECONSTRUCT/WIDEN RAMPS (NO ADDITIONAL LANES PLANNED)	2025	\$37,379
STATE HIGHWAY	MORENO VALLEY	3M0714-RIV080903	60	GILMAN SPRINGS RD	AT SR-60		AT SR-60/GILMAN SPRINGS RD IC - REALIGN GILMAN SPRINGS RD/REMOVE EXISTING EB/WB RAMPS; WIDEN OC FROM 2 TO 6 THRU LANES; WB EXIT IS 1 LANE WIDENING TO 2 LANES THEN TO 3 LANES AT ARTERIAL, WB LOOP & EB ENTRY RAMPS FROM 1 LANE TO 2 LANES W/ HOV; WIDEN EB EXIT RAMPS FROM 1 LANE TO 2 LANES AT EXIT AND 3 LANES AT ARTERIAL; ADD AUX LANES TO WEST OF IC 1200' EB AND 2200' WB	2020	\$70,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	MORENO VALLEY	3M0801-RIV080904	60	THEODORE ST	AT SR-60		AT SR-60/THEODORE ST IC: WIDEN OC FROM 2 TO 4/6 THRU LNS; WIDEN WB EXIT/ENTRY RAMP FROM 1-2 LNS AT EXIT/ENTRY, 3 LNS AT ART. W/ HOV AT ENTRY; WIDEN EB EXIT RAMP FROM 1-2 LNS AT EXIT AND 3 LNS AT ART.; WIDEN EB ENTRY RAMP FROM 1-2 LNS W/HOV; ADD EB LOOP ENTRY WITH 2 LNS AT ART AND 1LN AT ENTRY; ADD AUX LNS 1400' EB DIR E/O IC, 2,500' EB DIR W/O IC, 2,300' WB DIR W/O IC & 1,700' WB DIR E/O IC (EA)	2020	\$386,452
STATE HIGHWAY	MORENO VALLEY	RIV041052-RIV041052	60	MORENO BEACH DR	NORTH RAMPS	EUCALYPTUS AVE	IN MORENO VALLEY AT SR-60/MORENO BEACH DR IC: MODIFY MORENO BEACH DR IC - WIDEN OC FROM 2 TO 6 THROUGH LANES; REALIGN/WIDEN RAMPS (WB EXIT 1 TO 2 LANES), ADD NEW WB ENTRY RAMP (2 LANES), ADD WB AUX LANE, AND INSTALL RELATED DRAINAGE AND ASSOCIATED WORK (EA: 32303).	2016	\$40,700
STATE HIGHWAY	RIVERSIDE, CITY OF	3M04WT018	60	SR-60 (PM 11.23 TO 12.23)	AT MAIN ST	BTWN RUSSELL ST & STODDARD AVE	RECONSTRUCT/WIDEN IC AND RECONSTRUCT/WIDEN RAMPS, CHANNELIZATION IMPROVEMENTS	2025	\$20,304
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3M01MA09	71	SR-71	SR-91	SAN BERNARDINO COUNTY LINE	WIDEN TO 3 MF LANES EACH DIRECTION	2035	\$177,132
STATE HIGHWAY	HEMET	3160006	74	SR-74	PM 36.928	PM 37.955	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF HEMET - SR74/FLORIDA AVENUE WIDENING FROM 4 TO 6 LANES (3 IN EACH DIRECTION) FROM WARREN RD. TO CAWSTON AVE.	2022	\$5,004
STATE HIGHWAY	HEMET	3160007	74	SR-74	PM 37.955	PM 42.088	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF HEMET - SR74/FLORIDA AVENUE WIDENING FROM 4 TO 6 LANES (3 IN EACH DIRECTION) FROM CAWSTON AVE. TO COLUMBIA ST.	2023	\$5,000
STATE HIGHWAY	HEMET	3160008	74	SR-74	PM 42.088	EAST OF PM 43.853	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF HEMET - SR74/FLORIDA AVENUE WIDENING FROM 4 TO 6 LANES (3 IN EACH DIRECTION) FROM COLUMBIA ST. TO RAMONA EXP.	2024	\$7,620
STATE HIGHWAY	HEMET	3A04WT037	74	SR-74 (PM 34:548 TO PM 36.928)	WINCHESTER RD (SR-79)	WARREN RD	WIDEN FROM 4 TO 6 LANES	2025	\$15,228

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	LAKE ELSINORE	3A04WTO47	74	SR-74	HUNCO WAY	ORTEGA MOUNTAINS	IN MID-WESTERN RIVERSIDE COUNTY IN THE CITY OF LAKE ELSINORE: WIDENING OF SR-74 FROM 2 TO 6 THROUGH LANES (3 LANES IN EACH DIRECTION), WEST OF I-15 TO THE ORTEGA MOUNTAINS. OTHER IMPROVEMENTS INCLUDE TURN POCKETS AND ONE TRAFFIC SIGNAL AT INTERSECTION OF SR74 (RIVERSIDE DR) AND GRAND AVE (RV131127).	2020	\$11,500
STATE HIGHWAY	RIVERSIDE COUNTY	3A04SH12	79	SR-79	HUNTER RD	DOMENIGONI PKWY	WIDEN FROM 4 TO 6 LANES	2030	\$124,803
STATE HIGHWAY	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV62024	79	SR79	2.0 KM S/O DOMENIGONI PKWY	GILMAN SPRINGS RD	ON SR79 IN SOUTHWESTERN RIVERSIDE COUNTY BETWEEN 2.0 KILOMETERS SOUTH OF DOMENIGONI PKWY TO GILMAN SPRINGS ROAD: REALIGN AND WIDEN SR79 FROM 2 TO 4 THROUGH LANES.	2020	\$1,125,438
STATE HIGHWAY	COACHELLA	3M01CV03	86	SR-86S (PM 17.81 TO 18.81)	AT AVE 54	BTWN SR-111 RAMP; FILLMORE	CONSTRUCT 4 LANE BRIDGE/INTERCHANGE AND RAMPS ACROSS SR-86S	2035	\$92,843
STATE HIGHWAY	COACHELLA	3M0716	86	SR86S (PM 2102 TO 22.9)	AT DILLON RD	BTWN WEST OF COACHELLA STORM WATER CHANNEL AND AVENUE 47	RECONSTRUCT/WIDEN IC FROM 2 TO 4 LANES AND RECONSTRUCT/WIDEN RAMPS	2020	\$26,851
STATE HIGHWAY	COACHELLA	3M0717-RIV071274	86	AVENUE 52	COACHELLA STORM DRAIN	E/O TYLER ST.	AT SR86S/AVENUE 52: WIDEN AND CONSTRUCT NEW 6 THROUGH LANE IC FROM E/O COACHELLA STORMWATER CHANNEL BRIDGE TO E/O TYLER ST. IMPROVEMENTS INCLUDE: REALIGN POLK ST AND RELOCATE AVE 52 AND POLK ST INTERSECTION, EXTENDED RAMP ACCELERATION/DECELERATION LANES, BIKE LANES, SIDEWALKS, AND RECONSTRUCT TRAFFIC SIGNALS (EA: 0C960).	2020	\$33,000
STATE HIGHWAY	COACHELLA	RIV061159-RIV061159	86	AVENUE 50	E/O COACHELLA STORMWATER CHANNEL BRIDGE	E/O TYLER	AT SR86S/AVENUE 50: WIDEN AND CONSTRUCT NEW 6 THROUGH LANE IC FROM E/O COACHELLA STORMWATER CHANNEL BRIDGE TO E/O TYLER ST. IMPROVEMENTS INCLUDE: EXTENDED RAMP ACCELERATION/DECELERATION LANES, RELOCATE/ REALIGN AVE 50 AND TYLER ST, BIKE LANES, SIDEWALKS, AND RECONSTRUCT TRAFFIC SIGNALS (SAFETEA LU 1702, CA583, #2543) (EA: 0C970)	2019	\$32,160

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	CALTRANS	RIV050102	91	SR-91	ORANGE COUNTY LINE	1.35 KM W/O SR-71	GREEN RIVER RD LANDSCAPE ENHANCEMENTS: NEAR CORONA FROM 1.0 KM E/O ORANGE/ RIVERSIDE CNTY LINE TO 1.35 KM W/O SR 71/91 SEP - INSTALL LANDSCAPE ENHANCEMENTS (EA: 45662, PPNO: 00726)	2015	\$1,832
STATE HIGHWAY	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	30M0701- RIV071250	91	SR91	SR241	PIERCE ST	ON SR-91/I-15: SR91 - CONST 1 MF LN (SR71-I15)/1 AUX LN VAR LOCS (SR241-PIERCE) (OC PM 14.43-18.91), CD SYSTEM (2/3/4 LNS MAIN-I15), 1 TOLL EXPR LN (TEL) & CONVERT HOV TO TEL EA DIR (OC-I15); I15- CONST TEL MED DIR CONNECT NB15 TO WB91 AND EB91 TO SB15, 1 TELEA DIR SR91 DIR CONNECT-ONTARIO IC (I15 PM 37.56-42.94).	2017	\$1,311,660
STATE HIGHWAY	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV070308- RIV070308	91	SR91/71 JCT	SR910.6	SR91 2.6	AT SR91/71 JCT: REPLACE EB 91 TO NB 71 CONNECTOR W/ DIRECT FLY-OVER CONNECTOR, AND RECONSTRUCT THE GREEN RIVER ROAD EB ON-RAMP (EA: 0F541) (\$1,501/\$639/\$200 TOLL CREDITS WILL BE USED IN PS&E TO MATCH DEMO-SAFETEALU/DEMO-TEA21/STP, RESPECTIVELY. \$159 TOLL CREDITS WILL BE USED IN R/W TO MATCH DEMO-SAFETEALU)	2020	\$123,397
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	RIV071250B	91	SR-91	SR-241	PIERCE	ON SR-91/I-15: SR91 - ADD 1 MFLEA DIR (SR241-SR71)(I15-PIERCE); I15 - ADD TEL MED DIR CONNECT SB15 TO WB91 & EB91 TO NB15, 1 TELEA DIR HIDDEN VALLEY-SR91 DIR CONNECT.	2035	\$519,327
STATE HIGHWAY	RIVERSIDE, CITY OF	3M01W1022	91	SR-91 (PM 15:40 TO 15:70)	AT ADAMS ST	BTWN DIANA AVE & INDIANA AVE	RECONSTRUCT/WIDEN IC AND RAMP	2025	\$32,000
STATE HIGHWAY	RIVERSIDE, CITY OF	3M01W1023	91	SR-91 (PM 16:15 TO 17:15)	AT MADISON ST	BTWN GARDEN ST & INDIANA AVE	RECONSTRUCT/WIDEN IC AND RAMP	2025	\$32,486
STATE HIGHWAY	RIVERSIDE, CITY OF	3M01W1026	91	SR-91 (PM 12:9 TO 13:1)	AT TYLER ST	BTWN DIANA AVE & INDIANA AVE	RECONSTRUCT/WIDEN IC AND RAMP	2025	\$49,044
STATE HIGHWAY	PALMSPRINGS	3A01CV098	111	VISTA CHINO	N. PALM CANYON DR	SUNRISE WAY	WIDEN FROM 4 TO 6 LANES	2031	\$8,404
STATE HIGHWAY	RIVERSIDE COUNTY	3A07195	195	SR 195	AVE 66 / SR86 IC	BTWN W/O BUCHANAN ST AND E/O SR86	WIDEN FROM 2 TO 6 LANES	2035	\$68,423

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	CALTRANS	0121D	215	I-215	SR-91	SR-60	ON I-215/SR91/SR60, RIV I215 COR IMPROV PROJ - FROM 60/91/215 JCT TO 60/215 SPLIT - WIDEN 6 TO 8 LNS, INCLUDING MAINLINE/IC IMPROVS, ADD HOV, AUX, & SB TRUCK CLIMB LN, AND LANDSCAPING (EA: 3348U1, 33486, 33487, AND 33488). MAINLINE COMPLETE - THIS PROJECT LISTING IS ONLY FOR REMAINING LANDSCAPE AND GARVEE.	2013	\$782,720
STATE HIGHWAY	CALTRANS	3M0738-RIV110122	215	I215	1.5 MILES N/O MURRIETA HOT SPRINGS RD	ONE MILE S/O FRENCH VALLEY PARKWAY	ON I-215 IN SW RIVERSIDE COUNTY FROM ONE AND ONE-HALF MILES N/O MURRIETA HOT SPRINGS RD TO FRENCH VALLEY PKWY OFF-RAMP. CONSTRUCT A THIRD MIXED-FLOW LANE IN THE MEDIAN AND AUX-LANE FROM MURRIETA HOT SPRINGS SB ENTRANCE RAMP TO ONE-HALF MILE S/O FRENCH VALLEY PKWY OFF-RAMP (WIDEN I215/I-15 SEPARATION FROM 2 TO 4 LANES)(EA: OF163).	2019	\$14,874
STATE HIGHWAY	MENIFEE	3A04A27	215	I-215 (PM 15.95 TO 16.95)	AT GARBANI RD	BTWN HAUN RD & ANTELOPE RD	CONSTRUCT NEW 4 LANE (2 LNS EAC DIR) AND RAMPS	2025	\$60,573
STATE HIGHWAY	MENIFEE	3M0719	215	I-215 (PM 20.3 TO 21.3)	SUN CITY BLVD.	EASTERLY OF ENCANTO DR.	RECONSTRUCT/WIDEN IC FROM 4 TO 6 LANES AND RECONSTRUCT RAMPS	2020	\$38,000
STATE HIGHWAY	MORENO VALLEY	RIV050533-RIV050533	215	CACTUS AVE	W/O BNSF RR BRIDGE	ELSWORTH ST	AT I-215/CACTUS AVE IC: WIDEN IC FROM 3 TO 6 THRU LNS (EB FROM 2 TO 3 BTWN W/O BNSF RR TO 1300' E/O VETERANS WAY, ADD 4TH EB LANE FROM NB EXIT RAMP TO E/O ELSWORTH ST, WIDEN WB FROM I&2 TO 3 THRU LNS FROM COMMERCE CENTER DR TO BNSF RR), WIDEN RAMPS 1 TO 2	2018	\$65,370
STATE HIGHWAY	MURRIETA	3M10WT03-RIV100107	215	KELLER RD	500' W/O I-215 CL	500' E/O I-215 CL	IN SW RIVERSIDE CO, I-215/KELLER RD, IC: REPLACE EXISTING 2-LN I-215/KELLER RD. UNDERPASS WITH A NEW 4-LN (2 LNS IN EA DIR, 1,500' EAST AND WEST OF I-215 CL) IC, INCLUDING LEFT TURN LANES IN EACH DIR, AUX LANES AT THE SB OFF-RAMP & NB ON-RAMP (APPROX. 2,400'), ADD 2-LN NB/SB OFF RAMPS, NB 1-LN LOOP ON-RAMP, AND 2-LN NB/SB ON-RAMPS W/HOV, SWS, AND REALIGN ANTELOPE RD APPROX 1/4 MI EAST.	2019	\$63,900

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	PERRIS	3A04WT059	215	I-215 (PM 31.83 TO 32.83)	AT HARLEY KNOX BLVD	BTWN HARVILL AVE AND WESTERN WAY	RECONSTRUCT AND WIDEN HARLEY KNOX BLVD OC FROM 2 TO 4 LANES AND RECONSTRUCT/WIDEN RAMPS	2020	\$32,434
STATE HIGHWAY	PERRIS	3M04WT009-RIV091012	215				IN MID-WESTERN RIVERSIDE COUNTY IN THE CITY OF PERRIS - CASE ROAD/MATTHEWS RD. (SR-74) AT I-215 INTERCHANGE: RECONFIGURATION OF THE EXISTING CASE RD/MATTHEWS RD. (SR-74) AT I-215 IC, IMPROVING THE INTERSECTION OPERATIONS AND ELIMINATING CROSS TRAFFIC CONFLICTS ON THE SB RAMPS, WIDEN MATTHEWS RD FROM 2/3 LANES TO 4 LANES FROM CASE RD TO TRUMBULE RD (EA: 0P420).	2018	\$21,000
STATE HIGHWAY	PERRIS	3M04WT014-RIV131003	215				IN CENTRAL RIVERSIDE COUNTY IN THE CITY OF PERRIS - I-215 AT NUEVO INTERCHANGE IMPROVEMENTS: WIDENING OF OC FROM 4 TO 6 LANES (3 LANES IN EA DIRECTION) AND WIDENING OF NB AND SB ENTRY RAMP FROM 2 TO 3 LANES. ADDITIONAL IMPROVEMENTS INCLUDE SIDEWALK INSTALLATION ON BOTH SIDES OF THE OC (EA: 00670).	2020	\$13,000
STATE HIGHWAY	PERRIS	3M04WT014-RIV131006	215				IN THE CITY OF PERRIS - I-215 AT NUEVO RD IC IMP: WIDENING OF NB AND SB OFF RAMPS FROM 2 TO 3 LNS, ADD. OF WB RT TURN LN ONTO THE NB I-215 ON RAMP (WID. FROM 2 TO 3 LANES, 2 EXIST. THRU LNS + 1 NEW RT TURN LN), AND ADDITION OF WB LEFT TURN LN ONTO SB I-215 ON RAMP (WID. FROM 3 TO 4 LNS - 2 THRU EXIST LNS, 1 LEFT TURN LN + 1 NEW LEFT TURN LANE) & SW INSTALL E/O OC.	2015	\$4,100
STATE HIGHWAY	PERRIS	3M0708	215	I-215 (PM 30.9)	AT RAMONA EXPWY	BTWN RAMPS	RECONSTRUCT/WIDEN FROM 4 TO 8 LANES, WIDEN SB AND NB EXIT RAMPS AT I-215/RAMONA EXPWY IC AND OC, CONSTRUCT DUAL LEFT-TURN LANES AT THE EXIT RAMPS TEMINI	2030	\$66,469
STATE HIGHWAY	PERRIS	3M0725	215	I-215 (PM 29.5 - 30.0)	AT PLACENTIA	BTWN RAMPS	CONSTRUCT NEW 6 LANE IC AND RAMPS AT PLACENTIA OC	2020	\$68,420

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	PERRIS	3M0731	215	I-215 (PM 24.7 TO 26.1)	AT ELLIS AVE	BTWN PERRIS VALLEY STORM DRAIN W/O I-215 TO DUNLAP DR E/O I-215	CONSTRUCT NEW 2 LANE IC AND RAMPS (1 LANE)	2030	\$130,412
STATE HIGHWAY	PERRIS	RIV060111	215				IN MID WESTERN-RIVERSIDE CO IN THE CITY OF PERRIS - I-215/ETHANAC RD IC IMP: IC OPERATIONAL IMP. OF THE NB & SB OFF RAMPS @ I-215/ETHANAC RD AND ON ETHANAC ON EITHER SIDE OF I-215 FOR UP TO 1,200 FT. IMPROVEMENTS CONSIST OF THE WIDENING OF THE ON AND OFF RAMPS TO PROVIDE LEFT AND RIGHT TURN POCKETS, T.S. UPGRADE AT THE RAMP TERMINI & WIDEN OC 2 TO 4 LANES WITH TURN LANES.	2022	\$12,000
STATE HIGHWAY	RIVERSIDE COUNTY	3M0724	215	I-215 (PM 35.92 TO 36.92)	AT ALESSANDRO BLVD	BTWN BNSF & OLD 215 FRONTAGE ROAD	WIDEN/RECONSTRUCT IC FROM 4 TO 6 LANES AND RECONSTRUCT/WIDEN RAMPS	2030	\$6,212
STATE HIGHWAY	RIVERSIDE COUNTY	RIV011232- RIV011232	215	SCOTT RD	HAUN RD/ZEIDERS RD	E/O ANTELOPE RD	AT I-215/SCOTT RD IC: RECONSTRUCT/WIDEN FROM 2 TO 6 THROUGH LANES BTWN E/O ANTELOPE RD & HAUN RD, RECONSTRUCT/WIDEN RAMPS - NB EXIT 2 TO 3 LNS, NB ENTRY 1 TO 3 LNS, SB EXIT 2 TO 4 LNS, SB ENTRY 1 TO 2 LNS, ADD NB EXIT LOOP RAMP (2 LNS) & SB ENTRY RAMP (3 LNS). ENTRY RAMPS INCLUDE HOV LN, RAMPS INCLUDE EXTENDED ACCELERATION/DECELERATION LNS, ADD EXTENDED RIGHT-TURN LNS (EA: 0A020)	2017	\$52,250
STATE HIGHWAY	RIVERSIDE COUNTY	RIV050534- RIV050534	215	NEWPORT RD	HAUN RD	ANTELOPE RD	AT I-215/NEWPORT RD IC: RECONSTRUCT/WIDEN FROM 4 TO 6 THROUGH LANES BETWEEN HAUN RD AND ANTELOPE RD, RELOCATE NB AND SB EXIT RAMPS (3 LANES), RECONFIGURE NB & SB ENTRY RAMPS TO INCLUDE HOV LANE, ADD NEW NB AND SB LOOP ENTRY RAMPS (2 LANES), INCLUDE EXTENDED RAMP ACCELERATION/DECELERATION LANES, ADD EXTENDED DEDICATED RIGHT-TURN LANES (EA: 0J440)	2016	\$36,450

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	3H07A	215	I-215	NUEVO RD	BOX SPRINGS RD	ON I-215 FROM NUEVO RD TO BOX SPRINGS RD. CONSTRUCT 2 HOV LANES (1 LANE IN EACH DIRECTION) - PA&ED.	2030	\$212,500
STATE HIGHWAY	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV070309	215	I-215	SCOTT RD	NUEVO RD	ON I-215 IN SOUTHWEST RIVERSIDE COUNTY FROM SCOTT RD TO NUEVO RD IC. CONSTRUCT A MIXED FLOW LANE IN EACH DIRECTION AND RECONSTRUCT AUX LANES BETWEEN D ST IC AND NUEVO RD IC (EA: OF162)	2015	\$123,502
STATE HIGHWAY	CALTRANS	30M0701-RIVLS06	999				GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - SHOPP PROGRAM: PROJECTS ARE CONSISTENT W/40 CFR 93.126 EXEMPT TABLE 2 - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	2017	\$19,654
STATE HIGHWAY	CALTRANS	RIVLS08	999				GROUPED PROJECTS FOR SAFETY IMPROVEMENTS, SHOULDER IMPROVEMENTS, PAVEMENT RESURFACING AND/OR REHABILITATION - MINOR PROGRAM: PROJECTS ARE CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2&3 - RR/HWY CROSSING, SAFER NON-FED-AID SYSTEM RDS, SHOULDR IMPRVMENTS, TRAFFIC CONTROL DEVICES/ OPERATING ASSISTANCE OTHER THAN SIGNALS, INTERSECTN SIGNAL PROJECTS AT INDVL INTERSECTN, (DESCRIPTION CONT. IN COMMENTS)	2015	\$5,255
STATE HIGHWAY	CALTRANS	30M0701-RIVLS02	999				GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - SHOPP ROADWAY PRESERVATION PROGRAM: PROJECTS ARE CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLE 2 - PAVEMENT RESURFACING AND/OR REHABILITATION, EMERGENCY RELIEF (23 USC 125), WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES)	2018	\$391,053

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
STATE HIGHWAY	CALTRANS	30M0701-RVLS13	999				GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION ON THE STATE HIGHWAY SYSTEM - HIGHWAY MAINTENANCE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 & 3 - PAVEMENT RESURFACING AND/OR REHABILITATION	2016	\$6,806
STATE HIGHWAY	CALTRANS	36R104	999				GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MOBILITY PROGRAM: PROJECTS ARE CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2&3 - RR/HWY CROSSING, SAFER NON-FED-AID SYSTEM RDS, SHOULDR IMPRVMTS, TRAFFIC CNTRL DEVICES/OPERATING ASSIST OTHER THAN SIGNALS, INTERSCN SIGNAL PRJCTS AT INDVL INTERSCN; PVMNT MARKING DEMO, TCL OUTSIDE THE UA, LIGHTING IMPRVMTS, EMERGENCY TRUCK PULLOVERS	2017	\$13,206
STATE HIGHWAY	MORENO VALLEY	RIV071241		SR-60	GRAHAM ST OC		IN MORENO VALLEY ON GRAHAM ST: CONSTRUCT 4 THROUGH LANE OC (2 LANES EACH DIR) OVER SR60 BETWEEN SUNNYMEAD BLVD AND HEMLOCK AVE. ADD SIGNALS AT HEMLOCK, LEFT-TURN POCKET LANES AT BOTH INTERSECTIONS, AND ADD PEDESTRIAN SIDEWALK (APPROX 1/4 MILES) ON OC BOTH SIDES	2022	\$20,100
STATE HIGHWAY	RIVERSIDE COUNTY	RIV050531		I-15	@ NEW EASTERN BYPASS IC S/O TEMECULA		ON I-15 S/O TEMECULA - CONSTRUCT NEW EASTERN BYPASS/I-15 IC (4 LANES) & RAMPS (1 LANE) AND 4 LANE (2 LNS EACH DIR)/EASTERLY CONNECTING ROAD (APPROX 2 MILES)	2035	\$43,736
TRANSIT	CITY OF RIVERSIDE	3160058	0	REPLACEMENT BUSES	CITY OF RIVERSIDE	CITY OF RIVERSIDE	REPLACEMENT CNG BUSES FOR PARATRANSIT SERVICES.	2026	\$567
TRANSIT	CITY OF RIVERSIDE	3160059	0	CAPITALIZED PREVENTATIVE MAINTENANCE	CITY OF RIVERSIDE	CITY OF RIVERSIDE	CAPITALIZED PREVENTATIVE MAINTENANCE	2026	\$400

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
TRANSIT	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	3RL04-RIV11207	0				IN WESTERN RIVERSIDE COUNTY - CONTINUE THE IMPLEMENTATION OF PARK-N-RIDE FACILITIES THROUGH PROPERTY LEASES (VARIOUS LOCATIONS THROUGHOUT THE WESTERN COUNTY).	2018	\$690
TRANSIT	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV061143	0				RCTC'S SHARE OF OCTA'S FY07 REHAB AND RENOVATION (FY07 5307) (UZA: RIV-SAN)	2014	\$75
TRANSIT	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV520109-RIV520109	0				RECONSTRUCT & UPGRADE SAN JACINTO BRANCH LINE FOR RAIL PASSENGER SERVICE (RIVERSIDE TO PERRIS) (PERRIS VALLEY LINE) (FY 07 5307) (UZA: RIV-SAN).	2015	\$248,251
TRANSIT	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV520111	0				REGIONAL RIDESHARE - CONTINUING PROGRAM (\$115.73 IN FY12/13 AND \$193.96 IN FY13/14 IN TOLL CREDITS UTILIZED TO MATCH CMAQ IN CONS).	2018	\$12,857
TRANSIT	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3160053	0	PARK-AND-RIDE FACILITIES	COUNTYWIDE	COUNTYWIDE	PARK-AND-RIDE FACILITIES IN THE RIVERSIDE COUNTY (IN THE VICINITY OF CORONA/RIVERSIDE, LAKE ELSINORE, AND TEMECULA/MURRIETA)	2020	\$12,000
TRANSIT	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3160054	0	FREEWAY SERVICE PATROL	COUNTYWIDE	COUNTYWIDE	EXPANDED FREEWAY SERVICE PATROL FROM ORANGE COUNTY LINE TO 91/15 INTERCHANGE IN RIVERSIDE COUNTY	2020	\$333
TRANSIT	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3160055	0	RIDESHARE	COUNTYWIDE	COUNTYWIDE	RCTC COMMUTER ASSISTANCE PROGRAM: RIDESHARE PROGRAMS, INCENTIVES VANPOOL PROGRAM (VANPOOL LEASE, ASSET MANAGEMENT, CONSULTANTS, OTHER), PROGRAM OUTREACH, TDM (TELECOMMUTER, PARK-AND-RIDE, ETC.)	2036	\$13,373
TRANSIT	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3160056	0	METROLINK EXPANSION OF LA SIERRA STATION	LA SIERRA STATION	LA SIERRA STATION	EXPANSION OF LA SIERRA STATION	2025	\$3,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3120027	0	MULTIMODAL TRANSIT CENTER	CITY OF RIVERSIDE	CITY OF RIVERSIDE	ENGINEERING AND CONSTRUCTION OF MULTIMODAL TRANSIT CENTER	2030	\$25,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
TRANSIT	RIVERSIDE TRANSIT AGENCY	3120028	0	40' BUSES (DIRECTLY-OPERATED) EXPANSION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	40' BUS EXPANSION - EQUIPMENT FOR TRANSIT SERVICE EXPANSION AS POPULATION AND URBAN DEVELOPMENT GROWS THROUGHOUT THE RTA SERVICE AREA THAT WILL IMPROVE FREQUENCY, SCHEDULE ADHERENCE, AND EXTENSIONS OF EXISTING BUS ROUTES.	2035	\$51,217
TRANSIT	RIVERSIDE TRANSIT AGENCY	3120029	0	TYPE VII BUSES (CONTRACT-OPERATED) EXPANSION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	TYPE VII BUS EXPANSION - EQUIPMENT FOR TRANSIT SERVICE EXPANSION AS POPULATION AND URBAN DEVELOPMENT GROWS THROUGHOUT THE RTA SERVICE AREA THAT WILL IMPROVE FREQUENCY, SCHEDULE ADHERENCE, AND EXTENSIONS OF EXISTING BUS ROUTES.	2035	\$14,847
TRANSIT	RIVERSIDE TRANSIT AGENCY	3120030	0	40' BUSES (DIRECTLY-OPERATED) REPLACEMENT	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	40' BUS REPLACEMENTS - EQUIPMENT FOR TRANSIT SERVICE SUSTAINABILITY THROUGHOUT THE RTA SERVICE AREA WITH OPERATIONAL LEVELS FROM 10-MIN. TO 60-MIN. HEADWAYS.	2035	\$238,610
TRANSIT	RIVERSIDE TRANSIT AGENCY	3120031	0	TYPE VII BUSES (CONTRACT-OPERATED) REPLACEMENT	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	TYPE VII BUS REPLACEMENTS - EQUIPMENT FOR TRANSIT SERVICE SUSTAINABILITY THROUGHOUT THE RTA SERVICE AREA WITH OPERATIONAL LEVELS FROM 10-MIN. TO 60-MIN. HEADWAYS.	2040	\$56,356
TRANSIT	RIVERSIDE TRANSIT AGENCY	3120035	0	CENTRAL SPINE SERVICE	WESTERN RIVERSIDE COUNTY - CORONA TO MORENO VALLEY	WESTERN RIVERSIDE COUNTY	EQUIPMENT FOR COMMUTER TRANSIT SERVICE WITH STOPS LOCATED A MILE OR MORE APART.	2020	\$13,200

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160043	0	OPERATING & MAINTENANCE FACILITIES/ SUPPORT INFRA-STRUCTURE MASTER PLAN AND IMPLEMENTATION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	PREPARE OPERATING & MAINTENANCE FACILITIES/ SUPPORT INFRASTRUCTURE MASTER PLAN TO MEET FUTURE PUBLIC TRANSIT NEEDS OF RTA'S SERVICE AREA. SUPPORT PREPARE OPERATING & MAINTENANCE FACILITIES/ SUPPORT INFRASTRUCTURE MASTER PLAN TO MEET FUTURE PUBLIC TRANSIT NEEDS OF RTA'S SERVICE AREA. SUPPORT INFRASTRUCTURE INCLUDES BUT IS NOT LIMITED TO A SOLAR POWER PLANT, CHARGING STATIONS, AND RELATED EQUIPMENT TO INTRODUCE ELECTRIC BUSES, VANS, AND SUPPORT VEHICLES. IMPLEMENTATION INCLUDES PLANNING, LAND ACQUISITION, ENVIRONMENTAL CLEARANCE, ARCHITECTURAL & ENGINEERING, AND CONSTRUCTION.	2035	\$50,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160044	0	UCR TRANSIT HUB	UCR	UCR	PLANNING, ENVIRONMENTAL CLEARANCE, ENGINEERING, AND CONSTRUCTION OF A TRANSIT HUB AT THE UNIVERSITY OF CALIFORNIA, RIVERSIDE (UCR).	2035	\$15,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160045	0	BUS RAPID TRANSIT INFRA-STRUCTURE IMPROVEMENTS	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	BUS RAPID TRANSIT INFRASTRUCTURE FOR RTA'S ADDITIONAL RAPIDLINK ROUTES. PLAN FOR LAND ACQUISITION, ENVIRONMENTAL CLEARANCE, ARCHITECTURAL & ENGINEERING, AND CONSTRUCTION.	2035	\$10,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160046	0	TYPE II BUSES (DIAL-A-RIDE) EXPANSION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	EXPANSION EQUIPMENT FOR PARATRANSIT (DIAL-A-RIDE) TRANSIT SERVICE AS POPULATION AND URBAN DEVELOPMENT GROWS THROUGHOUT RTA'S SERVICE AREA.	2035	\$3,605
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160047	0	TROLLEY BUS EXPANSION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	TROLLEY/BUS EXPANSION FOR TRANSIT SERVICE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, FREQUENCY ENHANCEMENTS, SCHEDULE ADHERENCE, AND EXTENSION OF EXISTING BUS ROUTES	2035	\$1,107
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160048	0	NON-REVENUE SUPPORT CARS EXPANSION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	NON-REVENUE SUPPORT CARS EXPANSION.	2040	\$1,288

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160049	0	NON-REVENUE SUPPORT TRUCKS	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	NON-REVENUE SUPPORT TRUCKS EXPANSION.	2040	\$1,854
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160050	0	TYPE II BUSES (DIAL-A-RIDE) REPLACEMENT	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	REPLACEMENT PARTRANSIT (DIAL-A-RIDE) TYPE II BUSES FOR TRANSIT SERVICE SUSTAINABILITY THROUGHOUT THE RTA SERVICE AREA.	2040	\$31,219
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160051	0	TROLLEY BUS REPLACEMENT	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	REPLACEMENT TROLLEY BUSES FOR TRANSIT SUSTAINABILITY THROUGHOUT THE RTA SERVICE AREA WITH OPERATIONAL LEVELS FROM 10-MIN TO 60-MIN HEADWAYS.	2040	\$2,215
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160052	0	NON-REVENUE SUPPORT CARS REPLACEMENT	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	NON-REVENUE SUPPORT CARS REPLACEMENT.	2040	\$5,279
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160060	0	RAPIDLINK SERVICE RIVERSIDE/MORENO VALLEY/PERRIS	RIVERSIDE	PERRIS	PLANNING AND DEVELOPMENT FOR RAPIDLINK SERVICE BETWEEN RIVERSIDE, MORENO VALLEY, AND PERRIS, INCLUDING BUT NOT LIMITED TO, ROLLING STOCK AND STOP INFRASTRUCTURE.	2030	\$25,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160061	0	NON-REVENUE SUPPORT TRUCKS REPLACEMENT	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	NON-REVENUE SUPPORT TRUCKS REPLACEMENT	2040	\$6,736
TRANSIT	RIVERSIDE TRANSIT AGENCY	3TC04TR1	0	TRANSIT CENTER IN BANNING/BEAUMONT/CALIMESA AREA	BANNING/BEAUMONT/CALIMESA AREA	BANNING/BEAUMONT/CALIMESA AREA	REGIONAL TRANSIT CENTER FOR MASS TRANSIT SERVICE IN WESTERN RIVERSIDE COUNTY IN THE VICINITY OF I-10 AND I-60 JUNCTION.	2035	\$8,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3TC04TR10	0	TRANSIT CENTER IN LAKE ELSINORE/ELSONORE/CANYON LAKE AREA	LAKE ELSINORE/CANYON LAKE	LAKE ELSINORE/CANYON LAKE	REGIONAL TRANSIT CENTER FOR MASS TRANSIT SERVICE IN CENTRAL WESTERN RIVERSIDE COUNTY ALONG I-15 CORRIDOR.	2035	\$7,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3TC04TR6	0				IN WESTERN RIVERSIDE COUNTY FOR RTA IN THE CITY OF HEMET: CONSTRUCT NEW HEMET TRANSIT FACILITY ON KIRBY ST BETWEEN DEVONSHIRE AVE AND W. LATHAM AVE. THE IMPROVEMENTS WILL ACCOMMODATE NINE BUS ROUTES AND WILL INCLUDE PASSENGER SHELTERS AND ITS ELEMENTS.	2015	\$1,442

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
TRANSIT	RIVERSIDE TRANSIT AGENCY	3TC04TR8	0	TRANSIT CENTER IN JURUPA VALLEY	JURUPA VALLEY	JURUPA VALLEY	REGIONAL TRANSIT CENTER FOR BUS SERVICE IN THE NORTHWEST AREA OF RIVERSIDE COUNTY.	2035	\$10,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3TC0702	0	ASSOCIATED TRANSIT ENHANCEMENTS	WESTERN RIVERSIDE COUNTY SERVICE AREA	WESTERN RIVERSIDE COUNTY	BUS STOP ENHANCEMENTS WITH SUPPORT EQUIPMENT, RELATED AMENITIES, AND LANDSCAPING TO KEEP PACE WITH NEW TECHNOLOGY IN THE AREAS OF CUSTOMER CONVENIENCES, SAFETY, ENVIRONMENTAL IMPROVEMENTS, ACCESSIBILITY, AND AESTHETIC VALUE.	2035	\$17,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3TL307	0	TRANSIT CENTER REHABILITATION AND MODERNIZATION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	MAINTENANCE, UPGRADE, POTENTIAL OF EXPANSION, AND INTRODUCTION OF NEW TECHNOLOGY FOR NINE TRANSIT CENTERS.	2030	\$20,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3TL807	0	TECHNOLOGY INFRA-STRUCTURE UPGRADE AND MODERNIZATION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	CONSISTENT WITH THE TECHNOLOGY STRATEGIC PLAN, SYSTEM UPGRADES, REAL TIME PASSENGER INFORMATION, FARE COLLECTION, AND OPERATIONS MANAGEMENT TECHNOLOGIES.	2030	\$45,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3TR04A	0				BUS RAPID TRANSIT (BRT) ENHANCEMENTS: TRANSIT SIGNAL PRIORITIZATION, ADVERTISING, MARKETING, PLACEMENT/LOGISTICS OF BRT INFRASTRUCTURE, STUDIES, ETC. FOR BRT DEVELOPMENT & IMPLEMENTATION (FY 05 5307)	2015	\$89
TRANSIT	RIVERSIDE TRANSIT AGENCY	RIV050553	0				IN TEMECULA FOR RIVERSIDE TRANSIT AGENCY - CONSTRUCT NEW TEMECULA/MURRIETA TRANSIT CENTER (04, 05, 06, 07, E-2006-191, E-2007-0131, & 2008-BUSP-0131, SAFETEA-LU).	2015	\$9,135
TRANSIT	RIVERSIDE TRANSIT AGENCY	RIV051007	0	TRANSIT CENTER IN MORENO VALLEY	MORENO VALLEY	MORENO VALLEY	REGIONAL TRANSIT CENTER FOR MASS TRANSIT SERVICE IN WESTERN RIVERSIDE COUNTY IN THE MORENO VALLEY VICINITY, SOUTH OF SR-60 ALONG THE I-215 CORRIDOR.	2035	\$6,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	RIV061142	0				IN WESTERN RIVERSIDE COUNTY FOR RTA: PURCHASE DIRECT TV & WIFI ON COMMUTER LINK FOR ENHANCED COMMUTER TRAVEL (FY 08 5307) (UZA: RIV-SAN)	2014	\$290

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
TRANSIT	RIVERSIDE TRANSIT AGENCY	RIV080928	0				IN WESTERN RIVERSIDE COUNTY FOR RTA: UPGRADE AND REPLACE ORACLE SERVERS AND IMPLEMENT A DATA CENTER SERVER VIRTUALIZATION SYSTEM IN RIVERSIDE CONNECTED WITH A LIVE REPLICATED DISASTER RECOVERY SITE IN HEMET (FY 09 5307).	2015	\$379
TRANSIT	RIVERSIDE, CITY OF	RIV080926	0				FOR RIVERSIDE SPECIAL SERVICES - CONSTRUCT FLEET BAY FOR PARATRANSIT VEHICLES, PER APPROVED 2008/2009 SRTP, TABLE 4 - CAPITAL PROJECT NO. FY 09-3 (FY 09 5307) (UZA: RIV-SAN)	2012	\$1,030
TRANSIT	SUNLINE TRANSIT AGENCY	3160062	0	NEW OPERATIONS AND MAINTENANCE FACILITY AT THOUSAND PALMS DIVISION	THOUSAND PALMS	THOUSAND PALMS	CONSTRUCT NEW FACILITY AT THOUSAND PALMS LOCATION TO ACCOMMODATE EXISTING AND EXPANSION FLEET AS THE CURRENT FACILITY IS NEARING THE END OF ITS USEFUL LIFE.	2025	\$45,000
TRANSIT	SUNLINE TRANSIT AGENCY	3160063	0	CENTER OF EXCELLENCE - LEARNING CENTER AT THOUSAND PALMS FACILITY	THOUSAND PALMS	THOUSAND PALMS	CONSTRUCT NEW LEARNING CENTER TO TRAIN AND EDUCATE STUDENTS IN TRANSIT, HYDROGEN, CNG, AND ADMINISTRATION INDUSTRY.	2025	\$20,000
TRANSIT	SUNLINE TRANSIT AGENCY	3160064	0	NEW MAINTENANCE AND OPERATIONS FACILITY AT DIVISION II IN INDIO, CA	INDIO	INDIO	CONSTRUCT NEW OPERATIONS AND MAINTENANCE FACILITY AT THE INDIO DIVISION TO ACCOMMODATE EXISTING AND EXPANSION FLEET. CURRENT FACILITY HAS REACHED ITS USEFUL LIFE AND REPAIRING THE EXISTING FACILITY IS NO LONGER COST EFFECTIVE.	2025	\$20,000
TRANSIT	SUNLINE TRANSIT AGENCY	3160065	0	NEW INTELLIGENT TRANSPORTATION SYSTEMS (ITS) PROGRAM	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE AND IMPLEMENTATION OF NEW ITS EQUIPMENT.	2025	\$1,500

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
TRANSIT	SUNLINE TRANSIT AGENCY	3160066	0	NEW INFORMATION TECHNOLOGY (IT) PROJECT	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE AND IMPLEMENTATION OF NEW IT EQUIPMENT.	2025	\$300
TRANSIT	SUNLINE TRANSIT AGENCY	30M0701-RIV071263	0				IN COACHELLA VALLEY - FRED WARING CORRIDOR EXPRESS SERVICE DEMONSTRATION PROJECT: PROVIDE LIMITED EXPRESS SERVICE FROM THE INDIO TRANSFER LOCATION TO THE TRANSFER LOCATION ON TOWN CENTER WAY WITH SERVICE TO COLLEGE OF THE DESERT AND LIMITED STOPS ALONG THE CORRIDOR.	2015	\$350
TRANSIT	SUNLINE TRANSIT AGENCY	3ITS0701	0				IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - PURCHASE OF VARIOUS IT EQUIPMENT, SOFTWARE AND HARDWARE FOR EXISTING AGENCY SYSTEM NEEDS AND TO STREAMLINE OPERATIONS AND PRODUCE REPORTS FOR SUNLINE SERVICES (FTA 5307 - FY13) (UZA- INCCPS).	2014	\$105
TRANSIT	SUNLINE TRANSIT AGENCY	3RL04-RIV10408	0				IN COACHELLA VALLEY - RIDESHARE PROGRAM (FTA 5316, FY'S 09 AND 10).	2014	\$165
TRANSIT	SUNLINE TRANSIT AGENCY	3TC04TR3	0	TRANSIT CENTERS	COACHELLA VALLEY	COACHELLA VALLEY	CONSTRUCT 3 TRANSIT CENTERS (WEST, CENTRAL, AND EAST VALLEY) IN COACHELLA VALLEY. LOCATIONS TO BE DETERMINED.	2025	\$10,267
TRANSIT	SUNLINE TRANSIT AGENCY	3TC0703	0	PARK-AND-RIDE LOTS	COACHELLA VALLEY	COACHELLA VALLEY	ACQUIRE PROPERTY AND CONSTRUCT 3 PARK AND RIDE LOTS	2030	\$17,805
TRANSIT	SUNLINE TRANSIT AGENCY	3TL0407	0	TRANSFER LOCATION IMPROVEMENT	COACHELLA VALLEY	COACHELLA VALLEY	FACILITY IMPROVEMENT TO ACCOMMODATE ADDITIONAL SERVICE ROUTES BASED ON RECOMMENDATION FROM COMPREHENSIVE OPERATIONAL ANALYSIS	2025	\$7,574
TRANSIT	SUNLINE TRANSIT AGENCY	3TL1007	0	PREVENTIVE MAINTENANCE	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE VEHICLE PARTS AND PAY FOR LABOR COST ASSOCIATED WITH ONGOING MAINTENANCE OF REVENUE VEHICLES	2040	\$2,278
TRANSIT	SUNLINE TRANSIT AGENCY	3TL104	0	PARATRANSIT SERVICE IMPROVEMENTS	COACHELLA VALLEY	COACHELLA VALLEY	SERVICE IMPROVEMENTS FOR SENIORS AND PERSONS WITH DISABILITIES.	2025	\$23,908

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
TRANSIT	SUNLINE TRANSIT AGENCY	3TL1107	0	CAPITALIZED PREVENTATIVE MAINTENANCE	COACHELLA VALLEY	COACHELLA VALLEY	EQUIPMENT FOR CONTINUED FACILITY MAINTENANCE, REPAIR AND REPLACEMENT.	2025	\$331
TRANSIT	SUNLINE TRANSIT AGENCY	3TL1207	0	MISCELLANEOUS MAINTENANCE EQUIPMENT	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE VARIOUS MAINTENANCE EQUIPMENT FOR THE MAINTENANCE DEPARTMENT.	2025	\$200
TRANSIT	SUNLINE TRANSIT AGENCY	3TL1307	0	NON-REVENUE SUPPORT VEHICLES	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE OF REPLACEMENT AND EXPANSION VEHICLES THAT WILL BE USED AS RELIEF VEHICLES FOR SUNLINE DRIVERS AT THE BEGINNING OR ENDING OF THEIR SHIFTS IN MID-ROUTE.	2025	\$200
TRANSIT	SUNLINE TRANSIT AGENCY	3TL1607	0				IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - PURCHASE TRANSIT ENHANCEMENT BUS STOP AMENITIES (E.G., BUS SHELTERS, KIOSK LEXANS, LEXAN SCHEDULES, SOLAR BATTERIES, AND MISC. SUPPLIES) FOR VARIOUS BUS STOPS (FY 11 - 5307) (UZA: INCCPS).	2014	\$300
TRANSIT	SUNLINE TRANSIT AGENCY	3TL504	0	EXPANSION BUS PURCHASES	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE ADDITIONAL BUSES FOR SERVICE IMPROVEMENTS, INCLUDING SERVICE REALIGNMENT AND SERVICE EXPANSION.	2025	\$12,260
TRANSIT	SUNLINE TRANSIT AGENCY	3TL507	0	REPLACEMENT BUS PURCHASES	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE ADDITIONAL REPLACEMENT BUSES FOR FIXED ROUTE AND PARATRANSIT SERVICES. THE ADDITIONAL VEHICLES WILL CONSIST OF 60FT, 45FT, 40FT, 32 FT, AND 30FT BUSES.	2025	\$14,120
TRANSIT	SUNLINE TRANSIT AGENCY	3TL607	0	ASSOCIATED TRANSIT ENHANCEMENTS	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE MORE AMENITIES FOR INSTALLATION AT BUS STOPS THROUGHOUT THE SERVICE AREA BASED ON RECOMMENDATIONS FROM THE COA.	2025	\$6,214
TRANSIT	SUNLINE TRANSIT AGENCY	3TL707	0	GFI FAREBOXES, SMARTCARDS, SECURITY SYSTEMS	COACHELLA VALLEY	COACHELLA VALLEY	INSTALL SECURITY SYSTEMS IN SUNLINE BUSES AND ACQUIRE NEW FAREBOXES WITH SMARTCARD TECHNOLOGY AND CAPABILITIES.	2025	\$2,978

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Riverside									
TRANSIT	SUNLINE TRANSIT AGENCY	3TL907-RIV110407	0				IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - JOB ACCESS & REVERSE COMMUTE AND NEW FREEDOM PROJECT: EXPRESS SERVICE TO THE PASS AREA WITH SERVICE TO CABAZON, BANNING AND BEAUMONT, MORENO VALLEY, AND RIVERSIDE, CONNECTING COACHELLA VALLEY COMMUTERS TO WESTERN RIVERSIDE COUNTY (FTA 5316 AND FTA 5317, FY*****09 AND 10).	2014	\$535
TRANSIT	SUNLINE TRANSIT AGENCY	3TL907-RIV130506	0				IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - JOB ACCESS & REVERSE COMMUTE AND NEW FREEDOM PROJECT: EXPRESS SERVICE TO THE PASS AREA WITH SERVICE TO CABAZON, BANNING AND BEAUMONT, MORENO VALLEY, AND RIVERSIDE, CONNECTING COACHELLA VALLEY COMMUTERS TO WESTERN RIVERSIDE COUNTY (FTA 5316 AND FTA 5317, FY 12).	2015	\$108
TRANSIT	SUNLINE TRANSIT AGENCY	3TR04C	0	BUS RAPID TRANSIT	COACHELLA VALLEY	COACHELLA VALLEY	IMPLEMENT BUS RAPID SERVICE/BRT ON HIGHWAY 111 BASED ON RECOMMENDATIONS IN THE COMPREHENSIVE OPERATIONAL ANALYSIS CONDUCTED IN 2005/06. PROJECT WILL ENTAIL COMPLETING FEASIBILITY STUDY AND WORKING WITH THE LOCAL JURISDICTIONS ON VARIOUS ACTIVITIES PRIOR TO IMPLEMENTING PROJECT.	2030	\$15,493
TRANSIT	VARIOUS AGENCIES	3ITS09	0	ITS	COUNTYWIDE		FULLY INTEGRATED TRANSIT OPS, MANAGEMENT, AND TRAVELER INFORMATION SYSTEM/ BRT/BUS SIGNAL PRIORITY	2020	\$5,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3120034		REGIONAL FLYER VEHICLE FLEET	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	BUSES FOR EXPRESS AND RAPID BUS SERVICE EXPANSION OF RTA.	2024	\$17,600

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
LOCAL HIGHWAY	ADELANTO	200201	0				IN ADELANTO, EL MIRAGE RD. FROM SR. 395 TO 1 MILE EAST TO ADELANTO RD. AND ON ADELANTO RD. FROM EL MIRAGE RD. TO 1 MILE SOUTH-AUBURN AVE. PAVE EXISTING 2 LANE RD.	2015	\$560
LOCAL HIGHWAY	ADELANTO	4120001	0	ADELANTO RD	HOLLY RD	CHAMBERLAINE WAY	WIDEN ADELANTO RD FROM HOLLY TO CHAMBERLAINE WAY FROM 2 TO 4 LANES	2025	\$12,000
LOCAL HIGHWAY	ADELANTO	4120008	0	AIR EXPRESSWAY	ADELANTO RD	LESSING RD	WIDEN AIR EXPY FROM ADELANTO RD TO LESSING RD FROM 1 TO 2 LANES	2035	\$22,229
LOCAL HIGHWAY	ADELANTO	4120009	0	AMETHYST RD	HOLLY RD	RANCHO RD	WIDEN AMETHYST RD FROM HOLLY RD TO RANCHO RD FROM 2 TO 4 LANES	2040	\$3,735
LOCAL HIGHWAY	ADELANTO	4120012	0	ASTER RD	PALMDALE RD	OLEANDER RD	WIDEN ASTER RD FROM PALMDALE TO OLEANDER RD FROM 0 TO 4 LANES	2040	\$24,379
LOCAL HIGHWAY	ADELANTO	4120018	0	BARTLETT AVE	ADELANTO RD	CAUGHLIN RD	WIDEN BARTLETT AVE FROM ADELANTO TO CAUGHLIN RD FROM 2 TO 4 LANES	2040	\$19,503
LOCAL HIGHWAY	ADELANTO	4120023	0	BEAVER RD	PALMDALE RD	OLEANDER RD	WIDEN BEAVER RD FROM PALMDALE TO OLEANDER RD FROM 0 TO 4 LANES	2040	\$17,878
LOCAL HIGHWAY	ADELANTO	4120026	0	BELLFLOWER ST	PALMDALE RD	CALLEJA RD	WIDEN BELLFLOWER ST FROM PALMDALE RD TO CALLEJA RD FROM 0 TO 4 LANES	2040	\$17,878
LOCAL HIGHWAY	ADELANTO	4120028	0	CASSIA RD	ADELANTO RD	US-395	WIDEN CASSIA RD FROM ADELANTO ROAD TO US-395 FROM 2 TO 4 LANES	2040	\$876
LOCAL HIGHWAY	ADELANTO	4120030	0	CAUGHLIN RD	AIR EXPY	BARTLETT RD	WIDEN CAUGHLIN RD FROM AIR EXPRESSWAY TO BARTLETT RD FROM 2 TO 4 LANES	2040	\$17,878
LOCAL HIGHWAY	ADELANTO	4120033	0	CHAMBERLAINE WAY	JONATHAN ST	CAUGHLIN RD	WIDEN CHAMBERLAINE WAY FROM JONATHAN ST TO CAUGHLIN RD FROM 0 TO 4 LANES	2040	\$19,503
LOCAL HIGHWAY	ADELANTO	4120036	0	COLBALT RD	HOLLY RD	RANCHO RD	WIDEN COLBALT RD FROM HOLLY TO RANCHO RD FROM 2 TO 4 LANES	2040	\$3,031
LOCAL HIGHWAY	ADELANTO	4120039	0	COLLUSA RD	MESA LINDA RD	CAUGHLIN RD	WIDEN COLLUSA RD FROM MESA LINDA RD TO CAUGHLIN RD FROM 0 TO 4 LANES	2040	\$17,878
LOCAL HIGHWAY	ADELANTO	4120048	0	EMERALD RD	HOLLY RD	AIR EXPRESSWAY	WIDEN EMERALD RD FROM HOLLY TO AIR EXPRESSWAY FROM 2 TO 4 LANES	2040	\$7,592
LOCAL HIGHWAY	ADELANTO	4120051	0	HOLLY RD	US-395	ASTER RD	WIDEN HOLLY RD FROM US-395 TO ASTER RD FROM 0/2 TO 4 LANES	2040	\$14,627

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,000's)
County: San Bernardino									
LOCAL HIGHWAY	ADELANTO	4120058	0	KOALA RD	EL MIRAGE RD	OLEANDER ST	WIDEN KOALA RD FROM EL MIRAGE RD TO OLEANDER ST FROM 0 TO 4 LANES	2040	\$27,630
LOCAL HIGHWAY	ADELANTO	4120061	0	MOJAVE DR	US-395	LESSING RD	WIDEN MOJAVE DR FROM US-395 TO LESSING RD FRIN 0/2 TO 4 LANES	2040	\$24,379
LOCAL HIGHWAY	ADELANTO	4120065	0	PALMDALE RD	US-395	ASTER RD	WIDEN PALMDALE RD FROM US-395 TO ASTER RD FROM 2 TO 4 LANES	2040	\$17,514
LOCAL HIGHWAY	ADELANTO	4120066	0	PALMDALE RD	RICHARDSON RD	LESSING RD	WIDEN PALMDALE RD FROM RICHARDSON TO LESSING RD FROM 0/2 TO 4 LANES	2040	\$16,115
LOCAL HIGHWAY	ADELANTO	4120067	0	PALMDALE RD	ASTER RD	RICHARDSON RD	WIDEN PALMDALE RD FROM ASTER RD TO RICHARDSON RD FROM 0/2 TO 4 LANES	2040	\$16,466
LOCAL HIGHWAY	ADELANTO	4120069	0	RACCOON AVE	PALMDALE RD	OLEANDER ST	WIDEN RACCOON AVE FROM PALMDALE RD TO OLEANDER ST FROM 0 TO 4 LANES	2040	\$26,004
LOCAL HIGHWAY	ADELANTO	4120074	0	RANCHO RD	AMETHYST RD	RICHARDSON RD	WIDEN RANCHO RD FROM AMETHYST RD TO RICHARDSON RD FROM 0 TO 4 LANES	2040	\$29,255
LOCAL HIGHWAY	ADELANTO	4120082	0	SENECA RD	US-395	DAISY RD	WIDEN SENECA RD FROM US-395 TO DAISY RD FROM 2 TO 4 LANES	2040	\$5,204
LOCAL HIGHWAY	ADELANTO	4120083	0	SENECA RD	ASTER RD	RICHARDSON RD	WIDEN SENECA RD FROM ASTER RD TO RICHARDSON RD FROM 2 TO 4 LANES	2040	\$7,107
LOCAL HIGHWAY	ADELANTO	4120085	0	VERBENA RD	CACTUS AVE	CALLEJA RD	WIDEN VERBENA RD FROM CACTUS AVE TO CALLEJA RD FROM 0/2 TO 4 LANES	2040	\$13,002
LOCAL HIGHWAY	ADELANTO	4120088	0	VINTON RD	PALMDALE RD	EL MIRAGE RD	WIDEN VINTON RD FROM PALMDALE RD TO EL MIRAGE FROM 0 TO 4 LANES	2040	\$22,754
LOCAL HIGHWAY	ADELANTO	4A01270	0	EL MIRAGE RD	ADELANTO RD	LA COUNTY LINE	WIDEN EL MIRAGE RD FROM ADELANTO RD TO LA COUNTY LINE FROM 2 TO 4 LANES	2040	\$56,884
LOCAL HIGHWAY	ADELANTO	4A04406	0	ADELANTO RD	CHAMBERLAINE WAY	COLUSARD	NEW 4 LANE EXTENSION OF ADELANTO RD FROM CHAMBERLAINE WAY TO COLUSARD	2040	\$14,627
LOCAL HIGHWAY	ADELANTO	4A04409	0	KOALA RD	PALMDALE RD	HOLLY RD	NEW ROAD ON KOALA RD FROM PALMDALE RD TO HOLLY RD FROM 0 TO 4 LANES	2040	\$6,501
LOCAL HIGHWAY	ADELANTO	4A04410	0	KOALA RD	HOLLY RD	EL MIRAGE RD	WIDEN KOALA RD FROM HOLLY RD TO EL MIRAGE RD FROM 2 TO 4 LANES	2040	\$11,671
LOCAL HIGHWAY	ADELANTO	4A04411	0	KOALA RD	EL MIRAGE RD	DESOTO RD	NEW ROAD ON KOALA RD FROM EL MIRAGE RD TO DESOTO RD FROM 0 TO 2 LANES	2040	\$3,007

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
LOCAL HIGHWAY	APPLE VALLEY	4120095	0	APPLE VALLEY RD	OHNA RD	FALCHION RD	WIDEN APPLE VALLEY RD FROM OHNA RD TO FALCHION RD FROM 0 TO 2 LANES	2025	\$6,238
LOCAL HIGHWAY	APPLE VALLEY	4120097	0	YUCCA LOMA RD	WEST TOWN LIMITS	SR-18	WIDEN YUCCA LOMA RD FROM WEST TOWN LIMITS TO SR-18 FROM 2 TO 4 LANES	2030	\$9,629
LOCAL HIGHWAY	APPLE VALLEY	4120098	0	YUCCA LOMA RD (MOJAVE BR)	YATES RD	WEST APPLE VALLEY TOWN LIMITS	WIDEN YUCCA LOMA RD (MOJAVE BRIDGE) FROM YATES RD TO WEST APPLE VALLEY TOWN LIMITS FROM 0 TO 4 LANES	2030	\$51,180
LOCAL HIGHWAY	APPLE VALLEY	200049-200049	0				MOJAVE RIVER BRIDGE CROSSING FROM TERMINUS OF YUCCA LOMA RD TO TERMINUS OF GREEN TREE BLVD - INCLUDES WIDENING YATES RD. 2-4 LANES FROM .24 MILE NORTH OF CHINQUAPIN TO .02 MILES SOUTH OF FORTUNA (1.5 MILES) - PRE-ENVIRONMENTAL REVIEW FOR CONSTRUCTION OF NEW 4 LANE BRIDGE-INCLUDES A BRIDGE OVER THE BNSF RR TO HESPERIA ROAD	2016	\$46,477
LOCAL HIGHWAY	APPLE VALLEY	4A01008	0	APPLE VALLEY RD	SR-18	YUCCA LOMA RD	WIDEN APPLE VALLEY RD FROM SR-18 TO YUCCA LOMA RD FROM 2 TO 4 LANES	2025	\$28,230
LOCAL HIGHWAY	APPLE VALLEY	4A01011	0	BEAR VALLEY RD	APPLE VALLEY RD	NAVAJO RD	WIDEN BEAR VALLEY RD FROM APPLE VALLEY RD TO NAVAJO RD FROM 4 TO 6 LANES	2030	\$8,194
LOCAL HIGHWAY	APPLE VALLEY	4A01013	0	CORWIN RD	SR-18	DALE EVANS PKWY	WIDEN CORWIN RD FROM SR-18 TO DALE EVANS PKWY FROM 2 TO 4 LANES	2025	\$15,340
LOCAL HIGHWAY	APPLE VALLEY	4A01018	0	THUNDERBIRD RD	RANCHERIAS RD	CENTRAL RD	WIDEN THUNDERBIRD RD FROM RANCHERIAS RD TO CENTRAL RD FROM 2 TO 4 LANES	2025	\$7,670
LOCAL HIGHWAY	APPLE VALLEY	4A07006	0	FALCHION RD	I-15	DALE EVANS PKWY	WIDEN FALCHION RD FROM I-15 TO DALE EVANS PKWY FROM 0 TO 4 LANES	2030	\$23,752
LOCAL HIGHWAY	APPLE VALLEY	4A07007	0	DALE EVANS PKWY	THUNDERBIRD RD	I-15	WIDEN DALE EVANS PKWY FROM THUNDERBIRD RD TO I-15 FROM 2 TO 4 LANES	2030	\$22,802
LOCAL HIGHWAY	APPLE VALLEY	4A07010	0	DEL ORO RD	APPLE VALLEY RD	CENTRAL RD	WIDEN DEL ORO RD FROM APPLE VALLEY RD TO CENTRAL RD FROM 0 TO 2 LANES	2030	\$19,952
LOCAL HIGHWAY	APPLE VALLEY	4A07015	0	CENTRAL RD	BEAR VALLEY RD	WAALEW RD	WIDEN CENTRAL RD FROM BEAR VALLEY RD TO WAALEW RD FROM 2 TO 4 LANES	2025	\$15,340
LOCAL HIGHWAY	APPLE VALLEY	4A07026	0	SITTING BULL RD	APPLE VALLEY RD	NAVAJO RD	WIDEN SITTING BULL RD FROM APPLE VALLEY RD TO NAVAJO RD FROM 2 TO 4 LANES	2030	\$12,826

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	APPLE VALLEY	4A07029	0	WAALEW RD	CORWIN RD	CENTRAL AVE	WIDEN WAALEW RD FROM CORWIN RD TO CENTRAL AVE RD FROM 2 TO 4 LANES	2025	\$10,653
LOCAL HIGHWAY	APPLE VALLEY	4A07032	0	RANCHERIAS RD	RINCON RD	CORWIN RD	WIDEN RANCHERIAS RD FROM RINCON RD TO CORWIN RD FROM 2 TO 4 LANES	2030	\$11,223
LOCAL HIGHWAY	APPLE VALLEY	4A07058	0	ROUNDUP WAY	KIOWA RD	CENTRAL AVE	WIDEN ROUNDUP WAY FROM KIOWA RD TO CENTRAL AVE FROM 2 TO 4 LANES	2025	\$5,752
LOCAL HIGHWAY	APPLE VALLEY	4A07063	0	DEEP CREEK RD	BEAR VALLEY RD	SITTING BULL RD	WIDEN DEEP CREEK RD FROM BEAR VALLEY RD TO SITTING BULL RD FROM 0 TO 4 LANES	2030	\$6,176
LOCAL HIGHWAY	APPLE VALLEY	4A07069	0	DEEP CREEK RD	TUSSING RANCH RD	BEAR VALLEY RD	WIDEN DEEP CREEK RD FROM TUSSING RANCH RD TO BEAR VALLEY RD FROM 2 TO 4 LANES	2030	\$5,700
LOCAL HIGHWAY	APPLE VALLEY	4A07070	0	KIOWA RD	OCOTILLO RD	YUCCA LOMA RD	WIDEN KIOWA RD FROM OCOTILLO RD TO YUCCA LOMA RD FROM 2 TO 4 LANES	2030	\$11,401
LOCAL HIGHWAY	APPLE VALLEY	4A07071	0	NAVAJO RD	SR-18	THUNDERBIRD RD	WIDEN NAVAJO RD FROM SR-18 TO THUNDERBIRD RD FROM 2 TO 4 LANES	2020	\$4,800
LOCAL HIGHWAY	APPLE VALLEY	4A07080	0	BEAR VALLEY RD	NAVAJO RD	JOSHUA RD	WIDEN BEAR VALLEY RD FROM NAVAJO RD TO JOSHUA RD FROM 2 TO 4 LANES	2030	\$5,350
LOCAL HIGHWAY	APPLE VALLEY	4A07091	0	CENTRAL RD	ROUNDUP WAY	N/POPPY RD	WIDEN CENTRAL RD FROM ROUNDUP WAY TO N/POPPY RD FROM 2 TO 4 LANES	2025	\$4,314
LOCAL HIGHWAY	APPLE VALLEY	4A07161	0	FALCHION RD	DALE EVANS PKWY	NAVAJO RD	WIDEN FALCHION RD FROM DALE EVANS PKWY TO NAVAJO RD FROM 0 TO 6 LANES	2030	\$2,850
LOCAL HIGHWAY	APPLE VALLEY	SBD55011	0				YUCCA LOMA RD. FROM APPLE VALLEY RD. TO NAVAJO RD. WIDEN EXISTING 2 LANE RD. TO 4 LANE RD. (2 LANES IN EACH DIRECTION) (3 MILES)	2015	\$6,500
LOCAL HIGHWAY	BIG BEAR LAKE	4A01025	0	BIG BEAR BLVD	WEST BIG BEAR CITY LIMITS	EAST BIG BEAR CITY LIMITS	WIDEN BIG BEAR BLVD FROM WEST BIG BEAR CITY LIMITS TO EAST BIG BEAR CITY LIMITS FROM 2 TO 4 LANES	2020	\$18,634
LOCAL HIGHWAY	BIG BEAR LAKE	4A07195	0	BIG BEAR BLVD	WEST BIG BEAR CITY LIMITS	EAST BIG BEAR CITY LIMITS	INTERSECTION SIGNALIZATION AND SYNCHRONIZATION ON BG BEAR BLVD FROM WEST CITY LIMITS TO EAST CITY LIMITS	2020	\$1,600
LOCAL HIGHWAY	CHINO	200202	0				IN CHINO - ON CHINO AVENUE FROM MONTE VISTA TO SIXTH STREET-WIDEN EXISTING 2 LANES TO 4 LANES AND INSTALL SIGNAL AT INTERSECTION OF CHINO AVE. AND MONTE VISTA	2021	\$584

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	CHINO	200207	0				IN CHINO - ON PINE AVE EXTENSION FROM SR 71 TO EUCLID IN THE CITY OF CHINO - WIDEN BRIDGE FROM 2-4 LANES	2021	\$100,000
LOCAL HIGHWAY	CHINO	4120099	0	FRANCIS AVE	CHINO WEST CITY LIMITS	600' E/O CONCORD CT	WIDEN FRANCIS AVE FROM CHINO WEST CITY LIMITS TO 600' E/O CONCORD CT FROM 2 TO 4 LANES (EASTBOUND ONLY)	2020	\$1,087
LOCAL HIGHWAY	CHINO	4120100	0	FRANCIS AVE	600' E/O SNYDER AVE	BENSON AVE	WIDEN FRANCIS AVE FROM 600' E/O SNYDER AVE TO BENSON AVE FROM 2 TO 4 LANES	2020	\$507
LOCAL HIGHWAY	CHINO	4120104	0	CENTRAL AVE	RIVERSIDE DR	SR-71	WIDEN CENTRAL AVE FROM RIVERSIDE DR TO SR-71 FROM 4 TO 6 LANES	2020	\$7,796
LOCAL HIGHWAY	CHINO	4120106	0	EUCLID AVE (SR-83)	MERRILL AVE	KIMBALL AV	WIDEN EUCLID AVE (SR-83) FROM MERRILL AVE TO KIMBALL AVE FROM 2 TO 4 LANES	2030	\$1,457
LOCAL HIGHWAY	CHINO	4120107	0	MOUNTAIN AVE	SCHAEFER AVE	EDISON AVE	WIDEN MOUNTAIN AVE FROM SCHAEFER AVE TO EDISON AVE FROM 2 TO 4 LANES	2025	\$211
LOCAL HIGHWAY	CHINO	4120108	0	RIVERSIDE DR	WEST CHINO CITY LIMITS	800' E/O RESERVIOR AVE	WIDEN RIVERSIDE DR FROM WEST CHINO CITY LIMITS TO 800' E/O RESERVIOR AVE FROM 4 TO 6 LANES (WB ONLY)	2025	\$707
LOCAL HIGHWAY	CHINO	4A01026	0	CENTRAL AVE	FRANCIS AVE	RIVERSIDE DR	WIDEN CENTRAL AVE FROM FRANCIS AVE TO RIVERSIDE DR FROM 6 TO 8 LANES	2020	\$2,642
LOCAL HIGHWAY	CHINO	4A01028	0	CHINO AVE	CENTRAL AVE	MOUNTAIN AVE	WIDEN CHINO AVE FROM CENTRAL AVE TO MOUNTAIN AVE FROM 2 TO 4 LANES	2020	\$6,100
LOCAL HIGHWAY	CHINO	4A01030	0	CHINO AVE	FERN AVE	EUCLID AVE	WIDEN CHINO AVE FROM FERN AVE TO EUCLID AVE FROM 2 TO 4 LANES	2020	\$4,043
LOCAL HIGHWAY	CHINO	4A01031	0	CHINO AVE	SR-71	EAST END AVE	WIDEN CHINO AVE FROM SR-71 TO EAST END AVE FROM 4 TO 6 LANES	2035	\$1,374
LOCAL HIGHWAY	CHINO	4A01032	0	EDISON AVE	CENTRAL AVE	EUCLID AVE	WIDEN EDISON AVE FROM CENTRAL AVE TO EUCLID AVE FROM 4 TO 6 LANES	2025	\$4,249
LOCAL HIGHWAY	CHINO	4A01033	0	EDISON AVE	PIPELINE AVE	RAMONA AVE	WIDEN EDISON AVE FROM PIPELINE AVE AVE TO RAMONA AVE FROM 4 TO 6 LANES	2020	\$2,907
LOCAL HIGHWAY	CHINO	4A01040	0	MERRILL AVE	EUCLID AVE	EAST CHINO CITY LIMIT	WIDEN MERRILL AVE FROM EUCLID AVE TO EAST CHINO CITY LIMIT FROM 2 TO 4 LANES (EASTBOUND ONLY)	2020	\$1,159

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,00's)
County: San Bernardino									
LOCAL HIGHWAY	CHINO	4A01041	0	MOUNTAIN AVE	PHILADELPHIA ST	RIVERSIDE DR	WIDEN MOUNTAIN AVE FROM PHILADELPHIA ST TO RIVERSIDE DR FROM 4 TO 6 LANES	2025	\$1,914
LOCAL HIGHWAY	CHINO	4A01042	0	PHILADELPHIA ST	CENTRAL AVE	BENSON AVE	WIDEN PHILADELPHIA ST FROM CENTRAL AVE TO BENSON AVE FROM 4 TO 6 LANES	2025	\$957
LOCAL HIGHWAY	CHINO	4A01043	0	PHILADELPHIA ST	LA COUNTY LINE	CENTRAL AVE	WIDEN PHILADELPHIA ST FROM LA COUNTY LINE TO CENTRAL AVE FROM 2 TO 4 LANES	2025	\$3,127
LOCAL HIGHWAY	CHINO	4A01047	0	RIVERSIDE DR	FERN AVE	EUCLID AVE	WIDEN RIVERSIDE DR FROM FERN AVE TO EUCLID AVE FROM 2 TO 6 LANES(EASTBOUND ONLY)	2025	\$828
LOCAL HIGHWAY	CHINO	4A01049	0	RIVERSIDE DR	PIPELINE AVE	FERN AVE	WIDEN RIVERSIDE DR FROM PIPELINE AVE TO FERN AVE FROM 4 TO 6 LANES	2025	\$5,089
LOCAL HIGHWAY	CHINO	4A01062	0	CHINO HILLS PKWY	RAMONA AVE	CHINO CREEK BRIDGE	WIDEN CHINO HILLS PKWY FROM RAMONA AVE TO CHINO CREEK BRIDGE FROM 4 TO 6 LANES	2020	\$203
LOCAL HIGHWAY	CHINO	4A01063	0	EL PRADO RD	CENTRAL AVE	PINE AVE	WIDEN EL PRADO RD FROM CENTRAL AVE TO PINE AVE FROM 2 TO 4 LANES	2025	\$1,569
LOCAL HIGHWAY	CHINO	4A01266	0	CENTRAL AVE	PHILLIPS BLVD	STATE ST	WIDEN CENTRAL AVE FROM PHILLIPS BLVD TO STATE ST FROM 4 TO 6 LANES	2020	\$2,093
LOCAL HIGHWAY	CHINO	4A01272	0	FRANCIS AVE	0.11 MILES W/O EAST END	0.13 MILES E/O TELEPHONE AVE	WIDEN FRANCIS AVE FROM 0.11 MILES W/O EAST END TO 0.13 MILES E/O TELEPHONE AVE FROM 2 TO 4 LANES	2020	\$5,255
LOCAL HIGHWAY	CHINO	4A01273	0	FRANCIS AVE	LA COUNTY LINE	CHINO CITY LIMIT	WIDEN FRANCIS AVE FROM LA COUNTY LINE TO CHINO CITY LIMIT FROM 2 TO 4 LANES	2020	\$4,683
LOCAL HIGHWAY	CHINO	4A04035	0	EUCLID AVE	KIMBALL AVE	PINE AVE	WIDEN EUCLID AVE FROM KIMBALL AVE TO PINE AVE FROM 4 TO 8 LANES	2020	\$2,430
LOCAL HIGHWAY	CHINO	4A04036	0	EUCLID AVE	PINE AVE	SR-71	WIDEN EUCLID AVE FROM PINE AVE TO SR-71 FROM 2/4 TO 8 LANES	2035	\$16,765
LOCAL HIGHWAY	CHINO	4A04038	0	HELLMAN AVE	KIMBALL AVE	CHINO CORONA RD	WIDEN HELLMAN AVE FROM KIMBALL AVE TO CHINO CORONA RD FROM 2 TO 4 LANES	2025	\$4,581
LOCAL HIGHWAY	CHINO	4A04045	0	PINE AVE	EUCLID AVE	HELLMAN AVE	WIDEN PINE AVE FROM EUCLID AVE TO HELLMAN AVE FROM 2 TO 6 LANES	2020	\$5,368
LOCAL HIGHWAY	CHINO	4A07052	0	KIMBALL AVE	EUCLID AVE	HELLMAN AVE	WIDEN KIMBALL AVE FROM EUCLID AVE TO HELLMAN AVE FROM 2 TO 4 LANES	2025	\$6,285
LOCAL HIGHWAY	CHINO	4A07133	0	EAST END AVE	CHINO AVE	WALNUT AVE	WIDEN EAST END AVE FROM CHINO AVE TO WALNUT AVE FROM 2 TO 4 LANES	2030	\$3,448

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	CHINO	4A07146	0	EAST END AVE	PHILADELPHIA AVE	PHILLIPS BLVD	WIDEN EAST END AV FROM PHILADELPHIA AVE TO PHILLIPS BLVD FROM 2 TO 4 LANES	2030	\$3,207
LOCAL HIGHWAY	CHINO	4A07151	0	RAMONA AVE	PHILADELPHIA AVE	PHILLIPS BLVD	WIDEN RAMONA AVE AV FROM PHILADELPHIA AVE TO PHILLIPS BLVD FROM 2 TO 4 LANES	2025	\$2,805
LOCAL HIGHWAY	CHINO	4A07205	0	CHINO AVE	MOUNTAIN AVE	FERN AVE	WIDEN CHINO AVE FROM MOUNTAIN AVE TO FERN AVE FROM 2 TO 4 LANES	2020	\$1,500
LOCAL HIGHWAY	CHINO	4A07279	0	PIPELINE AVE	RIVERSIDE DR	WALNUT AVE	WIDEN PIPELINE AV FROM RIVERSIDE DRAV TO WALNUT AVE AV FROM 2 TO 4 LANES	2025	\$1,025
LOCAL HIGHWAY	CHINO	4A07303	0	PIPELINE AVE	WALNUT AVE	0.25 MILES N/O WALNUT AVE	WIDEN PIPELINE AV FROM WALNUT AVE AV TO 0.25 MILES N/O WALNUT AVE FROM 2 TO 4 LANES	2020	\$506
LOCAL HIGHWAY	CHINO	4A07329	0	MOUNTAIN AVE	BICKMORE AVE	EL PRADO RD	WIDEN MOUNTAIN AVE FROM BICKMORE AVE TO EL PRADO RD FROM 2 TO 4 LANES	2020	\$347
LOCAL HIGHWAY	CHINO	SBD031118	0				EDISON AVENUE RAMONA TO CENTRAL WIDEN FROM 4 LANES TO 6 LANES & REHABILITATION (SPOT WIDENING)	2021	\$2,000
LOCAL HIGHWAY	CHINO	SBD031152	0				RIVERSIDE DRIVE AT SAN ANTONIO FLOOD CONTROL CHANNEL WIDEN BRIDGE FROM 4 LANES TO 6 LANES	2021	\$20,000
LOCAL HIGHWAY	CHINO HILLS	200401	0				FAIRFIELD RANCH RD: CONSTRUCT BOX CULVERT (APPROX. 0.40 MILES SOUTH OF STANFIELD CT.) TO RE-OPEN 0.76 MILES OF FAIRFIELD RANCH RD AT CURRENT CLOSURE SOUTH TO PINE AVE. CONSTRUCT RD IMPROVEMENTS AND ADD MARKED BIKE LANES IN BOTH DIRECTIONS.	2017	\$45,810
LOCAL HIGHWAY	CHINO HILLS	4A07116	0	PINE AVE	SR-71	CHINO CREEK	WIDEN PINE AVE FROM SR-71 TO CHINO CREEK (NORTH SIDE ONLY) IN CONJUNCTION WITH CHINO PROJECT ID 200207	2020	\$3,250
LOCAL HIGHWAY	CHINO HILLS	4A1002-20083402	0				PEYTON DRIVE FROM EUCALYPTUS TO SR142, WIDEN PEYTON 2-4 LANES WITH MARKED BIKE LANES IN EACH DIRECTION; CONSTRUCT EUCALYPTUS AVE FROM PEYTON DRIVE TO CHINO HILLS COMMUNITY PARK ENTRANCE, CONSTRUCT 2 LN RD; IMPROVE ENGLISH CHANNEL	2014	\$11,942

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	COLTON	200064	0				WASHINGTON ST FROM RECHE CANYON TO HUNTS LN - ELIMINATE BOTTLENECK BY ADDING NB TURN POCKET AT RECHE CANYON RD. (EXCLUSIVE LEFT AND RIGHT) THROUGH RESTRIPING AND WIDENING WITHIN R/W; MODIFY TRAFFIC SIGNALS	2015	\$570
LOCAL HIGHWAY	COLTON	200856	0	MT. VERNON BRIDGE			MT. VERNON BRIDGE OVER UPRR(5400101) - ON MT. VERNON AVE. FROM "M" ST. TO I-10 ON RAMP. WIDENING BRIDGE FROM 2-4 LANES (CA338)	2019	\$81,342
LOCAL HIGHWAY	COLTON	4120110	0	AGUA MANSANA RD	RANCHO AVE	RIVERSIDE AVE	WIDEN AGUA MANSANA RD FROM RANCHO AVE TO RIVERSIDE AVE FROM 2 TO 4 LANES	2025	\$3,539
LOCAL HIGHWAY	COLTON	4120111	0	COLTON AVE	MT. VERNON AVE.	COLTON CITY LIMITS	WIDEN COLTON AV FROM MT. VERNON AVE TO CITY LIMIT FROM 2 TO 4 LANES	2025	\$3,632
LOCAL HIGHWAY	COLTON	4120112	0	PEPPER AVE	I-10	SLOVER AVE	WIDEN AND EXTEND PEPPER AVE FROM I-10 TO SLOVER AVE FROM 2 TO 4 LANES	2030	\$4,646
LOCAL HIGHWAY	COLTON	4120113	0	C ST	CITY LIMITS W/O RANCHO AVE	PENNSYLVANIA AVE	WIDEN C ST FROM CITY LIMITS W/O RANCHO AVE TO PENNSYLVANIA AVE FROM 2 TO 4 LANES	2025	\$1,316
LOCAL HIGHWAY	COLTON	4120114	0	LA CADENA DR	PALM AVE	IOWA AVE	WIDEN LA CADENA DR FROM PALM AVE TO IOWA AVE FROM 4 TO 6 LANES	2030	\$3,412
LOCAL HIGHWAY	COLTON	4120115	0	LA CADENA DR	RANCHO AVE	LITTON AVE	WIDEN LA CADENA DR FROM RANCHO AV TO LITTON AVE FROM 4 TO 6 LANES	2030	\$4,127
LOCAL HIGHWAY	COLTON	4120116	0	RECHE CYN RD	WASHINGTON ST	COLTON CITY LIMITS	REALIGN RECHE CANYON RD FROM WASHINGTON ST TO COLTON CITY LIMITS TO 4 LANE ROAD	2025	\$2,250
LOCAL HIGHWAY	COLTON	4120117	0	RIVERSIDE AVE	RIVERSIDE COUNTY LINE	SANTA ANA RIVER	WIDEN RIVERSIDE AVE FROM RIVERSIDE COUNTY LINE TO SANTA ANA RIVER FROM 4 TO 6 LANES	2030	\$10,440
LOCAL HIGHWAY	COLTON	4120118	0	RIVERSIDE AVE	SANTA ANA RIVER	AGUA MANSANA RD	WIDEN RIVERSIDE AVE FROM SANTA ANA RIVER TO AGUA MANSANA RD FROM 4 TO 6 LANES	2030	\$2,151
LOCAL HIGHWAY	COLTON	4120119	0	SAN BERNARDINO AVE	COUNTY LIMIT	RANCHO AVE	WIDEN SAN BERNARDINO AVE FROM COUNTY LIMIT TO RANCHO AVE FROM 2 TO 4 LANES	2025	\$165
LOCAL HIGHWAY	COLTON	4120120	0	SAN BERNARDINO AVE	WEST COLTON CITY LIMITS	COUNTY LIMIT	WIDEN SAN BERNARDINO AVE FROM WEST COLTON CITY LIMITS TO COUNTY LIMIT FROM 2 TO 4 LANES	2025	\$1,989
LOCAL HIGHWAY	COLTON	4120121	0	SLOVER AVE	PEPPER AVE	RIVERSIDE AVE	WIDEN SLOVER AVE FROM PEPPER AVE TO RIVERSIDE AVE FROM 2 TO 4 LANES	2025	\$3,221

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	COLTON	4120122	0	WASHINGTON ST	WATERMAN AVE	I-215	WIDEN WASHINGTON ST FROM WATERMAN AVE TO I-215 FROM 4 TO 6 LANES	2025	\$6,008
LOCAL HIGHWAY	COLTON	4120123	0	WASHINGTON ST	AQUEDUCT	LA CADENA DR	WIDEN WASHINGTON ST TO FROM AQUEDUCT TO LA CADENA DR FROM 0 TO 2 LANES	2025	\$4,199
LOCAL HIGHWAY	COLTON	4A01066	0	BARTON RD	SOUTH COLTON CITY LIMITS	WASHINGTON ST	WIDEN BARTON RD FROM SOUTH COLTON CITY LIMITS TO WASHINGTON ST FROM 4 TO 6 LANES	2025	\$1,111
LOCAL HIGHWAY	COLTON	4A01069	0				LA CADENA DR OVER SANTA ANA RIVER, 1.5 MI SOUTH OF I-10 - REPLACE EXISTING 4 LANE BRIDGE WITH 6 LANE BRIDGE (54C0077)	2019	\$27,535
LOCAL HIGHWAY	COLTON	4A01082	0	VALLEY BLVD	SYCAMORE AVE	MT. VERNON AVE	WIDEN VALLEY BLVD FROM SYCAMORE AVE TO MT VERNON AVE FROM 4 TO 6 LANES	2025	\$4,277
LOCAL HIGHWAY	COLTON	4A04067	0	FAIRWAY DR	SPERRY DR	COLTON CITY LIMITS	WIDEN FAIRWAY DR FROM SPERRY DR TO COLTON CITY LIMITS FROM 4 TO 8 LANES	2025	\$1,497
LOCAL HIGHWAY	COLTON	4A04071	0	MT VERNON AVE	LA CADENA DR	I-10 EB RAMPS	WIDEN MT VERNON AVE FROM LA CADENA DR TO EASTBOUND I-10 RAMPS FROM 4 TO 6 LANES	2020	\$2,305
LOCAL HIGHWAY	COLTON	4A07106	0				WASHINGTON ST. FROM 0.90 MILES WEST OF MT. VERNON AVE TO LA CADENA CONSTRUCT NEW 4 LANE ROADWAY (PA&ED ONLY)	2018	\$28,000
LOCAL HIGHWAY	COLTON	4A07192	0	C ST	JACKSON AVE	TEJON AVE	WIDEN C ST FROM JACKSON TO TEJON AVE FROM 2 TO 4 LANES	2030	\$2,088
LOCAL HIGHWAY	COLTON	4A07226	0	AGUA MANSA	80 METERS W/O RANCHO AVE	73 METERS E/O RANCHO AVE	WIDEN AGUA MANSA RD FROM 80 METERS W/O RANCHO AVE TO 73 METERS E/O RANCHO AVE FROM 2 TO 4 LANES	2030	\$890
LOCAL HIGHWAY	COLTON	4A07313	0	RECHE CYN RD	S. CRYSTAL RIDGE	RIVERSIDE COUNTY LINE	WIDEN RECHE CANYON RD FROM SOUTH CRYSTAL RIDGE TO RIVERSIDE COUNTY LINE FROM 2 TO 4 LANES	2025	\$2,738
LOCAL HIGHWAY	FONTANA	4120125	0	ARROW BLVD	ALMERIA AVE	CITRUS AVE	WIDEN ARROW BLVD FROM ALMERIA AVE TO CITRUS AVE FROM 2 TO 4 LANES	2020	\$1,265
LOCAL HIGHWAY	FONTANA	4120129	0	DUNCAN CANYON RD	CITRUS AVE	SIERRA AVE	WIDEN DUNCAN CANYON RD FROM CITRUS AVE TO SIERRA AVE FROM 0 TO 4 LANES	2025	\$5,331
LOCAL HIGHWAY	FONTANA	4120130	0	DUNCAN CANYON RD	I-15	CITRUS AVE	WIDEN DUNCAN CANYON RD FROM I-15 TO CITRUS AVE FROM 0 TO 4 LANES	2025	\$1,332

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
LOCAL HIGHWAY	FONTANA	4120131	0	FONTANA AVE	RIVERSIDE COUNTY LINE	LIME AVE	WIDEN FONTANA AVE FROM VALLEY BLVD TO LIME AVE FROM 2 TO 4 LANES	2025	\$1,153
LOCAL HIGHWAY	FONTANA	4120133	0	LIVE OAK AVE	JURUPA AVE	SLOVER AVE	WIDEN LIVE OAK AVE FROM JURUPA AVE TO SLOVER AVE FROM 2 TO 4 LANES	2025	\$2,665
LOCAL HIGHWAY	FONTANA	4120134	0	POPLAR AVE	SLOVER AVE	VALLEY BLVD	WIDEN POPLAR AVE FROM SLOVER AVE TO VALLEY BLVD FROM 0 TO 4 LANES (I-10 OVERCROSSING)	2030	\$20,100
LOCAL HIGHWAY	FONTANA	4120236	0	FONTANA AVE	VALLEY BLVD	MERRILL AVE	WIDEN FONTANA AVE FROM VALLEY BLVD TO MERRILL AVE FROM 2 TO 4 LANES	2025	\$5,331
LOCAL HIGHWAY	FONTANA	0A6410-20131506	0				IN FONTANA: SAN SEVAINNE TRAIL CONNECTIVITY; FROM JUST N OF I-15/CHERRY IC ALONG THE SAN SEVAINNE FLOOD CONTROL BASIN S TO COUNTY LINE (PA&ED ONLY)	2020	\$170
LOCAL HIGHWAY	FONTANA	200006-20150005	0				CITRUS AVENUE FROM JURUPA TO SLOVER - WIDEN FROM 2-4 LANES W/LEFT TURN LANES AT INTERSECTIONS (SLOVER, SANTA ANA AVE & JURUPA-3 INTERSECTIONS)	2020	\$1,865
LOCAL HIGHWAY	FONTANA	4A01093	0				CITRUS AVENUE FROM SUMMIT AVENUE TO I-15 WIDEN FROM 2 TO 4 LANES	2021	\$2,625
LOCAL HIGHWAY	FONTANA	4A01096	0	CITRUS AVE	SLOVER AVE	JURUPA AVE	WIDEN CITRUS AVE FROM SLOVER AVE TO JURUPA AVE FROM 2 TO 4 LANES	2025	\$4,474
LOCAL HIGHWAY	FONTANA	4A01099	0				DUNCAN CANYON ROAD FROM CITRUS AVENUE TO SIERRA AVENUE CONSTRUCT 4 LANES.	2020	\$5,251
LOCAL HIGHWAY	FONTANA	4A01104	0	FRONTAGE RD (I-15)	DUNCAN CANYON RD	RIVERSIDE AVE	NEW 4 LANE ROAD ON I-15 FRONTAGE RD FROM DUNCAN CANYON RD TO RIVERSIDE AVE	2020	\$4,900
LOCAL HIGHWAY	FONTANA	4A01132	0				SLOVER AVENUE FROM ETIWANDA AVENUE TO 800 FEET EAST OF ETIWANDA AVENUE WIDEN FROM 2-4 LANES	2020	\$2,095
LOCAL HIGHWAY	FONTANA	4A01285	0	SLOVER AVE	ALDER AVE	CACTUS AVE	WIDEN SLOVER AVE FROM ALDER AVE TO CACTUS AVE FROM 2 TO 4 LANES	2025	\$4,709
LOCAL HIGHWAY	FONTANA	4A04084	0				CASA GRANDE AVENUE FROM LYTLE CREEK ROAD TO MANGO AVENUE CONSTRUCT 4 LANES	2021	\$10,500
LOCAL HIGHWAY	FONTANA	4A04087	0				CHERRY AVENUE FROM SOUTH HIGHLAND TO I-15 WIDEN (2-6 LANES)	2020	\$2,625

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,000's)
County: San Bernardino									
LOCAL HIGHWAY	FONTANA	4A04098	0	CYPRESS AVE	SOUTH HIGHLAND AVE	SIERRA LAKES PKWY	WIDEN CYPRESS AVE FROM SOUTH HIGHLAND AVE TO SIERRA LAKES PKWY FROM 0 TO 4 LANES	2025	\$10,152
LOCAL HIGHWAY	FONTANA	4A04102	0	FOOTHILL BLVD	HEMLOCK AVE	ALMERIA AVE	WIDEN FOOTHILL BLVD FROM HEMLOCK AVE TO ALMERIA AVE FROM 4 TO 6 LANES	2020	\$7,560
LOCAL HIGHWAY	FONTANA	4A04108	0				JURUPA AVENUE FROM TAMARIND AVENUE TO ALDER AVENUE WIDEN FROM 2 TO 4 LANES	2020	\$958
LOCAL HIGHWAY	FONTANA	4A04110	0	LIVE OAK RD	VALLEY BLVD	MERRILL AVE	WIDEN LIVE OAK RD FROM VALLEY BLVD TO MERRILL AVE FROM 2 TO 4 LANES	2025	\$5,365
LOCAL HIGHWAY	FONTANA	4A04114	0	MERRILL AVE	CATAWBA AVE	FONTANA AVE	WIDEN MERRILL AVE FROM CATAWBA AVE TO FONTANA AVE FROM 2 TO 4 LANES	2020	\$1,400
LOCAL HIGHWAY	FONTANA	4A04122	0	SIERRA AVE	SAN BERNARDINO AVE	FOOTHILL BLVD	WIDEN SIERRA AVE FROM SAN BERNARDINO AVE TO FOOTHILL BLVD FROM 4 TO 6 LANES	2025	\$19,897
LOCAL HIGHWAY	FONTANA	4A04123	0	SIERRA AVE	SLOVER AVE	VALLEY BLVD	WIDEN SIERRA AVE FROM SLOVER AVE TO VALLEY BLVD FROM 6 TO 8 LANES	2020	\$1,120
LOCAL HIGHWAY	FONTANA	4A04127	0				SIERRA LAKES PARKWAY FROM BEECH AVENUE TO CITRUS AVENUE WIDEN FROM 2 TO 4 LANES.	2019	\$4,290
LOCAL HIGHWAY	FONTANA	4A07024	0	ARROW BLVD	HICKORY AVE	TOKAY AVE	WIDEN ARROW BLVD FROM HICKORY AV TO TOKAY AV FROM 2 TO 4 LANES	2020	\$5,969
LOCAL HIGHWAY	FONTANA	4A07034	0	SIERRA LAKES PKWY	CHERRY AVE	CATAWBA AVE	WIDEN SIERRA LAKES PKWY FROM CHERRY AVE TO CATAWBA AVE WIDEN FROM 2 TO 4 LANES	2025	\$9,545
LOCAL HIGHWAY	FONTANA	4A07040	0	CHERRY AVE	VALLEY BLVD	FOOTHILL BLVD	WIDEN CHERRY AVE FROM VALLEY BLVD TO FOOTHILL BLVD FROM 4 TO 6 LANES	2020	\$7,796
LOCAL HIGHWAY	FONTANA	4A07045	0	LYTLE CREEK RD	SUMMIT AVE	DUNCAN AVE	WIDEN LYTLE CREEK RD FROM SUMMIT AVE TO DUNCAN AVE FROM 0 TO 4 LANES	2025	\$7,614
LOCAL HIGHWAY	FONTANA	4A07048	0	CERES AVE	MANGO AVE	CATAWBA AVE	WIDEN CERES AVE FROM MANGO AVE TO CATAWBA AVE FROM 2 TO 4 LANES	2020	\$6,143
LOCAL HIGHWAY	FONTANA	4A07055	0	MERRILL AVE	CHERRY AVE	CATAWBA AVE	WIDEN MERRILL AVE FROM CHERRY AVE AV TO CATAWBA AVE FROM 2 TO 4 LANES	2020	\$5,771
LOCAL HIGHWAY	FONTANA	4A07056	0				SOUTH HIGHLAND AVENUE FROM CHERRY AVENUE TO CITRUS AVENUE WIDEN FROM 2 TO 4 LANES	2020	\$5,250
LOCAL HIGHWAY	FONTANA	4A07066	0	ARROW BLVD	ALDER AVE	MAPLE AVE	WIDEN ARROW HWY FROM ALDER AVE TO MAPLE AVE FROM 2 TO 4 LANES	2018	\$5,000

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	FONTANA	4A07077	0	WALNUT AVE	I-15	SAN SEVAINE RD	WIDEN WALNUT AVE FROM I-15 TO SAN SEVAINE RD FROM 2 TO 4 LANES	2025	\$4,772
LOCAL HIGHWAY	FONTANA	4A07083	0	BASELINE AVE	MANGO AVE	MAPLE AVE	WIDEN BASELINE AVE FROM MANGO AVE TO MAPLE AVE WIDEN FROM 2 TO 6 LANES	2025	\$4,474
LOCAL HIGHWAY	FONTANA	4A07084	0	SAN SEVAINE RD	BASELINE AVE	SUMMIT AVE	SAN SEVAINE RD FROM BASELINE AVE TO SUMMIT AVE WIDEN FROM 2 TO 4 LANES	2025	\$4,474
LOCAL HIGHWAY	FONTANA	4A07109	0	SAN BERNARDINO AVE	ETIWANDA AVE	CHERRY AVE	WIDEN SAN BERNARDINO AVE FROM ETIWANDA AVE TO CHERRY AVE FROM 4 TO 6 LANES	2020	\$3,375
LOCAL HIGHWAY	FONTANA	4A07140	0				VALLEY BOULEVARD FROM SIERRA AVENUE TO ALDER AVENUE WIDEN FROM 4-6 LANES	2021	\$724
LOCAL HIGHWAY	FONTANA	4A07145	0	BANANA AVE	JURUPA AVE	SLOVER AVE	WIDEN BANANA AVE FROM JURUPA AVE TO SLOVER AVE FROM 2 TO 4 LANES	2025	\$1,686
LOCAL HIGHWAY	FONTANA	4A07157	0	BEECH AVE	VALLEY BLVD	RANDALL AVE	WIDEN BEECH AVE FROM VALLEY BLVD TO RANDALL AVE FROM 2 TO 4 LANES	2020	\$2,531
LOCAL HIGHWAY	FONTANA	4A07158	0	SANTA ANA AVE	MULBERRY AVE	REDWOOD AVE	WIDEN SANTA ANA AVE FROM MULBERRY AVE TO REDWOOD AVE FROM 2 TO 4 LANES	2030	\$3,006
LOCAL HIGHWAY	FONTANA	4A07166	0	SOUTH HIGHLAND AVE	SIERRA AVE	PALMETTO AVE	WIDEN SOUTH HIGHLAND AVE FROM SIERRA AVE TO PALMETTO AVE AVE WIDEN FROM 2 TO 4 LANES	2025	\$2,237
LOCAL HIGHWAY	FONTANA	4A07167	0	SUMMIT AVE	CHERRY AVE	SAN SEVAINE RD	SUMMIT AVE FROM CHERRY AVE TO SAN SEVAINE RD WIDEN FROM 2 TO 4 LANES	2025	\$2,237
LOCAL HIGHWAY	FONTANA	4A07185	0	BEECH AVE	ARROW ROUTE	FOOTHILL BLVD	WIDEN BEECH AVE FROM ARROW ROUTE TO FOOTHILL BLVD FROM 2 TO 4 LANES	2020	\$1,721
LOCAL HIGHWAY	FONTANA	4A07187	0	LIVE OAK AVE	ARROW ROUTE	FOOTHILL BLVD	WIDEN LIVE OAK AVE FROM ARROW ROUTE TO FOOTHILL BLVD FROM 2 TO 4 LANES	2025	\$1,688
LOCAL HIGHWAY	FONTANA	4A07222	0	RANDALL AVE	ALDER AVE	CEDAR AVE	WIDEN RANDALL AVE FROM ALDER AVE TO CEDAR AVE FROM 2 TO 4 LANES	2020	\$1,266
LOCAL HIGHWAY	FONTANA	4A07259	0	SLOVER AVE	TAMARIND AVE	EAST FONTANA CITY LIMITS	WIDEN SLOVER AVE FROM TAMARIND AVE AV TO EAST FONTANA CITY LIMITS WIDEN FROM 4 TO 6 LANES	2025	\$895
LOCAL HIGHWAY	FONTANA	4A07273	0				VALLEY BOULEVARD FROM CHERRY AVENUE TO BEECH AVENUE WIDEN FROM 4-6 LANES	2021	\$2,418
LOCAL HIGHWAY	FONTANA	4A07274	0				VALLEY BOULEVARD FROM BEECH AVENUE TO CITRUS AVENUE WIDEN FROM 4-6 LANES	2021	\$2,418

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	FONTANA	4A1005	0				CYPRESS AVENUE FROM DUNCAN CANYON ROAD TO FRONTAGE ROAD (I-15)- CONSTRUCT NEW 2 LANE ROAD	2021	\$3,200
LOCAL HIGHWAY	FONTANA	4A1006	0				DUNCAN CANYON ROAD FROM I-15 TO CITRUS AVENUE- WIDEN FROM 2-4 LANES	2019	\$1,312
LOCAL HIGHWAY	FONTANA	4A1007	0				VALLEY BOULEVARD FROM CITRUS AVENUE TO SIERRA AVENUE WIDEN FROM 4-6 LANES	2021	\$2,418
LOCAL HIGHWAY	FONTANA	SBD031217	0				BEECH AVENUE FOOTHILL TO MILLER AVE WIDEN FROM 2 LANES TO 4 LANES	2020	\$4,630
LOCAL HIGHWAY	FONTANA	SBD031218	0				ALDER AVENUE BASELINE TO FOOTHILL BOULEVARD WIDEN 2 LANES TO 4 LANES W/TURN LANES	2019	\$2,624
LOCAL HIGHWAY	FONTANA	SBD031227	0				JURUPA AVENUE ETIWANDA TO SIERRA AVENUE CONSTRUCT 6 LANE ROAD	2016	\$24,462
LOCAL HIGHWAY	FONTANA	SBD031228	0				ETIWANDA AVENUE RIVERSIDE COUNTY LINE TO INTERSTATE 10 WIDEN FROM 4 TO 6 LANES	2020	\$2,635
LOCAL HIGHWAY	FONTANA	SBD031233	0				ARROW BOULEVARD ALDER TO MAPLE AVENUE WIDEN 2 LANES TO 4 LANES	2019	\$5,830
LOCAL HIGHWAY	FONTANA	SBD031235	0				ARROW HIGHWAY ALMERIA TO CITRUS AVENUE WIDEN 2 LANES TO 4 LANES	2023	\$1,265
LOCAL HIGHWAY	FONTANA	SBD031246	0				FOOTHILL BOULEVARD CITRUS AVENUE TO MAPLE AVENUE WIDEN TO STATE STANDARDS FROM 4 TO 6 LANES	2021	\$7,218
LOCAL HIGHWAY	FONTANA	SBD031254	0				MERRILL AVENUE ALDER TO MAPLE AVENUE WIDEN FROM 2 TO 4 LANES	2019	\$2,065
LOCAL HIGHWAY	FONTANA	SBD031266	0				SIERRA AVENUE FOOTHILL BOULEVARD TO BASELINE AVENUE- WIDEN FROM 4 TO 6 LANES	2021	\$8,129
LOCAL HIGHWAY	GRAND TERRACE	4120140	0	MICHIGAN ST	COMMERCE WAY	VAN BUREN ST	WIDEN MICHIGAN ST FROM COMMERCE WAY AND VAN BUREN ST FROM 2 TO 4 LANES	2025	\$778
LOCAL HIGHWAY	GRAND TERRACE	4A01139	0	BARTON RD	HONEY HILLS	NE GRAND TERRACE CITY LIMITS	WIDEN BARTON RD FROM HONEY HILL DR TO NE GRAND TERRACE CITY LIMITS FROM 2 TO 4 LANES	2018	\$2,534
LOCAL HIGHWAY	GRAND TERRACE	4A01141	0	BARTON RD	I-215	SPRR	WIDEN BARTON RD FROM I-215 TO SOUTHERN PACIFIC RR FROM 2 TO 4 LANES	2020	\$1,798

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
LOCAL HIGHWAY	GRAND TERRACE	4A01146	0	MT VERNON AVE	CANAL ST	NORTH GRAND TERRACE CITY LIMITS	WIDEN MT VERNON AVE FROM CANAL ST TO NORTH GRAND TERRACE CITY LIMITS FROM 2 TO 4 LANES	2018	\$579
LOCAL HIGHWAY	GRAND TERRACE	4A07027	0	COMMERCE WAY	900' N/O PICO ST	MAIN ST	EXTEND COMMERCE WAY FROM 900' N/O PICO ST TO MAIN ST FROM 0 TO 4 LANES	2020	\$14,388
LOCAL HIGHWAY	GRAND TERRACE	4A07268	0				MICHIGAN AVENUE WIDENING (2-4 LANES) FROM COMMERCE WAY TO MAIN STREET	2018	\$1,423
LOCAL HIGHWAY	GRAND TERRACE	4A07356	0	MAIN ST	BNSF	UPRR	WIDEN MAIN ST (WB ONLY) FROM BNSF TO UPRR FROM 1 TO 2 LANES	2020	\$226
LOCAL HIGHWAY	GRAND TERRACE	4G04027	0	MAIN ST	MAIN ST	SAN BERNARDINO LINE	GRADE SEPARATION AT MAIN ST IN GRAND TERRACE ON THE SAN BERNARDINO LINE	2030	\$23,977
LOCAL HIGHWAY	HESPERIA	20084104	0				JOSHUA STREET PARK & RIDE EXPANSION - ON JOSHUA STREET WEST OF US 395, CITY OF HESPERIA. EXISTING PNR HAS 188 SPACES AND NEEDS TO ADD 200 SPACES. TO INCLUDE LANDSCAPING, LIGHTING AND VARIOUS NON-CAPACITY STREET IMPROVEMENTS TO FACILITATE ADDITIONAL SPACES (M003)	2016	\$743
LOCAL HIGHWAY	HESPERIA	4A01147	0	7TH AVE	RANCHERO RD	BEAR VALLEY RD	WIDEN 7TH AVE FROM RANCHERO RD TO BEAR VALLEY RD FROM 2 TO 4 LANES	2023	\$11,370
LOCAL HIGHWAY	HESPERIA	4A01152	0	HESPERIA RD	BEAR VALLEY RD	SULTANA ST	WIDEN HESPERIA RD FROM BEAR VALLEY RD TO SULTANA ST FROM 2 TO 4 LANES	2030	\$10,926
LOCAL HIGHWAY	HESPERIA	4A01155	0	LEMON ST	3RD AVE	I AVE	WIDEN LEMON ST FROM 3RD AVE TO I AVE FROM 2 TO 4 LANES AND CONSTRUCT GRADE SEPARATION AT BNSF RR W/ REGIONAL STORM DRAIN	2040	\$32,505
LOCAL HIGHWAY	HESPERIA	4A01157	0	MAIN ST	I-15	US-395	WIDEN MAIN ST FROM US-395 TO I-15 FROM 4 TO 6 LANES	2040	\$29,174
LOCAL HIGHWAY	HESPERIA	4A01159	0	MAPLE AVE	EUCALYPTUS AVE	MAIN ST	WIDEN MAPLE AVE FROM EUCALYPTUS AVE TO MAIN ST FROM 2 TO 5 LANES	2038	\$8,323
LOCAL HIGHWAY	HESPERIA	4A01162	0	MAUNA LOA RD	7TH AVE	3RD AVE	WIDEN MAUNA LOA RD FROM 7TH AVE TO 3RD AVE FROM 2 TO 4 LANES AND CONNECT TO LEMON ST	2035	\$3,473
LOCAL HIGHWAY	HESPERIA	4A01168	0	ROCK SPRINGS RD	GLENDALE AVE	EAST HESPERIA CITY LIMITS	WIDEN ROCK SPRINGS RD FROM GLENDALE AVE TO EAST HESPERIA CITY LIMITS FROM 2 TO 4 LANES	2027	\$1,701

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	HESPERIA	4A07129	0	HESPERIA RD	YUCCA ST	WALNUT AVE	CONSTRUCT GRADE SEPARATION CONNECTION TO MAIN ST	2035	\$6,252
LOCAL HIGHWAY	HESPERIA	SBD55025-20150008	0				IN HESPERIA: MAIN ST FROM I-15 TO MAPLE (PHASE 1) / MAPLE TO 11TH (PHASE 2) / I-15 TO SR 395 (PHASE 3); WIDEN AND RECONSTRUCT FROM 4-6 LANES, INCLUDING WIDENING OF BRIDGE OVER CALIFORNIA AQUEDUCT (2.75 MILES)	2019	\$17,950
LOCAL HIGHWAY	HESPERIA	SBD55030	0				RANCHERO RD. FROM TOPAZ AVE TO 7TH ST. - WIDEN FROM 2 TO 5 LANES (6 MILES)(INCLUDES BRIDGE OVER CALIFORNIA AQUEDUCT)	2018	\$180,000
LOCAL HIGHWAY	HESPERIA	200211	0				IN HESPERIA ON I AVE FROM MAIN ST. TO BEAR VALLEY RD. APPROX. 4.4 MILES - WIDEN FROM 2-4 LANES	2019	\$7,700
LOCAL HIGHWAY	HESPERIA	SBD031284	0				1 AVENUE FROM RANCHERO RD TO MAIN ST. WIDEN FROM 2 LANES TO 4 LANES	2018	\$7,610
LOCAL HIGHWAY	HESPERIA	SBD55028	0				RANCHERO RD. FROM DANBURY TO ARROWHEAD LAKE RD. - WIDEN FROM 2 TO 4 LANES (3 MILES)	2017	\$11,000
LOCAL HIGHWAY	HIGHLAND	200018	0				IN HIGHLAND: ON BOULDER AVE FROM SAN MANUEL VILLAGE ENTRANCE TO GREENSPOT ROAD; STREET AND LANDSCAPING IMPROVEMENTS (NON-CAPACITY ENHANCEMENTS)	2016	\$2,500
LOCAL HIGHWAY	HIGHLAND	200019	0				BRIDGE NO. 54C0035 (PREVIOUSLY SHOWN AS 00L0028), BASE LINE, OVER CITY CREEK. REPLACE 4 LANE BRIDGE WITH 4 LANE BRIDGE.	2018	\$22,810
LOCAL HIGHWAY	HIGHLAND	200213	0				ON 3RD ST. FROM PALM AVE. TO 5TH ST. WIDEN 3RD ST. E/O PALM AVE. FROM 2 TO 3 LANES AND EXTEND 3RD ST. EASTERLY TO CONNECT 5TH ST.	2017	\$1,571
LOCAL HIGHWAY	HIGHLAND	200852	0				DEL ROSA DRIVE FROM 5TH STREET TO 6TH STREET - WIDEN FROM 2 TO 4 LANES (0.2 MILES) FORMERLY PART OF PROJECT ID 200852	2020	\$673
LOCAL HIGHWAY	HIGHLAND	20061014	0				GREENSPOT RD. FROM SANTA PAULA ST. TO SOUTH CITY LIMIT - WIDEN FROM 2-4 LANES WITH MEDIAN (2.2 MILES)	2020	\$22,530

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,000's)
County: San Bernardino									
LOCAL HIGHWAY	HIGHLAND	20061015	0				GREENSPOT ROAD BRIDGE AT SANTA ANA RIVER - GREENSPOT RD. CONSTRUCT NEW 4 LANE BRIDGE (STRIPING FOR 2 LANES) AT SAR W/ CHANNEL IMPROVEMENTS- REALIGN APPROX 2400 FT OF 2 LANE RD. (54C0368) - EXISTING BRIDGE WILL BE PRESERVED AND REHABILITATED FOR PEDESTRIAN, BICYCLE, AND EQUESTRIAN USES. (TOLL CREDITS: HBRR- L IN R/W & CON/ TEA IN CON)	2015	\$14,464
LOCAL HIGHWAY	HIGHLAND	20130401	0	ORANGE ST.	AT PLUNGE CREEK		BRIDGE NO. 54C0592, ORANGE ST OVER PLUNGE CREEK OVERFLOW, 1.5 MI N OF PIONEER AVE. REPLACE EXISTING TWO LANE BRIDGE WITH FOUR LANE BRIDGE.	2018	\$4,630
LOCAL HIGHWAY	HIGHLAND	4120141-201153	0				WIDEN 5TH ST FROM CITY CRK TO SR210; RESTRIPE 5TH ST FROM 4-6LNS BTW CHURCH AVE & SR210; WIDEN AND RESTRIPE 210 UNDERCROSSING 4-5LNS BTW RAMPS AND ADDITIONAL TURN LN.	2019	\$10,140
LOCAL HIGHWAY	HIGHLAND	4A01173	0	GREENSPOT RD	GOLD BUCKLE RD	SANTA ANA RIVER	WIDEN GREENSPOT FROM GOLD BUCKLE RD TO SANTA ANA RIVER FROM 2 TO 4 LANES (EXCLUDING BRIDGE)	2022	\$10,084
LOCAL HIGHWAY	HIGHLAND	4A01387	0				IN HIGHLAND: ALONG 5TH STREET FROM VICTORIA AVE TO PALM AVE; SHOULDER IMPROVEMENTS (NO ADDITIONAL LANES)	2017	\$4,000
LOCAL HIGHWAY	HIGHLAND	4A07019	0	GREENSPOT RD BRANCH	SANTA ANA RIVER	SR-38	CONSTRUCT NEW STREET, BRANCH OFF FROM GREENSPOT RD TO CONNECT TO SR-38 FROM 0 TO 2/4 LANES WITHIN CITY LIMIT INCLUDING BRIDGE OVER MILL CREEK	2025	\$61,790
LOCAL HIGHWAY	HIGHLAND	4A07044	0	GREENSPOT RD	ORANGE ST	BOULDER AVE	WIDEN GREENSPOT FROM ORANGE ST TO BOULDER AVE FROM 4 TO 6 LANES	2022	\$718
LOCAL HIGHWAY	HIGHLAND	4A07062	0	9TH ST	EUCALYPTUS DR	VICTORIA AVE	WIDEN 9TH ST FROM EUCALYPTUS DR TO VICTORIA AVE FROM 2 TO 4 LANES	2020	\$381
LOCAL HIGHWAY	HIGHLAND	4A07136	0	HIGHLAND AVE	CHURCH ST	BOULDER AVE	WIDEN HIGHLAND AVE FROM CHURCH ST TO BOULDER AVE FROM 2 TO 4 LANES	2025	\$3,335
LOCAL HIGHWAY	HIGHLAND	4A07142	0				TIPPECANOE AVENUE FROM 3RD STREET TO 5TH STREET - WIDEN FROM 2-4 LANES (0.3 MILES) FORMERLY PART OF PROJECT ID 200852	2020	\$2,394

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	HIGHLAND	4A07150	0	CONE CAMP RD	GREENSPOT RD	SOUTH HIGHLAND CITY LIMIT	CONSTRUCT NEW STREET FOR CONE CAMP RD FROM GREENSPOT RD TO SOUTH HIGHLAND CITY LIMIT FROM 0 TO 2 LANES	2035	\$4,044
LOCAL HIGHWAY	HIGHLAND	4A07231	0	LANKERSHIM AVE	660' N/O BASE LINE	1200' N/O 9TH ST	NEW ROAD ON LANKERSHIM AVE FROM 660' N/O BASE LINE RD TO 1200' N/O 9TH ST FROM 0 TO 2 LANES	2032	\$1,395
LOCAL HIGHWAY	HIGHLAND	4A07275	0	PACIFIC ST	2 LOTS W/O COLE AVE	PALM AVE	WIDEN PACIFIC ST FROM 2 LOTS W/O COLE AVE TO PALM AVE FROM 2 TO 4 LANES	2030	\$1,147
LOCAL HIGHWAY	HIGHLAND	4A07308	0				WIDEN BASE LINE BETWEEN CHURCH AVE. BUCKEYE ST. FROM 4-6 LANES	2020	\$2,400
LOCAL HIGHWAY	HIGHLAND	40M0701-201104	0				VICTORIA AVE FROM 3RD ST. TO 6TH ST. - SHOULDER IMPROVEMENTS (NO WIDENING)	2019	\$3,075
LOCAL HIGHWAY	HIGHLAND	40M0701-201105	0				PALM AVE. FROM 3RD ST. TO 5TH ST. - SHOULDER IMPROVEMENTS (NO WIDENING)	2017	\$818
LOCAL HIGHWAY	HIGHLAND	40M0701-201191	0				BASE LINE FROM SEINE AVENUE TO STONEY CREEK DRIVE - WIDEN FROM 4-6 LANES (0.2 MILES)	2020	\$583
LOCAL HIGHWAY	HIGHLAND	SBD55031	0				ALABAMA STREET FROM 3RD STREET TO SOUTH CITY LIMITS - WIDEN FROM 2 TO 3 S/B LANES (0.25 MILES)	2017	\$1,078
LOCAL HIGHWAY	HIGHLAND	SBD55033	0				BOULDER AVE. FROM GREENSPOT TO SOUTH CITY LIMITS - WIDEN FROM 2-4 LANES (0.70 MILES)	2019	\$2,350
LOCAL HIGHWAY	HIGHLAND	0A6410-20131503	0				IN HIGHLAND: PALM AVE HISTORIC DISTRICT IMPROVEMENTS; PALM AVE (BASE LINE TO HIGHLAND AVE) & PACIFIC ST (CHURCH AVE TO 350FT WEST OF PAM) SHOULDER IMPROVEMENTS (CURB, GUTTER AND SIDEWALK IMPROVEMENTS), NEW ROUNDABOUT AT PALM/PACIFIC INT., BIKE LANES (PA&E ONLY)	2018	\$79
LOCAL HIGHWAY	LOMA LINDA	4120144	0	EVANS ST	I-10	BARTON RD	WIDEN EVANS ST FROM I-10 TO BARTON RD FROM 0 TO 4 LANES	2040	\$126,197
LOCAL HIGHWAY	LOMA LINDA	4A07002	0	EVANS ST. PHASE II	UPRR	BARTON RD	NEW 4 LANE ROAD ON EVANS ST FROM UPRR TO BARTON RD	2030	\$38,181
LOCAL HIGHWAY	LOMA LINDA	4A07196	0	VAN LEUVEN ST	EVANS ST	ORANGE GROVE ST	NEW 2 LANE ROAD ON VAN LEUVEN AVE FROM EVANS ST TO ORANGE GROVE ST	2030	\$1,900

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	LOMA LINDA	SBDO31294	0				REDLANDS BOULEVARD AT CALIFORNIA STREET WIDEN INTERSECTION AND INSTALL TRAFFIC SIGNALS AND DRAINAGE AND CURB AND GUTTERS	2016	\$6,000
LOCAL HIGHWAY	LOMA LINDA	SBD31876	0				CALIFORNIA STREET BARTON ROAD TO REDLANDS BOULEVARD WIDEN FROM 2 TO 4 LANES	2018	\$1,090
LOCAL HIGHWAY	MONTCLAIR	4A01183	0	MONTE VISTA AVE	SAN BERNARDINO ST	ARROW HWY	WIDEN MONTE VISTA AVE FROM SAN BERNARDINO ST TO ARROW HWY FROM 4 TO 6 LANES	2025	\$3,931
LOCAL HIGHWAY	MONTCLAIR	4A01184	0	SAN BERNARDINO ST	LA COUNTY LINE	BENSON AVE	WIDEN SAN BERNARDINO ST FROM LA COUNTY LINE TO BENSON AVE FROM 4 TO 6 LANES	2025	\$4,848
LOCAL HIGHWAY	MONTCLAIR	4A01267	0	CENTRAL AVE	MONTCLAIR CITY LIMIT	CHINO CITY LIMIT	WIDEN CENTRAL AVE FROM MONTCLAIR CITY LIMIT TO CHINO CITY LIMIT FROM 4 TO 6 LANES	2025	\$1,428
LOCAL HIGHWAY	MONTCLAIR	4G07421	0	CENTRAL AVE	CENTRAL AVE	ALHAMBRA/ LOS ANGELES LINES	WIDEN CENTRAL AVE GRADE SEPARATION ON THE ALHAMBRA AND LOS ANGELES LINES FROM 4 TO 6 LANES	2035	\$8,239
LOCAL HIGHWAY	NEEDLES	4A0801	0				I-40 NEEDLES CONNECTOR: RDWAY/SIDEWALK IMPRVMTS ALONG 6,300FT: J ST FROM I-40 OFF/RMPS TO W BROADWAY; W BROADWAY FROM J ST TO NEEDLES HWY; NEEDLES HWY FROM W BROADWAY TO N K ST; N K ST TO S/ABUTMENT OF CO RVR BRDGE INTRST IMPRVMTS AT J ST/W BROADWAY, W BROADWAY/NEEDLES HWY; NEEDLES HWY/N K ST W/ INCL TRAFFIC SIGS, TURN LNS, STRIPING/ SIGNAGE/SIDEWALK/TOLL CREDITS; STPL14/15 \$277, CBIP14/15 \$190)	2017	\$5,521
LOCAL HIGHWAY	ONTARIO	200405	0				S. MILLIKEN AVE. GRADE SEPARATION - ON MILLIKEN FROM UP R TO NORTH OF MISSION BLVD. RR GRADE SEP-CONSTRUCT O/C/U/C AT RR-REALIGNMENT OF STS TO MEET O/CROSSING & INTERSTN IMPROVMTS	2017	\$81,986

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,000's)
County: San Bernardino									
LOCAL HIGHWAY	ONTARIO	200804	0	ARCHIBALD AVE	ARCHIBALD AVE	ARCHIBALD AVE @ UPRR (MISSION BLVD)	SOUTH ARCHIBALD AVE GRADE SEPARATION (AT MISSION BLVD). CONSTRUCT A HIGHWAY AND RAIL GRADE WEPARTION AT EXISTING AT-GRADE CROSSING SOUTH OF ARCHIBALD AND THE UPRR-LOS ANGELES LINE. PROJECT TO BUILD NEW FLY-OVER BRIDGE FOR RR - WIDENING FROM 2-6 LANES, 3 LANES IN EACH DIRECTION AND LEFT AND RIGHT TURN LANES; DRAINAGE IMPROVEMENTS	2023	\$57,932
LOCAL HIGHWAY	ONTARIO	4120145	0	AIRPORT DR	ROCHESTER AVE	ETIWANDA AVE	SPOT WIDEN AIRPORT DR FROM ROCHESTER AVE TO ETIWANDA AVE FROM 2 TO 4 LANES	2025	\$5,350
LOCAL HIGHWAY	ONTARIO	4120147	0	MOUNTAIN AVE	BROOKS ST	6TH ST	WIDEN MOUNTAIN AVE FROM BROOKS ST TO 6TH ST FROM 4 TO 6 LANES	2018	\$6,449
LOCAL HIGHWAY	ONTARIO	2002160-20150201	0				GROVE AVE CORRIDOR: WIDEN GROVE AVE FROM I-10 TO AIRPORT DRIVE (4-6 LNS) CONCURRENT W I-10/ GROVE AVE IC PRJ (2002160)	2025	\$2,293
LOCAL HIGHWAY	ONTARIO	4A01203	0	FRANCIS ST	BENSON AVE	CAMPUS AVE	WIDEN FRANCIS ST FROM BENSON AVE TO CAMPUS AVE FROM 2 TO 4 LANES	2017	\$3,225
LOCAL HIGHWAY	ONTARIO	4A01210	0	HOLT BLVD	BENSON AVE	VINEYARD AVE	WIDEN HOLT BLVD FROM BENSON AVE TO VINEYARD AVE FROM 4 TO 6 LANES	2020	\$9,746
LOCAL HIGHWAY	ONTARIO	4A01213	0	JURUPA ST	TURNER AVE	HOFER RANCH RD	WIDEN JURUPA ST FROM TURNER AVE TO HOFER RANCH RD FROM 2 TO 6 LANES	2017	\$734
LOCAL HIGHWAY	ONTARIO	4A01214	0	MERRILL AVE	EUCLID AVE	HAVEN AVE	WIDEN MERRILL AVE FROM EUCLID AVE TO HAVEN AVE FROM 2 TO 4 LANES	2025	\$20,255
LOCAL HIGHWAY	ONTARIO	4A01222	0	VINEYARD AVE	4TH ST	I-10	WIDEN VINEYARD AVE FROM 4TH ST TO I-10 FROM 4 TO 6 LANES	2025	\$1,366
LOCAL HIGHWAY	ONTARIO	4A04189	0	ARCHIBALD AVE	EDISON AVE	SOUTH ONTARIO CITY LIMITS	WIDEN ARCHIBALD AVE FROM EDISON AVE TO SOUTH ONTARIO CITY LIMITS FROM 2 TO 6 LANES	2025	\$7,298
LOCAL HIGHWAY	ONTARIO	4A04190	0	ARCHIBALD AVE	RIVERSIDE AVE	EDISON AVE	WIDEN ARCHIBALD AVE FROM RIVERSIDE AVE TO EDISON AVE FROM 2 TO 6 LANES	2025	\$6,787
LOCAL HIGHWAY	ONTARIO	4A04192	0	BELLEGRAVE AVE	MERRILL AVE	MILLIKEN AVE	WIDEN BELLEGRAVE AVE FROM MERRILL AVE TO MILLIKEN AVE (HAMNER AVE) FROM 2 TO 4 LANES	2020	\$11,869
LOCAL HIGHWAY	ONTARIO	4A04193	0	CAMPUS AVE	RIVERSIDE DR	MERRILL AVE	WIDEN CAMPUS AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 2 TO 4 LANES	2025	\$5,680

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
LOCAL HIGHWAY	ONTARIO	4A04194	0	CHINO AVE	EUCLID AVE	MILLIKEN BLVD	WIDEN CHINO AVE FROM EUCLID TO MILLIKEN BLVD FROM 2 TO 4 LANES	2020	\$15,211
LOCAL HIGHWAY	ONTARIO	4A04196	0	EDISON AVE	MILL CREEK AVE	MILLIKEN AVE	WIDEN EDISON AVE FROM MILL CREEK AVE TO MILLIKEN AVE FROM 2 TO 8 LANES	2025	\$3,598
LOCAL HIGHWAY	ONTARIO	4A04197	0	EDISON AVE	EUCLID AVE	WALKER AVE	WIDEN EDISON AVE FROM EUCLID AVE TO WALKER AVE FROM 2 TO 8 LANES	2025	\$9,363
LOCAL HIGHWAY	ONTARIO	4A04198	0	EDISON AVE	VINEYARD AVE	MILL CREEK AVE	WIDEN EDISON AVE FROM VINEYARD AVE TO MILL CREEK AVE FROM 2 TO 8 LANES	2025	\$23,471
LOCAL HIGHWAY	ONTARIO	4A04199	0	EDISON AVE	WALKER AVE	VINEYARD AVE	WIDEN EDISON AVE FROM WALKER TO VINEYARD AVE FROM 2 TO 8 LANES	2025	\$3,445
LOCAL HIGHWAY	ONTARIO	4A04200	0	EUCALYPTUS AVE	EUCLID AVE	MILLIKEN AVE	WIDEN EUCALYPTUS AVE FROM EUCLID AVE TO MILLIKEN AVE (HAMNER AVE) FROM 2 TO 4 LANES	2035	\$3,716
LOCAL HIGHWAY	ONTARIO	4A04201	0	EUCLID AVE	RIVERSIDE DR	MERRILL AVE	WIDEN EUCLID AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 2 TO 4 LANES (NORTHBOUND ONLY)	2035	\$15,281
LOCAL HIGHWAY	ONTARIO	4A04206	0	GROVE AVE	RIVERSIDE DR	MERRILL AVE	WIDEN GROVE AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 2 TO 4 LANES	2035	\$12,695
LOCAL HIGHWAY	ONTARIO	4A04208	0	HAVEN AVE	RIVERSIDE DR	BELLEGRAVE AVE	WIDEN HAVEN AVE FROM RIVERSIDE DR TO BELLEGRAVE AVE FROM 2 TO 4 LANES	2035	\$5,443
LOCAL HIGHWAY	ONTARIO	4A04214	0	MILL CREEK AVE	RIVERSIDE DR	BELLEGRAVE AVE	WIDEN MILL CREEK AVE FROM RIVERSIDE DR TO BELLEGRAVE AVE 2-4 LANES	2025	\$3,977
LOCAL HIGHWAY	ONTARIO	4A04215	0	MILLIKEN AVE	EDISON AVE	SOUTH ONTARIO CITY LIMITS	WIDEN MILLIKEN AVE (HAMNER AVE) FROM EDISON AVE TO SOUTH ONTARIO CITY LIMITS FROM 2 TO 3 LANES (WB ONLY)	2025	\$1,893
LOCAL HIGHWAY	ONTARIO	4A04216	0	MILLIKEN AVE	RIVERSIDE AVE	EDISON AVE	WIDEN MILLIKEN AVE (HAMNER AVE) FROM RIVERSIDE AVE TO EDISON AVE FROM 1 TO 4 LANES (WESTBOUND ONLY)	2025	\$4,543
LOCAL HIGHWAY	ONTARIO	4A04218	0	ONTARIO/HELLMAN AVE	RIVERSIDE DR	BELLEGRAVE AVE	WIDEN ONTARIO/HELLMAN AVE FROM RIVERSIDE DR TO BELLEGRAVE FROM 0 TO 2/4 LANES	2030	\$5,747
LOCAL HIGHWAY	ONTARIO	4A04219	0	RIVERSIDE DR	EUCLID AVE	MILLIKEN AVE	WIDEN RIVERSIDE DR FROM EUCLID AVE TO MILLIKEN AVE FROM 2 TO 4 LANES	2030	\$6,349
LOCAL HIGHWAY	ONTARIO	4A04220	0	SCHAEFER AVE	EUCLID AVE	HAVEN AVE	WIDEN SCHAEFER AVE FROM EUCLID AVE TO HAVEN AVE FROM 0 TO 4 LANES	2030	\$4,981

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	ONTARIO	4A04223	0	VINEYARD AVE	RIVERSIDE DR	MERRILL AVE	WIDEN VINEYARD AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 0 TO 6 LANES	2025	\$6,624
LOCAL HIGHWAY	ONTARIO	4A07138	0	PHILADELPHIA ST	VINEYARD AVE	CUCAMONGA CREEK	WIDEN PHILADELPHIA ST FROM VINEYARD AVE TO CUCAMONGA CREEK FROM 2 TO 4 LANES, INCLUDING BRIDGE OVER CUCAMONGA CREEK	2017	\$1,865
LOCAL HIGHWAY	ONTARIO	4A07174	0	8TH ST	8TH ST	CUCAMONGA CREEK	CONSTRUCT BRIDGE ON EIGHT ST OVER CUCAMONGA CREEK AND WIDEN FROM 2 TO 4 LANES	2035	\$1,437
LOCAL HIGHWAY	ONTARIO	4A07208	0	FRANCIS ST	FRANCIS ST	CUCAMONGA CREEK	CONSTRUCT BRIDGE ON FRANCIS ST OVER CUCAMONGA CREEK- SIDEWALK ONLY	2025	\$1,023
LOCAL HIGHWAY	ONTARIO	4A07215	0	MISSION BLVD	MISSION BLVD	WEST CUCAMONGA CREEK	CONSTRUCT BRIDGE ON MISSION BLVD OVER WEST CUCAMONGA CREEK AND WIDEN FROM 4 TO 6 LANES	2025	\$342
LOCAL HIGHWAY	ONTARIO	4A07227	0	FRANCIS ST	FRANCIS ST	WEST CUCAMONGA CREEK	CONSTRUCT 4-LANE BRIDGE ON FRANCIS ST OVER WEST CUCAMONGA CREEK	2017	\$108
LOCAL HIGHWAY	ONTARIO	4A07233	0	MISSION BLVD	BENSON AVE	MILLIKEN AVE	WIDEN MISSION BLVD FROM BENSON TO MILLIKEN AVE FROM 4 TO 6 LANES	2017	\$13,600
LOCAL HIGHWAY	ONTARIO	4A07260	0	CONSTRUCT A BRIDGE ON 6TH ST OVER CUCAMONGA CREEK	6TH ST	CUCAMONGA CREEK	CONSTRUCT BRIDGE ON 6TH ST OVER CUCAMONGA CREEK- SIDEWALK ONLY	2020	\$740
LOCAL HIGHWAY	ONTARIO	4A07266	0	PHILADELPHIA ST	CAMPUS AVE	750' E/O GROVE AVE	WIDEN PHILADELPHIA ST FROM CAMPUS AVE TO 750' E/O GROVE AVE FROM 2 TO 4 LANES	2030	\$1,082
LOCAL HIGHWAY	ONTARIO	4A07267	0	RIVERSIDE DR	RIVERSIDE DR	CUCAMONGA CREEK	CONSTRUCT BRIDGE ON RIVERSIDE DR OVER CUCAMONGA CREEK AND WIDEN FROM 4 TO 6 LANES	2035	\$731
LOCAL HIGHWAY	ONTARIO	4A07277	0	ARCHIBALD AVE	ARCHIBALD AVE	UPPER DEEK CREEK	CONSTRUCT BRIDGE ON ARCHIBALD AVE OVER UPPER DEER CREEK AND WIDEN FROM 4 TO 6 LANES	2025	\$686
LOCAL HIGHWAY	ONTARIO	4A07278	0	ARCHIBALD AVE	ARCHIBALD AVE	UPPER DEEK CREEK	CONSTRUCT BRIDGE ON ARCHIBALD AVE OVER UPPER DEER CREEK SPILLWAY AND WIDEN FROM 4 TO 6 LANES	2025	\$960
LOCAL HIGHWAY	ONTARIO	4A07317	0	MISSION BLVD	MISSION BLVD	CUCAMONGA CREEK	CONSTRUCT BRIDGE ON MISSION BLVD OVER CUCAMONGA CREEK AND WIDEN FROM 4 TO 6 LANES	2025	\$1,003

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
LOCAL HIGHWAY	ONTARIO	4A07325	0	CONSTRUCT A BRIDGE ON HOLT BLVD OVER WEST CUCAMONGA CREEK	HOLT BLVD	WEST CUCAMONGA CREEK	CONSTRUCT BRIDGE ON HOLT BLVD OVER WEST CUCAMONGA CREEK AND WIDEN FROM 4 TO 6 LANES	2025	\$136
LOCAL HIGHWAY	ONTARIO	4A07326	0	ARCHIBALD AVE	ARCHIBALD AVE	LOWER DEER CREEK	CONSTRUCT BRIDGE ON ARCHIBALD AVE OVER LOWER DEER CREEK AND WIDEN FROM 2 TO 6 LANES	2025	\$203
LOCAL HIGHWAY	ONTARIO	4A07327	0	HOLT BLVD	HOLT BLVD	CUCAMONGA CREEK	CONSTRUCT BRIDGE ON HOLT BLVD OVER CUCAMONGA CREEK-AND WIDEN FROM 4 TO 6 LANES	2025	\$1,524
LOCAL HIGHWAY	ONTARIO	4G0103/ 4G0109	0	SAN ANTONIO AVE	IN ONTARIO	ALHAMBRA/ LOS ANGELES LINES	CONSTRUCT 4 LANE GRADE SEPARATION	2035	\$33,343
LOCAL HIGHWAY	ONTARIO	4G0104/ 4G0112	0	CAMPUS AVE	CAMPUS AVE	UPRR ALHAMBRA/ LOS ANGELES LINES	WIDEN GRADE SEPARATION @ UPRR ALHAMBRA/LOS ANGELES LINES FROM 2 TO 4 LANES	2032	\$32,769
LOCAL HIGHWAY	ONTARIO	4GL04-200805	0	VINEYARD			NORTH VINEYARD AVE. GRADE SEPARATION - BETWEEN HOLT BLVD AND AIRPORT DR. BUILDING RR BRIDGE FLYOVER-NO LANES ADDED TO ARTERIALS. THE GRADE SEP. IS AT THE UP RR ALHAMBRA LINE	2017	\$55,195
LOCAL HIGHWAY	ONTARIO	SBD59004	0				FRANCIS ST. FROM BON VIEW AVE TO GROVE WIDENING 2 TO 4 LANES (STORM DRAIN FROM BON VIEW TO PARCO)	2019	\$9,600
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120148	0	EAST AVE	WILSON AVE	NORTH RIM WAY (NEW)	WIDEN EAST ST FROM WILSON AVE TO NORTH RIM WAY (NEW) FROM 2 TO 4 LANES	2025	\$250
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120149	0	ETIWANDA AVE	EXISTING TERMINUS	NORTH RIM WAY (NEW)	WIDEN ETIWANDA AVE FROM EXISTING TERMINUS TO NORTH RIM WAY (NEW) FROM 0 TO 2 LANES	2025	\$338
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120151	0	VICTORIA AVE	ETIWANDA HIGH SCHOOL	I-15	WIDEN VICTORIA AVE FROM ETIWANDA HIGH SCHOOL TO I-15 FROM 2 TO 4 LANES	2025	\$349
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120152	0	ETIWANDA AVE	MILLER AVE	850' N/O MILLER AVE	WIDEN ETIWANDA AVE FROM MILLER AVE TO 850' N/O MILLER AVE, NORTHBOUND ONLY FROM 3 TO 4 LANES	2025	\$369

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120153	0	6TH ST	6TH ST	CUCAMONGA CREEK CHANNEL	WIDEN 6TH ST AT CUCAMONGA CREEK CHANNEL FROM 2 TO 4 LANES (50% RANCHO CUCAMONGA/50% ONTARIO)	2025	\$447
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120155	0	BASELINE RD	ETIWANDA AVE	SHELBY PL	WIDEN BASELINE RD FROM ETIWANDA AV TO I-15 FROM 4 TO 6 LANES	2025	\$594
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120156	0	EAST AVE	CHATEAU DR	VICTORIA AVE	WIDEN EAST AVE FROM CHATEAU DR TO VICTORIA AVE FROM 2 TO 4 LANES	2025	\$638
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120157	0	ARROW RTE	ETIWANDA DITCH	ARROW RTE @ ETIWANDA DITCH	WIDEN ARROW RTE AT ETIWANDA DITCH FROM 2 TO 4 LANES	2025	\$897
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120158	0	HELLMAN AVE	CUCAMONGA CREEK CHANNEL	HELLMAN AVE @ CUCAMONGA CREEK CHANNEL	WIDEN HELLMAN AVE AT CUCAMONGA CREEK CHANNEL (50% RC, 50% ONTARIO) FROM 2 TO 4 LANES	2025	\$897
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120160	0	GROVE AVE	8TH ST	TAPIA VIA DR	WIDEN GROVE AVE FROM 8TH ST TO TAPIA VIA DR (EAST SIDE) FROM 1 TO 2 LANES	2025	\$1,154
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120161	0	ARROW RTE	500' E/O I-15	1300' E/O I-15	WIDEN ARROW RTE FROM 500' FT E/O I-15 TO 1300' E/O I-15 FROM 2 TO 4 LANES	2017	\$1,107
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120163	0	ARROW RTE	GROVE ST	BAKER ST	WIDEN ARROW RTE FROM GROVE ST TO BAKER ST FROM 2 TO 4 LANES	2025	\$1,574
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120164	0	ETIWANDA AVE	BANYAN	WILSON AVE	WIDEN ETIWANDA AVE FROM BANYAN RD TO WILSON AVE FROM 2 TO 4 LANES	2025	\$1,701
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120165	0	CHURCH AVE	ARCHIBALD AVE	HAVEN AVE	WIDEN CHURCH AVE FROM ARCHIBALD AVE TO HAVEN AVE FROM 2 TO 4 LANES	2025	\$1,829
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120166	0	FOOTHILL BLVD	ARCHIBALD AVE	HERMOSA AVE	WIDEN FOOTHILL BLVD FROM ARCHIBALD AVE TO HERMOSA AVE OSA FROM 4 TO 6 LANES	2025	\$2,270
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120167	0	MILLER RD	ETIWANDA AVE	EAST ST	WIDEN MILLER RD FROM ETIWANDA AVE TO EAST ST FROM 2 TO 4 LANES	2025	\$1,986
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120168	0	FOOTHILL BLVD	VINEYARD AVE	ARCHIBALD AVE	WIDEN FOOTHILL BLVD FROM VINEYARD AVE TO ARCHIBALD AVE FROM 4 TO 6 LANES	2025	\$3,588
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120169	0	ETIWANDA AVE	6TH ST	ARROW ROUTE	WIDEN ETIWANDA AVE FROM 6TH ST TO ARROW ROUTE FROM 2 TO 4 LANES	2025	\$5,137
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120171	0	WILSON AVE	MILLIKEN AVE	DAY CREEK BLVD	WIDEN WILSON AVE FROM MILLIKEN AVE TO DAY CREEK BLVD FROM 0 TO 4 LANES	2025	\$7,174

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,000's)
County: San Bernardino									
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120172	0	WILSON AVE	WILSON AVE	DAY CREEK CHANNEL	CONSTRUCT NEW 4-LANE (2 EACH DIRECTION) BRIDGE AT WILSON AND DAY CREEK CHANNEL	2025	\$1,793
LOCAL HIGHWAY	RANCHO CUCAMONGA	20010133	0				WIDEN FOOTHILL BOULEVARD (OLD STATE ROUTE 66) BETWEEN GROVE AVENUE AND SAN BERNARDINO RD: WIDEN 4-6 LNS INCLUDES RAISED MEDIANS, SIDEWALKS, STREET LIGHTS, LANDSCAPING AND AN ARCH SPANNING FOOTHILL BLVD AS A MONUMENT TO THE HISTORIC ROUTE 66.	2017	\$6,006
LOCAL HIGHWAY	RANCHO CUCAMONGA	200023	0				CHERRY AV FROM SOUTH CITY LIMITS TO WILSON AV - WIDEN FROM 2 TO 4 LANES	2017	\$830
LOCAL HIGHWAY	RANCHO CUCAMONGA	46L04-201134	0				ETIWANDA AVE. GRADE SEPARATION PROJECT REPLACES AN AT-GRADE RAILROAD CROSSING AT THE INTERSECTION OF ETIWANDA AVENUE AND THE SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY (SCRRRA) RAILROAD TRACKS WITH AN OVERHEAD ROADWAY/AT GRADE RAILROAD TRACK GRADE SEPARATION	2018	\$216,200
LOCAL HIGHWAY	REDLANDS	200035	0				WABASH AV FROM 5TH ST TO I-10 - CONSTRUCT NEW 2 LANE STREET TO I-10 TO MATCH ON AND OFF RAMP - CONSTRUCT MISSING LINK (2 LANE IN EACH DIRECTION) - 1 MILE	2018	\$1,900
LOCAL HIGHWAY	REDLANDS	200419	0				ALABAMA STREET WIDENING - WIDEN FROM 2-4 LANES FROM NORTH CITY LIMITS TO 3,000 FT. NORTH PALMETTO	2017	\$21,600
LOCAL HIGHWAY	REDLANDS	4120173	0	COLTON AVE	WABASH AVE	CRAFTON AVE	WIDEN COLTON AVE FROM WABASH AVE TO CRAFTON AVE FROM 2 TO 4 LANES	2025	\$2,394
LOCAL HIGHWAY	REDLANDS	4120175	0	MOUNTAIN VIEW AVE	LUGONIA AVE	SAN BERNARDINO AVE	WIDEN MOUNTAIN VIEW AVE FROM LUGONIA AVE TO SAN BERNARDINO AVE FROM 1 TO 2 LANES (NB ONLY)	2025	\$534
LOCAL HIGHWAY	REDLANDS	4120179	0	SAN BERNARDINO AVE	SR-210	ORANGE ST	WIDEN SAN BERNARDINO AVE FROM SR-210 TO ORANGE ST FROM 2 TO 4 LANES	2025	\$1,944
LOCAL HIGHWAY	REDLANDS	4120237	0	CRAFTON HILLS PKWY	WABASH AVE	EAST REDLANDS CITY LIMITS	WIDEN CRAFTON HILLS PKWY FROM WABASH AVE TO EAST REDLANDS CITY LIMITS FROM 0 TO 2 LANES	2025	\$6,979

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	REDLANDS	20020202	0				REDLANDS PARK ONCE PROGRAM - NEW PARKING STRUCTURE BETWEEN EUREKA AND 3RD ST. S/O STUART AND N/O RR APPROX. 200 SPACES (NOT PNR) (THIS PROJECT REPLACES 200421)	2015	\$7,600
LOCAL HIGHWAY	REDLANDS	4A01237	0	ALABAMA ST	3RD ST	SAN BERNARDINO AVE	WIDEN FROM 2 TO 4 LANES (NOTE: FTIP#SBD31719 WIDENS BRIDGE AT SANTA ANA RIVER)	2025	\$7,617
LOCAL HIGHWAY	REDLANDS	4A01239	0	CHURCH ST	COLTON AVE	REDLANDS BLVD	WIDEN CHURCH ST FROM COLTON AVE TO REDLANDS BLVD FROM 2 TO 4 LANES	2025	\$4,421
LOCAL HIGHWAY	REDLANDS	4A01241	0	CYPRESS AVE	I-10	CITRUS AV	WIDEN CYPRESS AVE FROM I-10 TO CITRUS AV FROM 2 TO 4 LANES	2025	\$761
LOCAL HIGHWAY	REDLANDS	4A01243	0	FORD ST	5TH AVE	I-10	WIDEN FORD ST FROM 5TH AVE TO I-10 FROM 2 TO 4 LANES	2025	\$2,029
LOCAL HIGHWAY	REDLANDS	4A01245	0	LIVE OAK CYN RD	SAN TIMOTEO CYN RD	EAST REDLANDS CITY LIMITS	WIDEN LIVE OAK CYN RD FROM SAN TIMOTEO CYN RD TO EAST REDLANDS CITY LIMITS FROM 2 TO 4 LANES	2025	\$6,209
LOCAL HIGHWAY	REDLANDS	4A01246	0	LUGONIA AVE	TENNESSEE ST	ORANGE ST	WIDEN LUGONIA AVE FROM TENNESSEE ST TO ORANGE ST FROM 2 TO 4 LANES	2025	\$3,574
LOCAL HIGHWAY	REDLANDS	4A01248	0	ORANGE ST	LUGONIA AVE	NORTH REDLANDS CITY LIMITS	WIDEN ORANGE ST FROM LUGONIA AVE TO NORTH REDLANDS CITY LIMITS FROM 2 TO 4 LANES	2025	\$11,747
LOCAL HIGHWAY	REDLANDS	4A01249	0	REDLANDS BLVD	WEST REDLANDS CITY LIMITS	COLTON AVE	WIDEN REDLANDS BLVD FROM WEST REDLANDS CITY LIMITS TO COLTON AVE FROM 4 TO 6 LANES AND WIDEN INTERSECTION AT COLTON AVE	2025	\$12,544
LOCAL HIGHWAY	REDLANDS	4A01250	0	SAN BERNARDINO AVE	CHURCH ST	WABASH AVE	WIDEN SAN BERNARDINO AVE FROM CHURCH ST TO WABASH AVE FROM 2 TO 4 LANES	2025	\$2,705
LOCAL HIGHWAY	REDLANDS	4A01254	0	SAN TIMOTEO CYN RD	RR CROSSING	LIVE OAK CYN RD	WIDEN SAN TIMOTEO CYN RD FROM RR CROSSING TO LIVE OAK CYN RD FROM 2 TO 4 LANES	2035	\$9,579
LOCAL HIGHWAY	REDLANDS	4A01262B	0	5TH AVE	CRAFTON AVE	WABASH AVE	WIDEN 5TH AVE FROM CRAFTON AVE TO WABASH AVE FROM 2 TO 4 LANES	2025	\$3,608
LOCAL HIGHWAY	REDLANDS	4A01281	0	SAN BERNARDINO AVE	ALABAMA ST	CALIFORNIA ST	WIDEN SAN BERNARDINO AVE FROM ALABAMA ST TO CALIFORNIA ST FROM 2 TO 4 LANES	2025	\$5,050
LOCAL HIGHWAY	REDLANDS	4A04240	0	CITRUS AVE	DEARBORN ST	WABASH AVE	WIDEN CITRUS AVE FROM DEARBORN ST TO WABASH AVE FROM 2 TO 4 LANES	2025	\$1,166
LOCAL HIGHWAY	REDLANDS	4A07017	0	ALABAMA ST	LUGONIA AVE	BARTON RD	WIDEN ALABAMA ST FROM LUGONIA AVE TO BARTON RD FROM 4 TO 6 LANES	2025	\$26,264

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,00's)
County: San Bernardino									
LOCAL HIGHWAY	REDLANDS	4A07042	0	ALABAMA ST	NORTH REDLANDS CITY LIMITS	PALMETTO AVE	WIDEN ALABAMA ST FROM NORTH REDLANDS CITY LIMITS TO PALMETTO AVE FROM 2 TO 4 LANES	2025	\$8,203
LOCAL HIGHWAY	REDLANDS	4A07112	0	NEVADA ST	LUGONIA AVE	PALMETTO AVE	WIDEN NEVADA ST FROM LUGONIA AVE TO PALMETTO AVE FROM 2 TO 4 LANES	2025	\$3,595
LOCAL HIGHWAY	REDLANDS	4A07154	0	PALMETTO AVE	CALIFORNIA ST	ALABAMA ST	WIDEN PALMETTO AVE FROM CALIFORNIA ST TO ALABAMA ST FROM 2 TO 4 LANES	2025	\$2,732
LOCAL HIGHWAY	REDLANDS	4A07184	0	CALIFORNIA ST	REDLANDS BLVD	PALMETTO AVE	WIDEN CALIFORNIA ST FROM REDLANDS BLVD TO PALMETTO AVE FROM 5 TO 6 LANES	2025	\$47,937
LOCAL HIGHWAY	REDLANDS	4A07253	0	WABASH AVE	COLTON AVE	SAN BERNARDINO AVE	WIDEN WABASH AVE FROM COLTON AVE TO SAN BERNARDINO AVE FROM 2 TO 4 LANES	2025	\$2,203
LOCAL HIGHWAY	REDLANDS	4A07255	0	LUGONIA AVE	CALIFORNIA ST	TENNESSEE ST	WIDEN LUGONIA AVE FROM CALIFORNIA ST TO TENNESSEE ST FROM 2 TO 4 LANES	2035	\$3,754
LOCAL HIGHWAY	REDLANDS	4A07261	0	HIGHLAND AVE	CAJON ST	FORD ST	WIDEN HIGHLAND AVE FROM CAJON ST TO FORD ST FROM 2 TO 4 LANES	2035	\$5,557
LOCAL HIGHWAY	REDLANDS	4A07295	0	GREENSPOT RD	0.19 MILES N/O FLORIDA ST	FLORIDA ST	WIDEN GREENSPOT RD FROM 0.19 M N/O FLORIDA ST TO FLORIDA ST FROM 2 TO 4 LANES	2035	\$599
LOCAL HIGHWAY	REDLANDS	4A07381	0	WABASH AVE	REDLANDS CITY LIMITS	I-10	WIDEN WABASH AVE FROM REDLANDS CITY LIMITS TO I-10 FROM 2 TO 4 LANES	2025	\$108
LOCAL HIGHWAY	REDLANDS	4GL04-20081704	0				I-10/ALABAMA AND REDLANDS BLVD AND ALABAMA COLTON INTERSECTION IMPROVEMENTS - WIDEN INTERSECTION APPROACHES ON ALL FOUR LEGS OF REDLANDS/ALABAMA BLVD ST. INTERSECTION ADD DUAL LEFT TURN LANES. REALIGN ALABAMA ST ON NORTH SIDE OF INTERSECTION TO ELIMINATE THE 23IN HORIZONTAL OFFSET AT INTERSECTION	2020	\$13,317
LOCAL HIGHWAY	REDLANDS	4GL04-201113	0				ORANGE STREET FROM LUGONIA TO SAN BERNARDINO AVE. - WIDEN THE EAST SIDE OF THE STREET TO REMOVE A RESTRICTION IN THE ROADWAY TRAVEL AREA. PROJECT INCLUDES ROAD PAVING, CURB AND GUTTER, SIDEWALK, STREET LIGHTING, STRIPING AND MARKING, AND LANDSCAPE IMPROVEMENTS. THE PROJECT WILL IMPROVE PEDESTRIAN AND VEHICULAR SAFE TRAVEL AND CIRCULATION.	2016	\$540

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	REDLANDS	200420	0				ORANGE STREET WIDENING - FROM NORTH CITY LIMITS TO RIVERVIEW DRIVE - WIDEN STREET FROM 2-4 LANES	2016	\$540
LOCAL HIGHWAY	REDLANDS	SBD58044	0				CITRUS AVENUE AUBURN CT. TO WABASH AVENUE WIDEN FROM 2 TO 4 LANES	2015	\$525
LOCAL HIGHWAY	RIALTO	4120180	0	RENAISSANCE PKWY	ALDER AVE	AYALA DR	RECONSTRUCT RENAISSANCE PKWY FROM ALDER AVE TO AYALA DR FROM 2 TO 4 LANES	2025	\$1,574
LOCAL HIGHWAY	RIALTO	4120181	0	ALDER AVE	BASELINE RD	RENAISSANCE PKWY	WIDEN ALDER AVE FROM BASELINE RD TO RENAISSANCE PKWY FROM 2 TO 4 LANES	2025	\$1,827
LOCAL HIGHWAY	RIALTO	4120183	0	CASMALIA ST	0.3 MILES E/O SIERRA AVE	AYALA DR	WIDEN CASMALIA AVE FROM 0.3 MILES E/O SIERRA AVE TO AYALA DR FROM 2 TO 4 LANES	2025	\$4,670
LOCAL HIGHWAY	RIALTO	4120184	0	LINDEN RD	BASELINE RD	MIRO WAY	WIDEN LINDEN AVE FROM BASELINE AVE TO MIRO WAY FROM 2 TO 4 LANES	2025	\$508
LOCAL HIGHWAY	RIALTO	4120185	0	LOCUST AVE	BASELINE RD	MIRO WAY	WIDEN LOCUST AVE FROM BASELINE AVE TO MIRO WAY FROM 2 TO 4 LANES	2025	\$508
LOCAL HIGHWAY	RIALTO	4120187	0	RIVERSIDE AVE	GATEWAY PLAZA	SAN BERNARDINO AVE	WIDEN RIVERSIDE AVE FROM GATEWAY PLAZA TO SAN BERNARDINO AVE FROM 4 TO 6 LANES	2025	\$670
LOCAL HIGHWAY	RIALTO	4120188	0	RIVERSIDE AVE	SIERRA AVE	0.35 MILES S/O SIERRA AVE	WIDEN RIVERSIDE AVE FROM SIERRA AVE TO 0.35 MILES S/O SIERRA AVE FROM 2 TO 6 LANES	2030	\$1,663
LOCAL HIGHWAY	RIALTO	4120231	0	RANDALL AVE	LINDEN AVE	RIVERSIDE AVE	WIDEN RANDALL AVE FROM LINDEN AVE TO RIVERSIDE AVE FROM 2 TO 4 LANES	2025	\$3,452
LOCAL HIGHWAY	RIALTO	4A01258	0	RIVERSIDE AVE	AGUA MANSAR RD	SLOVER AVE	WIDEN RIVERSIDE AVE FROM AGUA MANSAR RD TO SLOVER AVE FROM 4 TO 6 LANES	2030	\$4,109
LOCAL HIGHWAY	RIALTO	4A01259	0	RIVERSIDE AVE	0.25 MILES S/O VALLEY BLVD	SLOVER AVE	WIDEN RIVERSIDE AVE FROM 0.25 MILES S/O VALLEY BLVD TO SLOVER AVE FROM 2 TO 3 LANES (SOUTHBOUND)	2025	\$260
LOCAL HIGHWAY	RIALTO	4A07101	0	SAN BERNARDINO AVE	LILAC AVE	SYCAMORE AVE	WIDEN SAN BERNARDINO AVE FROM LILAC AVE TO SYCAMORE AVE FROM 2 TO 4 LANES	2030	\$1,805
LOCAL HIGHWAY	RIALTO	4A07120	0	MERRILL AVE	LINDEN AVE	0.12 MILES E/O LINDEN AVE	WIDEN MERRILL AVE FROM LINDEN AVE TO 0.12 MILES E/O LINDEN AVE FROM 3 TO 4 LANES	2030	\$143
LOCAL HIGHWAY	RIALTO	4A07121	0	BASELINE RD	MAPLE AVE	LINDEN AVE	WIDEN AND RECONSTRUCT BASELINE AVE FROM MAPLE AVE TO LINDEN AVE FROM 3 TO 4 LANES	2020	\$250

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	RIALTO	4A07199	0	RIALTO AVE	OLIVE AVE	SYCAMORE AVE	WIDEN RIALTO AVE FROM OLIVE AVE TO SYCAMORE AVE FROM 2 TO 4 LANES	2025	\$345
LOCAL HIGHWAY	RIALTO	4A07237	0	RIVERSIDE AVE	LOCUST AVE	0.1 MILES S/O CEDAR AVE	WIDEN RIVERSIDE AVE FROM LOCUST AVE TO 0.1 MILES S/O CEDAR AVE FROM 3 TO 6 LANES	2030	\$3,741
LOCAL HIGHWAY	RIALTO	SB0031361	0				AYALA DRIVE BASELINE ROAD TO SR210 WIDEN FROM 2 LANES TO 4 LANES (2 LNS EACH DIR)	2015	\$3,431
LOCAL HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4RL04	0	RIDESHARE	COUNTYWIDE	COUNTYWIDE	RIDESHARE	2020	\$1,600
LOCAL HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4TL204	0	ELDERLY & HANDICAPPED ASSISTANCE	COUNTYWIDE	COUNTYWIDE	ELDERLY & HANDICAPPED ASSISTANCE	2025	\$139,079
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	200408	0				CUMBERLAND DRIVE EXTENSION - SH18 NORTH TO CUMBERLAND DRIVE -PAVE NEW ROAD - 1 LANE IN EACH DIRECTION	2020	\$3,000
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	200409	0				CHERRY AVE. AT SCRRA RR CROSSING - WIDEN BRIDGE FROM 4-6 LANES ON CHERRY OVER RR CROSSING (FROM MERRILL TO WHITTRAM)	2015	\$8,829
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	200414	0				ON DUNCAN ROAD FROM WILSON RANCH ROAD TO BALDY MESA PAVE DIRT ROAD IN 4 ONE MILE SEGMENTS 1 LANE IN EACH DIRECTION	2016	\$6,600
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	200619	0				GLEN HELEN PARKWAY - FROM 0.2 MILES WEST OF CAJON CREEK TO 0.2 MILES EAST OF CAJON CREEK- REPLACE 36 FT WIDE 48 FT LONG 2 LN BRIDGE OVER CAJON CREEK W/ 102 FT, 526 FT LONG 4 LN BRIDGE (54C0025)(FUNDS IN 2015/16 FOR LOCA A/C PAYBACK - COMPLETION DATE REMAINS THE SAME)	2017	\$28,600
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	200810	0	BAKER			BAKER BLVD. BRIDGE - OVER MOJAVE RIVER, 0.2 MI SW OF DEATH VALLEY RD REPLACE 2 LANE BRIDGE W 4 LANE BRIDGE (BRIDGE NO 54C0127)	2018	\$13,516
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	200815	0	RANCHERO STREET			RANCHERO ST. FROM .3 M E/O MARIPOSA TO HESPERIA CL (3 MILES)-WIDEN 2-4 LANES	2020	\$12,450

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	200816	0	ROCK SPRINGS RD	GLENDALE AVE	KIOWA RD	WIDEN ROCK SPRINGS RD FROM 0.3 MILES E/OFF DEEP CREEK RD TO KIOWA RD (0.76 MILES) FROM 2 TO 4 LANES	2025	\$30,440
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	200835	0	SAN BERNARDINO AVE.			SAN BERNARDINO AVE. FROM CHERRY AVE. TO FONTANA CITY LIMITS (LIME AVE.) (1.25 MILES)-WIDEN 2-4 LANES	2016	\$4,065
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	200843	0	RECHE CANYON			RECHE CANYON RD. FROM 1.20 MILES OF S. BARTON ROAD TO 0.42 MILES SOUTH OF BARTON RD (0.78 MILES)-WIDEN FROM 2-4 LANES	2017	\$5,650
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4120136	0	SANTA ANA AVE	MULBERRY AVE	ALMOND AVE	WIDEN SANTA ANA AVE FROM MULBERRY AVE TO ALMOND AVE FROM 2 TO 4 LANES	2030	\$4,347
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4120192	0	VARIOUS LOCATIONS			VARIOUS ITS PROJECTS THROUGHOUT SAN BERNARDINO COUNTY	2035	\$536,066
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4120193	0	VARIOUS LOCATIONS			VARIOUS TRAFFIC SIGNAL PROJECTS THROUGHOUT SAN BERNARDINO COUNTY	2023	\$519,912
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4120233	0	PIPELINE AVE	0.04 MILES S/O PHILADELPHIA AVE	PHILLIPS BLVD	WIDEN PIPELINE AVE FROM 0.04 MILES S/O PHILADELPHIA AVE TO PHILLIPS BLVD FROM 2 TO 4 LANES	2025	\$3,253
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	20040210	0				SUMMIT VALLEY ROAD - FROM SH138 TO RANCHERO ROAD-WIDEN FROM 2-4 LANES	2018	\$21,000
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	20040826	0				GLEN HELEN PARKWAY AT UPRR AND BNSF - GRADE SEPARATION	2015	\$25,885
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	20130402	0	BAKER BLVD	WEST I-15	SH127	RESTRIPE EXISTING STRUCTURAL SECTION OF BAKER BLVD BETWEEN I-15 RAMPS AND SH 127 FROM 2 - 4 LANE CONFIGURATION IN CONJUNCTION WITH PROJECT TO REPLACE EXISTING 2 LANE BRIDGE 54CO127 WITH 4 LANE BRIDGE	2016	\$25
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A01276	0	MISSION BLVD	LA COUNTY LINE	PIPE LINE AVE	WIDEN MISSION BLVD FROM LA COUNTY LINE TO PIPE LINE AVE FROM 2 TO 6 LANES	2025	\$1,029
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A01278	0	PHELAN RD	SHEEP CREEK RD	BALDY MESA RD	WIDEN PHELAN RD FROM SHEEP CREEK RD TO BALDY MESA RD FROM 2 TO 6 LANES	2020	\$24,797

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A01284A	0	SIERRA AVE	I-15	LYTLE CREEK RD	WIDEN SIERRA AVE FROM I-15 TO LYTLE CREEK RD FROM 3 TO 4 LANES (CURRENTLY IS 2 NB/ISB, WIDEN TO 2 LANES EACH DIRECTION)	2020	\$679
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A04115	0	MULBERRY AVE	VALLEY BLVD	SAN BERNARDINO AVE	WIDEN MULBERRY AVE FROM VALLEY BLVD TO SAN BERNARDINO AVE FROM 2 TO 4 LANES	2025	\$964
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A04401	0	MULBERRY AVE	JURUPA AVE	SLOVER AVE	WIDEN MULBERRY AVE FROM JURUPA AVE TO SLOVER AVE FROM 2 TO 4 LANES	2025	\$580
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07013	0	SUNBURST AVE	SR-62	CRESTVIEW DR	WIDEN SUNBURN AVE FROM SR-62 TO CRESTVIEW DR FROM 2 TO 4 LANES; ADJUST VERTICAL PROFILE SAFETY	2030	\$17,814
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07020	0	NATIONAL TRAILS HIGHWAY	SAN BERNARDINO COUNTY		SAFETY UPGRADES TO NATIONAL TRAILS HIGHWAY IN SAN BERNARDINO COUNTY	2020	\$12,000
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07033	0	SAN BERNARDINO AVE	ALDER AVE	LAUREL AVE	WIDEN SAN BERNARDINO AVE FROM ALDER AVE TO LAUREL AVE FROM 2 TO 4 LANES	2025	\$524
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07036	0	GLEN HELEN PKWY	LYTLE CREEK RD	I-15	WIDEN GLEN HELEN PKWY FROM LYTLE CREEK RD TO I-15 FROM 2 TO 4 LANES	2023	\$2,283
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07043	0	SPRING VALLEY PKWY	HUERTA RD	DRIFTWOOD DR	WIDEN SPRING VALLEY PKWY FROM HUERTA RD TO DRIFTWOOD DR FROM 2 TO 4 LANES	2020	\$7,425
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07051	0	WILSON RANCH RD	DUNCAN RD	PALMDALE RD	PAVE WILSON RANCH RD FROM DUNCAN RD TO PALMDALE RD FROM 0 TO 2 LANES	2023	\$6,000
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07061	0	RANDALL AVE	CHERRY AVE	POPLAR AVE	WIDEN RANDALL AVE FROM CHERRY AVE TO POPLAR AV FROM 2 TO 4 LANES	2025	\$2,790
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07074	0	BEAR VALLEY CUTOFF	JOSHUA RD	SR-18	WIDEN BEAR VALLEY CUTOFF FROM JOSHUA RD TO SR-18 FROM 2 TO 6 LANES	2023	\$600,600
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07079	0	SAN BERNARDINO AVE	LAUREL AVE	RIALTO CITY LIMITS	WIDEN SAN BERNARDINO AVE FROM LAUREL AVE TO RIALTO CITY LIMITS FROM 2 TO 4 LANES	2023	\$3,067
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07087	0	EL RIVINO RD	CEDAR AVE	AGUA MANSA RD	WIDEN EL RIVINO RD FROM CEDAR AVE TO AGUA MANSA RD FROM 2 TO 4 LANES	2023	\$4,195
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07097	0	SUMMIT VALLEY RD	SR-138	RANCHERO RD	WIDEN SUMMIT VALLEY RD FROM SR-138 TO RANCHERO RD FROM 2 TO 4 LANES	2035	\$29,175
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07099	0	EL EVADO RD	AIR EXPRESSWAY	HOPLAND DR	WIDEN EL EVADO RD FROM AIR EXPRESSWAY TO HOPLAND DR FROM 0 TO 4 LANES	2035	\$10,497

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07104	0	BEECH AVE	RANDALL AVE	ARROW RTE	WIDEN BEECH AVE FROM RANDALL AVE TO ARROW ROUTE FROM 2 TO 4 LANES	2020	\$3,476
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07107	0	PHILLIPS BLVD	YORBA AVE	BENSON AVE	WIDEN PHILLIPS BLVD FROM YORBA AV TO BENSON AV FROM 2 TO 4 LANES	2025	\$4,079
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07111	0	JURUPA AVE	CEDAR AVE	LILAC AVE	WIDEN JURUPA AVE FROM CEDAR AVE TO LILAC AVE FROM 2 TO 4 LANES	2025	\$570
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07124	0	PHILLIPS BLVD	ROSWELL AVE	YORBA AVE	WIDEN PHILLIPS BLVD FROM ROSWELL AVE TO YORBA AVE FROM 2 TO 4 LANES	2025	\$3,026
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07125	0	DEVORE RD	I-215	KENWOOD DR	WIDEN DEVORE RD FROM I-215 TO KENWOOD DR FROM 2 TO 4 LANES	2023	\$3,609
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07130	0	DALEY CANYON AT SR-18	DALEY CANYON RD	DALEY CANYON RD @ SR-18	INTERSECTION IMPROVEMENTS FOR DALEY CANYON RD @ SR-18	2025	\$3,000
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07131	0	MIDWAY AVE	SR-18	SR-247	PAVE DIRT ROAD 1 LANE IN EACH DIRECTION	2025	\$3,196
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07132	0	SANTA ANA AVE	CEDAR AVE	CACTUS AVE	WIDEN SANTA ANA AVE FROM CEDAR AVE TO CACTUS AVE FROM 2 TO 4 LANES	2023	\$2,268
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07143	0	CALABASH AVE	WHITTRAM AVE	FOOTHILL BLVD	WIDEN CALABASH AVE FROM WHITTRAM AVE TO FOOTHILL BLVD FROM 2 TO 4 LANES	2025	\$1,740
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07153	0	SANTA ANA AVE	TAMARIND AVE	LOCUST AVE	WIDEN SANTA ANA AVE FROM TAMARIND AVE TO LOCUST AVE FROM 2 TO 4 LANES	2030	\$3,030
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07159	0	SANTA ANA AVE	LOCUST AVE	CEDAR AVE	WIDEN SANTA ANA AVE FROM LOCUST AVE TO CEDAR AVE FROM 2 TO 4 LANES	2023	\$1,744
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07162	0	FLORIDA ST	GREENSPOT RD	GARNET ST	WIDEN FLORIDA ST FROM GREENSPOT RD TO GARNET ST FROM 2 TO 4 LANES	2025	\$415
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07165	0	JURUPA AVE	LOCUST AVE	CEDAR AVE	WIDEN JURUPA AVE FROM LOCUST AVE TO CEDAR AVE FROM 2 TO 4 LANES	2023	\$2,228
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07169	0	GARNET ST	NEWPORT AVE	FLORIDA ST	WIDEN GARNET ST FROM NEWPORT AVE TO FLORIDA ST FROM 2 TO 4 LANES	2035	\$4,393
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07182	0	MISSION BLVD	CENTRAL AVE	BENSON AVE	WIDEN MISSION BLVD FROM CENTRAL TO BENSON AVE FROM 4 TO 6 LANES	2025	\$1,521
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07183	0	LOCUST AVE	JURUPA AVE	SANTA ANA AVE	WIDEN LOCUST AVE FROM JURUPA AVE TO SANTA ANA AVE FROM 2 TO 4 LANES	2035	\$2,856

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07188	0	LOCUST AVE	SAN BERNARDINO AVE	RANDALL AVE	WIDEN LOCUST AVE FROM SAN BERNARDINO AVE TO RANDALL AVE FROM 2 TO 4 LANES	2035	\$2,372
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07189	0	LOCUST AVE	VALLEY BLVD	SAN BERNARDINO AVE	WIDEN LOCUST AVE FROM VALLEY BLVD TO SAN BERNARDINO AVE FROM 2 TO 4 LANES	2035	\$1,949
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07193	0	LOCUST AVE	SANTA ANA AVE	SLOVER AVE	WIDEN LOCUST AVE FROM SANTA ANA AVE TO SLOVER AVE FROM 2 TO 4 LANES	2035	\$2,290
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07197	0	OLIVE ST	JACKSON AVE	RANCHO AVE	WIDEN OLIVE ST FROM JACKSON AVE TO RANCHO AVE FROM 2 TO 4 LANES	2025	\$1,654
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07202	0	MONTE VISTA AVE	PHILLIPS BLVD	STATE ST	WIDEN MONTE VISTA AVE FROM PHILLIPS BLVD TO STATE ST FROM 2 TO 4 LANES	2025	\$849
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07209	0	EMERALD RD	PALMDALE RD	SENECA RD	WIDEN EMERALD RD FROM PALMDALE RD TO SENECA RD FROM 2 TO 4 LANES	2020	\$1,485
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07216	0	PIPELINE AVE	CHINO AVE	RIVERSIDE DR	WIDEN PIPELINE AV FROM CHINO AVE TO RIVERSIDE DR FROM 2 TO 4 LANES	2025	\$1,101
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07218	0	VALLEY BLVD	COMMERCE DR	ALMOND AVE	WIDEN VALLEY BLVD FROM COMMERCE DR TO ALMOND AVE FROM 4/5 TO 6 LANES (3 LANES EACH DIRECTION)	2020	\$1,316
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07235	0	WABASH AVE	.30 MILES S/O 7TH ST	.13M N/O 7TH ST	WIDEN WABASH AVE FROM 0.30 MILES S/O 7TH ST TO 0.13 MILES N/O 7TH ST FROM 2 TO 4 LANES	2020	\$107
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07238	0	CRAFTON HILLS PKWY	SOUTH REDLANDS CITY LIMITS	CRAFTON HILLS PKWY	WIDEN CRAFTON HILLS PKWY FROM SOUTH REDLANDS CITY LIMITS TO CRAFTON HILLS FROM 0 TO 2 LANES	2035	\$8,793
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07240	0	SAN BERNARDINO AVE	WABASH AVE	OPAL AVE	WIDEN SAN BERNARDINO AV FROM WABASH AVE TO OPAL AVE FROM 2 TO 4 LANES	2025	\$790
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07251	0	ALDER AVE	VALLEY BLVD	SAN BERNARDINO	WIDEN ALDER AVE FROM VALLEY BLVD TO SAN BERNARDINO AVE FROM 2 TO 4 LANES	2025	\$433
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07252	0	PHILLIPS BLVD	EAST END AVE	ROSWELL AVE	WIDEN PHILLIPS BLVD FROM EAST END AVE TO ROSWELL AVE FROM 2 TO 4 LANES	2025	\$379
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07284	0	VALLEY BLVD	CHERRY AVE	HEMLOCK AVE	WIDEN VALLEY BLVD FROM CHERRY AVE TO HEMLOCK AVE FROM 4 TO 6 LANES	2025	\$674
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07294	0	BENSON AVE	HOWARD ST	STATE ST	WIDEN BENSON AVE FROM HOWARD ST TO STATE ST FROM 2 TO 4 LANES	2025	\$527

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07298	0	BENSON AVE	PHILLIPS BLVD	HOWARD ST	WIDEN BENSON AVE FROM PHILLIPS BLVD TO HOWARD ST FROM 2 TO 4 LANES	2025	\$577
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07299	0	JURUPA AVE	LILAC AVE	WILLOW AVE	WIDEN JURUPA AVE FROM LILAC AVE TO WILLOW AVE FROM 2 TO 4 LANES	2023	\$540
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07300	0	DEVORE RD	KENWOOD DR	FOOTHILL DR	WIDEN DEVORE RD FROM KENWOOD DR TO FOOTHILL DR FROM 2 TO 4 LANES	2023	\$654
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07314	0	GARNET ST	SR-38	NEWPORT AVE	WIDEN GARNET ST FROM SR-38 TO NEWPORT AVE FROM 2 TO 4 LANES	2035	\$532
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07315	0	LOCUST AVE	7TH ST	11TH ST	WIDEN LOCUST AVE FROM 7TH ST TO 11TH ST FROM 2 TO 4 LANES	2035	\$757
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07320	0	GARNET ST	MENTONE AVE	SR-38	WIDEN GARNET ST FROM MENTONE AVE TO SR-38 FROM 2 TO 4 LANES	2035	\$597
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07321	0	WABASH AVE	6TH AVE	5TH AVE	WIDEN WABASH AVE FROM 6TH AVE TO 5TH AVE FROM 2 TO 4 LANES	2023	\$350
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07322	0	ALDER AVE	JURUPA AVE	0.12 MILES N/O JURUPA AVE	WIDEN ALDER AVE FROM JURUPA AVE TO 0.12 MILES N/O ALDER AVE FROM 2 TO 4 LANES	2023	\$403
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07333	0	EAST END AVE	PHILLIPS BLVD	GRAND AVE	WIDEN EAST END AVE FROM PHILLIPS BLVD TO GRAND AVE FROM 2 TO 4 LANES	2030	\$367
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07349	0	ALDER AVE	TAYLOR ST	VALLEY BLVD	WIDEN ALDER AVE FROM TAYLOR ST TO VALLEY BLVD FROM 2 TO 4 LANES	2025	\$231
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07352	0	GARNET ST	.08 MILES S/O MENTONE AVE	MENTONE AVE	WIDEN GARNET ST FROM 0.08 MILES S/O MENTONE AVE TO MENTONE AVE FROM 2 TO 4 LANES	2035	\$596
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07363	0	WALNUT AVE	0.10 MILES S/O ROSWELL AVE	ROSWELL AVE	WIDEN WALNUT AVE FROM 0.10 MILES S/O ROSWELL AVE TO ROSWELL AVE FROM 2 TO 4 LANES	2035	\$496
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07390	0	PHILLIPS BLVD	LA COUNTY LINE	EAST END AVE	WIDEN PHILLIPS BLVD FROM LA COUNTY LINE TO EAST END AVE FROM 2 TO 4 LANES	2025	\$102
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A04	0	ARTERIAL IMPROVEMENTS	COUNTY WIDE	VARIOUS	COUNTY WIDE ARTERIAL IMPROVEMENTS	2035	\$1,524,984
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4G0167	0	SHADOW MOUNTAIN RD	HELENDALE RD	NATIONAL TRAILS HWY	EXTEND SHADOW MOUNTAIN ROAD AND CONSTRUCT 4-LANE ROAD INCLUDING BRIDGE OVER MOJAVE RIVER AND GRADE SEPARATION OVER RR FROM HELENDALE RD TO NATIONAL TRAILS HWY	2025	\$53,264

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4507420	0	NATIONAL TRAILS HWY	NATIONAL TRAILS HWY	NATIONAL TRAILS HWY @ ORO GRANDE GRADE SEPARATION	REPLACE GRADE SEPARATION AND WIDEN UNDERPASS AT NATIONAL TRAILS HWY AND ORO GRANDE GRADE SEPARATION FROM 2-4 LANES	2025	\$30,893
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	200609	0				MT.VIEW WIDENING/EXTENSION PROJECT - WIDEN S/B FROM 2-4LNS- FROM COULSTON TO RIVERVIEW (SOUTH OF SANTA ANA RIVER) (PROJECT IS SPLIT INTO 2 SEPARATE PROJECTS AS OF THE 2011 ENTRY)	2016	\$22,500
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4120190	0	MTVIEW AVE	COULSTON AVE	MISSION CREEK CHANNEL (ZANJA)	WIDEN MT VIEW AVE FROM COULSTON AVE TO MISSION CREEK CHANNEL (ZANJA) FROM 2 TO 4 LANES (SB ONLY)	2025	\$350
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4120191	0	STATE ST	HANFORD ST	N/O CAJON BLVD	WIDEN STATE ST FROM HANFORD ST TO N/O CAJON BLVD FROM 2 TO 4 LANES	2035	\$8,336
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A01292	0	WATERMAN AVE	5TH ST	BASELINE AVE	WIDEN WATERMAN AVE FROM 5TH ST TO BASELINE AVE FROM 4 TO 6 LANES	2030	\$8,209
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07003	0	WATERMAN AV/1-10	HOSPITALITY LN	REDLANDS BLVD	REPLACE 1-10 BRIDGE TO WIDEN WATERMAN AVE FROM HOSPITALITY LN TO REDLANDS BLVD FROM 4 TO 6 LANES	2030	\$35,628
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07060	0	KENDALL DR	PALM AVE	CAJON BLVD	WIDEN KENDALL DR FROM PALM AVE TO CAJON BLVD FROM 2 TO 4 LANES	2020	\$5,216
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07081	0	COULSTON AVE	TIPPECANOE AVE	MOUNTAIN VIEW AVE	WIDEN COULSTON AVE AV FROM TIPPECANOE AVE TO MOUNTAIN VIEW AVE FROM 2 TO 4 LANES	2030	\$5,016
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07086	0	KENDALL DR	CAMBRIDGE AVE	PINE AVE	WIDEN KENDALL DR FROM CAMBRIDGE AVE TO PINE AVE FROM 2 TO 4 LANES	2020	\$5,027
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07094	0	ELECTRIC AVE	MT. VIEW AVE	NORTH PARK BLVD	WIDEN ELECTRIC AVE FROM MT VIEW AVE TO NORTH PARK BLVD FROM 2 TO 4 LANES	2030	\$4,560
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07119	0				5TH STREET FROM STERLING AVE TO VICTORIA AVE WIDEN FROM 2-4 LANES.	2017	\$5,800
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07135	0	RIALTO AVE	LENA RD	TIPPECANOE AVE	WIDEN RIALTO AVE AV FROM LENA RD TO TIPPECANOE AVE AV FROM 2 TO 4 LANES	2030	\$3,420
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07148	0	RANCHO RD	COLTON CITY LIMITS	5TH ST	WIDEN RANCHO RD FROM COLTON CITY LIMITS TO 5TH ST FROM 2 TO 4 LANES	2025	\$3,428
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07152	0	TIPPECANOE AVE	MILL ST	HARRIMAN PL	WIDEN TIPPECANOE AVE FROM MILL ST TO HARRIMAN FROM 4 TO 6 LANES	2030	\$29,690

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07176	0	G ST	MILL ST	RIALTO AVE	WIDEN G ST FROM MILL ST TO RIALTO AVE FROM 2 TO 4 LANES	2030	\$2,730
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07177	0	LITTLE LEAGUE DR	KENDALL DR	BELMONT AVE	WIDEN LITTLE LEAGUE DR FROM KENDALL DR TO BELMONT AVE (INCLUDING CULVERT) FROM 2 TO 4 LANES	2030	\$5,938
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07178	0	RIALTO AVE	SIERRA WAY	WATERMAN AVE	WIDEN RIALTO AVE FROM SIERRA WAY TO WATERMAN AVE FROM 2 TO 4 LANES	2025	\$2,449
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07198	0	PERRIS HILL PARK RD	21ST ST	PACIFIC ST	WIDEN PERRIS HILL PARK RD FROM 21ST ST TO PACIFIC ST FROM 2 TO 4 LANES	2025	\$1,959
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07211	0	MTVIEW AVE	MISSION CREEK CHANNEL	SANTA ANA RIVER	MOUNTAIN VIEW AVE WIDENING & BRIDGE/CULVERT AT MISSION CREEK CHANNEL, WIDEN ROADWAY AND SHOULDER WORK, AND EXTEND BRIDGE AT MOUNTAIN VIEW AVE FROM 1 TO 2 LANES; NEW BRIDGE AT GRADE RR CROSSING (SB ONLY)	2020	\$1,440
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07230	0	5TH ST	PEDLEY RD	TIPPECANOE AVE	WIDEN 5TH ST FROM PEDLEY RD TO TIPPECANOE AVE FROM 2 TO 4 LANES	2025	\$1,258
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07243	0	MILL ST	PEPPER AVE	MERIDIAN AVE	WIDEN MILL ST FROM PEPPER AVE TO MERIDIAN AVE FROM 2 TO 4 LANES	2030	\$1,140
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07244	0	PINE AVE	KENDALL DR	BELMONT AVE	WIDEN PINE AVE FROM KENDALL DR TO BELMONT AVE FROM 2 TO 4 LANES	2035	\$1,334
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07247	0	PALM AVE	CAJON BLVD	I-215	WIDEN PALM AVE FROM CAJON BLVD TO I-215 FROM 2 TO 4 LANES	2025	\$972
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07263	0				H STREET FROM KENDALL DRIVE TO 40TH STREET WIDENING FROM 2-4 LANES	2017	\$918
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07264	0	MTVIEW AVE	THOMPSON PL	ELECTRIC AVE	WIDEN MT VIEW AVE FROM THOMPSON PL TO ELECTRIC AVE FROM 2 TO 4 LANES	2030	\$912
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07292	0	5TH ST	WARM CREEK	PEDLEY AVE	WIDEN 5TH ST FROM WARM CREEK (0.3 MI. EAST OF WATERMAN) TO PEDLEY AVE FROM 2 TO 4 LANES	2030	\$1,363
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07380	0	DEL ROSA AVE	DEL ROSA DR	SAN BERNARDINO CITY LIMITS	WIDEN DEL ROSA AVE FROM DEL ROSA DR TO SAN BERNARDINO CITY LIMITS FROM 2 TO 4 LANES	2025	\$96

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	40M0701-201181	0				3RD STREET FROM TIPPECANOE AVENUE TO LELAND/NORTON WAY AND FROM LELAND/NORTON WAY TO VICTORIA AVENUE SHOULDER WIDENING AND MEDIANS- 1.25 MILES(NO THROUGH LANE WIDENING)TOTAL LENGTH 1.95 MILESFORMERLY PART OF PROJECT ID 200852	2017	\$3,200
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	40M0701-201184	0				STERLING AVE FROM 3RD STREET TO 5TH STREET - WIDEN FROM 2-4 LANES (0.13 MILES)FORMERLY PART OF PROJECT ID 200852	2017	\$400
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	SBD31903	0				FOOTHILL BOULEVARD (STATE ROUTE 66) AT FOURTH MODIFY SIGNALS, CHANNELIZE TRAFFIC SIGNAL INTERSECTION IMPROVEMENTS/REALIGN INTERSECTION (0.11 MILE)	2016	\$1,137
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	SBD31905	0				MT. VERNON AVENUE BRIDGE (OVERHEAD) AT BNSF REPLACE GRADE SEPARATION, REPLACE 4 LANE BRIDGE WITH 4 LANE BRIDGE FROM 2ND TO 5TH STREETS (0.2 MILES SOUTH OF RTE. 66)(BRIDGE NO 54C0066)	2018	\$72,235
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	SBD41316	0				MT. VIEW AVE. RAILWAY GRADE CROSSING, 1500 FT. NORTH OF I-10 WIDEN RAILWAY GRADE CROSSING FROM 1 LANE NORTH & SOUTH TO 2 LANES NORTH & SOUTH & UPGRADE GATES (0.75 MILES)	2015	\$1,589
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	SBD41317	0				MT. VIEW AVE. BRIDGE AT MISSION CREEK CHANNEL WIDEN ROADWAY & SHOULDER WORK AND EXISTING BRIDGE AT MT. VIEW -1 LN. NO. & SO. TO 2 LNS N/S & LFT_TURNS TO MAKE A TOTAL OF 4 LANES (2 IN EACH DIRECTION)	2015	\$1,655
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	SBD59019	0				40TH ST. FROM JOHNSON LANE TO ELECTRIC AVENUE; ACQUIRE ROW AND WIDEN ROAD FROM 2TO 4 LANES (1,200 FT.)	2018	\$13,056
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	SBD59021	0				STATE STREET FROM HANFORD ST TO FOOTHILL BLVD.; EXTEND AND CONSTRUCT (4) LANES OF ROADWAY (1.5 MILES) TO CONNECT STATE STREET TO RANCHO AVENUE (NEW ROAD)4 PHASES TOTAL IN PROJECT	2020	\$17,628

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	SBD59023	0				CAMPUS PKWY-PEPPER/LINDEN DRIVE EXTENSION FROM KENDALL TO I-215 FWY - CONSTRUCT (4) LANE ROADWAY - BETWEEN KENDALL DRIVE AND I-215, PARTIAL DIAMOND INTERCHANGE FOR N/B (2,000 FT)	2023	\$22,000
LOCAL HIGHWAY	SANBAG	200622	0				LENWOOD GRADE SEPARATION - NORTH OF WEST MAIN ST; APPROX. 400 FT. N/O TO 600 FT. S/O BNSF AND SANTA FE RR RIGHT-OF-WAY-4 TRAVEL LANE GRADE SEPARATION (CA627)	2015	\$31,590
LOCAL HIGHWAY	SANBAG	200850	0	PALM AVE			PALM AVE. GRADE SEPARATION , PALM AVE. APPROX. 530 FT S/O I-215 PALM AVE. INTERCHANGE TO APPROX. 1450 FT S/O CAJON BLVD.-CONSTRUCT AT GRADE RR SEPARATION - BUILD BRIDGE OVERCROSSING SEPARATING TRAFFIC FROM RR CROSSING (NO ADDITIONAL LANES) 2-2 LANES (CA615)	2015	\$26,398
LOCAL HIGHWAY	SANBAG	4G0154	0				CONSTRUCT NEW RAILROAD GRADE-SEPARATED CROSSING BETWEEN LAUREL STREET AND THE BNSF RAILROAD IN THE CITY OF COLTON. WORK ALONG LAUREL STREET BEGINS APPROXIMATELY 420 FT EAST OF PENNSYLVANIA AVE AND 195FT WEST OF 9TH ST. NO ADDITIONAL LANES ARE PROPOSED.	2015	\$59,855
LOCAL HIGHWAY	SANBAG	SBD031505	0				GROUPED PROJECTS FOR LTF ARTICLE 3 PROJECTS LTF ARTICLE 3 BICYCLE/PEDESTRIAN PROJECTS AT VARIOUS LOCATIONS (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127,128, EXEMPT TABLES 2 & 3)	2015	\$14,727
LOCAL HIGHWAY	TWENTYNINE PALMS	4A01293	0	LEAR AV/SUNFAIR RD	POLELINE RD	MARINE CORPS AIR STATION	NEW ROAD, 4 LANES	2025	\$19,708
LOCAL HIGHWAY	TWENTYNINE PALMS	SBD41427	0				AMBOY ROAD - LEAR AVE TO ADOBE RD. (5.5 MILES) CONSTRUCT NEW 2 LANE ROAD (ONE LANE IN EACH DIRECTION)(PA&ED ONLY)	2020	\$40
LOCAL HIGHWAY	UPLAND	200630	0				ARROW ROUTE WIDENING FROM 2 TO 4 LANES. BRIDGE AND STREET WIDENING FOR ARROW ROUTE, FROM MONTE VISTA AVENUE TO CENTRAL AVENUE	2018	\$2,200

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
LOCAL HIGHWAY	UPLAND	4A01296	0	CENTRAL AVE	FOOTHILL BLVD	BENSON AVE	WIDEN CENTRAL AVE FROM FOOTHILL BLVD TO BENSON AVE FROM 0 TO 4 LANES	2020	\$14,361
LOCAL HIGHWAY	UPLAND	4A01297	0	CENTRAL AVE	SOUTH UPLAND CITY LIMITS	ARROW ROUTE	WIDEN CENTRAL AVE FROM SOUTH UPLAND CITY LIMITS TO ARROW ROUTE FROM 4 TO 6 LANES EACH DIR	2025	\$3,765
LOCAL HIGHWAY	UPLAND	40M0701-201103	0				FOOTHILL BOULEVARD BOTTLENECK AND SAFETY IMPROVEMENTS - FROM CENTRAL TO GROVE AVE. INSTALL RIGHT TURN LANES AT MAJOR INTERSECTIONS, ELONGATE LEFT TURNS FOR SAFE TURNING, CURB, GUTTER DRAINAGE, ROADWAY REHAB.	2020	\$5,300
LOCAL HIGHWAY	UPLAND	SBD88086	0				EUCLID AVENUE FROM D ST TO FOOTHILL BOULEVARD - STORM DRAIN EXTENSION	2023	\$4,250
LOCAL HIGHWAY	VARIOUS AGENCIES	SBDLS08	0				GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBIP PROGRAM - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127, 128 EXEMPT TABLES 2 & 3	2018	\$135,476
LOCAL HIGHWAY	VICTORVILLE	4120224	0	EUCALYPTUS ST	AMETHYST RD	0.15 MI W/O COBALT RD	WIDEN EUCALYPTUS ST FROM AMETHYST RD TO 0.15 MILES W/O COBALT RD FROM 0 TO 4 LANES (INCLUDES WASH CROSSING)	2035	\$5,248
LOCAL HIGHWAY	VICTORVILLE	4120227	0	3RD AVE	0.2 MILES S/O NISQUALLI RD	600' N/O BEAR VALLEY RD	WIDEN 3RD AVE FROM 0.20 MILES S/O NISQUALLI RD TO 600 FEET N/O BEAR VALLEY RD FROM 2 TO 4 LANES	2025	\$1,515
LOCAL HIGHWAY	VICTORVILLE	4120228	0	3RD AVE	600' N/O BEAR VALLEY RD	BEAR VALLEY RD	WIDEN 3RD AVE FROM 600' N/O BEAR VALLEY RD TO BEAR VALLEY RD FROM 0 TO 4 LANES	2025	\$433
LOCAL HIGHWAY	VICTORVILLE	4120235	0	AMETHYST RD	SYCAMORE RD	EUCALYPTUS RD	WIDEN AMETHYST RD FROM SYCAMORE RD TO EUCALYPTUS RD FROM 0 TO 4 LANES	2035	\$2,916
LOCAL HIGHWAY	VICTORVILLE	4A01310	0	BALDY MESA RD	PALMDALE RD	LA MESA RD	WIDEN BALDY MESA RD FROM PALMDALE RD TO LA MESA RD FROM 2 TO 4 LANES	2035	\$4,374
LOCAL HIGHWAY	VICTORVILLE	4A01325	0	HOOK BLVD	US-395	TOPAZ RD	WIDEN HOOK BLVD FROM US 395 TO 0.4 MILES WEST OF TOPAZ RD FROM 0 TO 4 LANES	2035	\$5,831
LOCAL HIGHWAY	VICTORVILLE	4A01339	0	NATIONAL TRAILS HWY	MOJAVE RIVER	I-15	WIDEN NATIONAL TRAIL HIGHWAY FROM MOJAVE RIVER TO I-15 FROM 2 TO 4 LANES (NOTE: OVERLAPS RTP#SBD088140 FROM AIR EXPWY TO I-15)	2025	\$4,979

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	VICTORVILLE	4A01343	0	OTTAWA ST	MARIPOSA RD	3RD AVE	WIDEN OTTAWA ST FROM MARIPOSA RD TO THIRD AVE FROM 0 TO 4 LANES	2035	\$8,747
LOCAL HIGHWAY	VICTORVILLE	4A01354	0	SENECA RD	US-395	TOPAZ RD	WIDEN SENECA RD FROM US-395 TO TOPAZ RD FROM 0 TO 4 LANES	2035	\$5,831
LOCAL HIGHWAY	VICTORVILLE	4A01362	0	RANCHO RD	NATIONAL TRAILS HWY	0.4 MILES W/O NATIONAL TRAILS HWY	WIDEN RANCHO RD FROM NATIONAL TRAILS HIGHWAY TO 0.4 MILES W/O NATIONAL TRAILS HWY FROM 0 TO 4 LANES	2035	\$225
LOCAL HIGHWAY	VICTORVILLE	4A07023	0	PALMDALE RD	US 395	I-15	WIDEN PALMDALE RD FROM US 395 TO I-15 FROM 4 TO 6 LANES	2035	\$12,538
LOCAL HIGHWAY	VICTORVILLE	4A07025	0	NATIONAL TRAILS HWY	MOJAVE RIVER	NATIONAL TRAILS HWY @ MOJAVE RIVER	WIDEN NATIONAL TRAILS HIGHWAY BRIDGE OVER MOJAVE RIVER (REPLACE EXISTING BRIDGE)	2035	\$14,579
LOCAL HIGHWAY	VICTORVILLE	4A07075	0	SMOKETREE RD	TOPAZ RD	AMARGOSA RD	WIDEN SMOKETREE RD FROM TOPAZ RD TO AMARGOSA RD FROM 0 TO 4 LANES (INCLUDES WASH CROSSING)	2035	\$7,289
LOCAL HIGHWAY	VICTORVILLE	4A07092	0	LA MESA RD	WHITE RD	MESA VIEW DR	WIDEN LA MESA RD FROM WHITE RD TO MESA VIEW DR FROM 0 TO 4 LANES	2035	\$20,410
LOCAL HIGHWAY	VICTORVILLE	4A07096	0	BELLFLOWER ST	PALMDALE RD	SYCAMORE ST	WIDEN BELLFLOWER RD FROM PALMDALE RD TO SYCAMORE ST FROM 0 TO 4 LANES	2035	\$17,494
LOCAL HIGHWAY	VICTORVILLE	4A07113	0	SENECA RD	TOPAZ RD	AMARGOSA RD	WIDEN SENECA RD FROM TOPAZ RD TO AMARGOSA RD FROM 2 TO 4 LANES	2035	\$2,916
LOCAL HIGHWAY	VICTORVILLE	4A07149	0	AMARGOSA RD	AIR EXPRESSWAY	VILLAGE DR	WIDEN AMARGOSA RD FROM AIR EXPRESSWAY TO VILLAGE DR FROM 0 TO 4 LANES (INCLUDES WASH CROSSING)	2035	\$9,757
LOCAL HIGHWAY	VICTORVILLE	4A07156	0	BEAR VALLEY RD	US-395	MONTE VISTA RD	WIDEN BEAR VALLEY FROM US-395 TO MONTE VISTA RD FROM 2 TO 6 LANES	2035	\$11,663
LOCAL HIGHWAY	VICTORVILLE	4A07164	0	TOPAZ RD	HOPLAND ST	DOS PALMAS RD	WIDEN TOPAZ RD FROM HOPLAND ST TO DOS PALMAS RD FROM 0 TO 4 LANES	2035	\$17,494
LOCAL HIGHWAY	VICTORVILLE	4A07170	0	ASTER RD	MOJAVE DR	CACTUS RD	WIDEN ASTER RD FROM MOJAVE DR TO CACTUS RD FROM 2 TO 4 LANES	2020	\$2,025
LOCAL HIGHWAY	VICTORVILLE	4A07221	0	MONTE VISTA RD	PALMDALE RD	BEAR VALLEY RD	WIDEN MONTE VISTA RD FROM PALMDALE RD TO BEAR VALLEY RD FROM 2 TO 4 LANES	2035	\$7,289

TABLE 2. Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,000's)
County: San Bernardino									
LOCAL HIGHWAY	VICTORVILLE	4A07223	0	AMETHYST RD	RANCHO RD	MOJAVE DR	WIDEN AMETHYST RD FROM RANCHO RD TO MOJAVE DR FROM 0 TO 4 LANES	2035	\$13,009
LOCAL HIGHWAY	VICTORVILLE	4A07224	0	LA MESA RD	CAUGHLIN RD	WHITE RD	WIDEN LA MESA RD FROM CAUGHLIN RD TO WHITE RD FROM 0 TO 4 LANES	2035	\$5,831
LOCAL HIGHWAY	VICTORVILLE	4A07239	0	NATIONAL TRAILS HWY	MOJAVE RIVER	16 MI. N/O MOJAVE RIVER	WIDEN NATIONAL TRAILS HWY FROM MOJAVE RIVER TO 1.6 MILES N/O MOJAVE RIVER - 2 TO 4 LANES	2035	\$4,665
LOCAL HIGHWAY	VICTORVILLE	4A07249	0	EUCALYPTUS ST	AMARGOSA RD	AMETHYST RD	WIDEN EUCALYPTUS ST FROM AMARGOSA RD TO AMETHYST RD FROM 0 TO 6 LANES	2025	\$2,598
LOCAL HIGHWAY	VICTORVILLE	4A07282	0	RANCHO RD	AMETHYST RD	EL EVADO RD	WIDEN RANCHO RD FROM AMETHYST RD TO EL EVADO RD FROM 0 TO 4 LANES	2035	\$2,916
LOCAL HIGHWAY	VICTORVILLE	4A07283	0	TOPAZ RD	EUCALYPTUS	SMOKETREE RD	WIDEN TOPAZ RD FROM EUCALYPTUS RD TO SMOKETREE RD FROM 0 TO 4 LANES	2035	\$5,831
LOCAL HIGHWAY	VICTORVILLE	4A07285	0	BALDY MESA RD	LA MESA RD	OLIVINE RD	WIDEN BALDY MESA RD FROM LA MESA RD TO OLIVINE RD FROM 0 TO 4 LANES	2035	\$921
LOCAL HIGHWAY	VICTORVILLE	4A07286	0	EUCALYPTUS ST	MESA VIEW DR	BELLFLOWER RD	WIDEN EUCALYPTUS ST FROM MESA VIEW DR TO BELLFLOWER RD FROM 0 TO 4 LANES (VICTORVILLE PORTION ONLY)	2035	\$2,916
LOCAL HIGHWAY	VICTORVILLE	4A07288	0	LA MESA RD	MESA VIEW DR	CANTINA RD	WIDEN LA MESA RD FROM MESA VIEW DR TO CANTINA RD FROM 0 TO 4 LANES (VICTORVILLE PORTION ONLY)	2025	\$2,814
LOCAL HIGHWAY	VICTORVILLE	4A07307	0	EL EVADO RD	HOPLAND RD	PALMDALE RD (SR-18)	WIDEN EL EVADO RD FROM HOPLAND RD TO PALMDALE RD (SR-18) FROM 2 TO 4 LANES	2035	\$7,289
LOCAL HIGHWAY	VICTORVILLE	4A07309	0	HOPLAND ST	US-395	0.25 MILES W/O COBALT RD	WIDEN HOPLAND ST FROM US-395 TO 0.25 MILES W/O COBALT RD FROM 0 TO 4 LANES	2035	\$7,581
LOCAL HIGHWAY	VICTORVILLE	4A07331	0	CIVIC DR	MOJAVE DR	ROY RODGERS DR	WIDEN CIVIC DR FROM MOJAVE DR TO ROY RODGERS DR FROM 0 TO 4 LANES	2025	\$2,165
LOCAL HIGHWAY	VICTORVILLE	4A07332	0	MARIPOSA RD	0.3 MILES S/O YATES RD	PALMDALE RD	WIDEN MARIPOSA RD FROM 0.3 MILES S/O YATES RD TO PALMDALE RD FROM 2 TO 4 LANES	2035	\$2,624
LOCAL HIGHWAY	VICTORVILLE	4A07348	0	MONTE VISTA RD	BEAR VALLEY RD	SYCAMORE RD	WIDEN MONTE VISTA RD (ASTER RD) FROM BEAR VALLEY RD TO SYCAMORE RD FROM 0 TO 4 LANES	2020	\$2,000
LOCAL HIGHWAY	VICTORVILLE	4A07355	0	BEAR VALLEY RD	0.5 MILES W/O I-15	US-395	WIDEN BEAR VALLEY RD FROM 0.5 MILES E/O I-15 TO US-395 FROM 4 TO 6 LANES	2035	\$16,036
LOCAL HIGHWAY	VICTORVILLE	4A07359	0	STODDARD WELLS RD	DANTE ST	I-15	WIDEN STODDARD WELLS FROM DANTE ST TO I-15 FROM 2 TO 4 LANES	2035	\$7,581

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
LOCAL HIGHWAY	VICTORVILLE	4A07376	0	RANCHO RD	EL EVADO RD	0.4 MILES W/O NATIONAL TRAIL HWY	WIDEN RANCHO RD FROM EL EVADO RD TO 0.4 MILES W/O NATIONAL TRAILS HIGHWAY FROM 2 TO 4 LANES	2035	\$2,041
LOCAL HIGHWAY	VICTORVILLE	4A07387	0	HOPLAND ST	0.25 MILES W/O COBALT RD	EL EVADO RD	WIDEN HOPLAND ST FROM 0.25 MILES W/O COBALT RD TO EL EVADO RD FROM 2 TO 4 LANES	2035	\$5,103
LOCAL HIGHWAY	VICTORVILLE	4A07388	0	MOJAVE DR	I-15	US-395	WIDEN MOJAVE DR FROM I-15 TO US-395 FROM 4 TO 6 LANES	2035	\$13,995
LOCAL HIGHWAY	VICTORVILLE	4FR04	0	SOUTHERN CALIFORNIA LOGISTICS AIRPORT RAIL PROJECT	SOUTHERN CALIFORNIA LOGISTICS AIRPORT RAIL PROJECT	AT SCLA AIRPORT	TRACK AND INTERMODAL YARD IMPROVEMENTS (PHASES 1 THROUGH 4)	2030	\$799,616
LOCAL HIGHWAY	VICTORVILLE	40M0701-20111	0				NATIONAL TRAILS HIGHWAY AND MOJAVE RIVER - BRIDGE REHAB. REPLACE EXISTING RAILING TO MEET CURRENT STANDARDS	2017	\$1,375
LOCAL HIGHWAY	VICTORVILLE	SBD031422	0	3RD AVE	NISQUALLI RD	GREEN TREE BLVD	3RD AVE NISQUALLI RD TO GREEN TREE BLVD WIDEN FROM 2 LANES TO 4 LANES	2023	\$750
LOCAL HIGHWAY	VICTORVILLE	SBD97147	0				GREEN TREE BLVD AT AT&SF RAILROAD CONSTRUCT 4-LANE BR & CONNECT TO HESPERIA & RIDGECREST RD	2020	\$40,048
LOCAL HIGHWAY	YUCAIPA	0A6410-20150303	0				IN YUCAIPA: WILDWOOD CANYON RD; FROM OAKVIEW TO OAKGROVE (183048), AND FROM 100 FT EAST & WEST OF OAKGROVE (183049) - POST DISASTER ROADWAY REHAB. (NON-CAPACITY ENHANCING)	2015	\$500
LOCAL HIGHWAY	YUCAIPA	4A01366	0	5TH ST	YUCAIPA BLVD	COUNTY LINE RD	WIDEN 5TH ST FROM YUCAIPA BLVD TO COUNTY LINE RD FROM 2 TO 4 LANES	2025	\$5,555
LOCAL HIGHWAY	YUCAIPA	4A01367	0	CALIFORNIA ST	WILDWOOD CYN RD	COUNTY LINE RD	WIDEN CALIFORNIA ST FROM WILDWOOD CYN RD TO COUNTY LINE RD FROM 2 TO 4 LANES	2025	\$1,635
LOCAL HIGHWAY	YUCAIPA	4A01368	0	CALIMESA BLVD	OAK GLEN RD	COUNTY LINE RD	WIDEN CALIMESA BLVD FROM OAK GLEN RD TO COUNTY LINE RD FROM 2 TO 4 LANES	2025	\$3,004
LOCAL HIGHWAY	YUCAIPA	4A01370	0	COUNTY LINE RD	CALIMESA BLVD	BRYANT ST	WIDEN COUNTY LINE RD FROM CALIMESA BLVD TO BRYANT ST FROM 2 TO 4 LANES	2025	\$2,537
LOCAL HIGHWAY	YUCAIPA	4A01371	0	LIVE OAK CYN RD	WEST CITY LIMIT	I-10	WIDEN LIVE OAK CYN RD FROM WEST CITY LIMIT TO I-10 FROM 2 TO 4 LANES	2025	\$1,627

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,000's)
County: San Bernardino									
LOCAL HIGHWAY	YUCAIPA	4A01376A	0	WILDWOOD CYN RD	CALIMESA BLVD	COLORADO ST	WIDEN WILDWOOD CYN RD FROM CALIMESA BLVD TO COLORADO ST FROM 2 TO 4 LANES	2025	\$1,448
LOCAL HIGHWAY	YUCAIPA	4A01376B	0	WILDWOOD CYN RD	COLORADO ST	HOLMES ST	WIDEN WILDWOOD CYN RD FROM COLORADO ST TO HOLMES ST FROM 2 TO 4 LANES	2025	\$5,097
LOCAL HIGHWAY	YUCAIPA	4A04415	0	14TH ST	YUCAIPA BLVD	OAK GLEN RD	WIDEN 14TH ST FROM YUCAIPA BLVD TO OAK GLEN RD FROM 2 TO 4 LANES	2025	\$4,693
LOCAL HIGHWAY	YUCAIPA	4A04417	0	BRYANT ST	NORTH YUCAIPA CITY LIMITS	COUNTY LINE RD	WIDEN BRYANT ST FROM NORTH YUCAIPA CITY LIMITS TO COUNTY LINE RD FROM 2 TO 4 LANES	2025	\$7,914
LOCAL HIGHWAY	YUCAIPA	4A04418	0	YUCAIPA BLVD	I-10	BRYANT ST	WIDEN YUCAIPA BLVD FROM I-10 TO BRYANT ST FROM 4 TO 6 LANES	2025	\$16,663
LOCAL HIGHWAY	YUCAIPA	4A07022	0	WILDWOOD CYN RD	OUTER HWY I-10	CALIMESA BLVD NEW RD	WIDEN WILDWOOD CYN RD FROM OUTER HWY I-10 ST TO CALIMESA BLVD FROM 2 TO 4 LANES	2025	\$12,682
LOCAL HIGHWAY	YUCAIPA	4A07041	0	OAK GLEN RD	COLORADO ST	CASA BLANCA AVE	WIDEN OAK GLEN RD FROM COLORADO ST TO CASA BLANCA AVE FROM 2 TO 4 LANES	2025	\$7,866
LOCAL HIGHWAY	YUCAIPA	4A07248	0	AVE E	14TH ST	BRYANT ST	WIDEN AVE E FROM 14TH ST TO BRYANT ST FROM 2 LANES TO 4 LANES	2025	\$952
LOCAL HIGHWAY	YUCAIPA	4A07304	0	BRYANT ST	NORTH YUCAIPA CITY LIMITS	SR-38	WIDEN BRYANT ST FROM NORTH YUCAIPA CITY LIMITS TO SR-38 FROM 2 TO 4 LANES	2023	\$568
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4160013	62	SR-62	EAST YUCCA VALLEY TOWN LIMITS	WEST TWENTYNINE PALMS CITY LIMITS	OPERATIONAL IMPROVEMENTS INCLUDING SIGNAL AND INTERSECTION MODIFICATION ON SR-62 FROM EAST YUCCA VALLEY TOWN LIMITS TO WEST TWENTYNINE PALMS CITY LIMITS	2035	\$768
LOCAL HIGHWAY	TWENTYNINE PALMS	4160014	62	SR-62	WEST TWENTYNINE PALMS CITY LIMITS	MORONGO RD	OPERATIONAL IMPROVEMENTS INCLUDING SIGNAL AND INTERSECTION MODIFICATION ON SR-62 FROM WEST TWENTYNINE PALMS CITY LIMITS TO MORONGO RD	2035	\$2,623
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4160018	247	SR-247	NORTH YUCCA VALLEY TOWN LIMITS	RECHE RD	WIDEN SR-247 FROM NORTH YUCCA VALLEY TOWN LIMITS TO RECHE RD FROM 1 TO 2 LANES	2040	\$26,492
LOCAL HIGHWAY	ADELANTO	4120094	395	US-395	CHAMBERLAIN WAY	COLUSARD	WIDEN US-395 FROM CHAMBERLAIN WAY TO COLUSARD FROM 2 TO 4 LANES	2040	\$37,383

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,000's)
County: San Bernardino									
LOCAL HIGHWAY	CHINO HILLS	SBD41241		SOQUEL CANYON PKWY/ PEYTON DR	CURRENT TERMINUS	WOODVIEW RD	CONSTRUCT NEW 2-LANE EXTENSION OF SOQUEL CANYON PKWY/PEYTON DR FROM CURRENT TERMINUS OF SOQUEL CANYON PKWY JUST WEST OF GOLDEN TERRACE LN TO WOODVIEW ROAD	2030	\$5,433
LOCAL HIGHWAY	COLTON	4160046		MTVERNON	I-10 EB RAMP	COOLEY DR	WIDEN MT VERNON ACROSS UPRR AND SANTA ANA RIVER FROM 2 TO 4 LANES	2025	\$30,000
LOCAL HIGHWAY	COLTON	4160068		VALLEY BLVD	VALLEY BLVD	@ BNSF	CONSTRUCT GRADE SEPARATION FOR VALLEY BLVD @ BNSF	2030	\$52,989
LOCAL HIGHWAY	FONTANA	4160028		CHERRY AVE	I-15	SOUTH HIGHLAND AVE	WIDEN CHERRY FROM S/O I-15 TO SOUTH HIGHLAND AVE FROM 2 TO 6 LANES	2025	\$4,061
LOCAL HIGHWAY	HESPERIA	4160032		EUCALYPTUS ST	EUCALYPTUS ST	@ BNSF	CONSTRUCT GRADE SEPARATION FOR EUCALYPTUS ST @ BNSF	2035	\$13,244
LOCAL HIGHWAY	HESPERIA	4160037		I AVE	MAIN ST	BEAR VALLEY RD	WIDEN I AVE FROM MAIN ST TO BEAR VALLEY RD FROM 2 TO 4 LANES	2025	\$8,203
LOCAL HIGHWAY	HESPERIA	4160038		I AVE	RANCHERO RD	MAIN ST	WIDEN I AVE FROM RANCHERO RD TO MAIN ST FROM 2 TO 4 LANES	2020	\$7,610
LOCAL HIGHWAY	HESPERIA	4160051		RANCHERO RD	DANBURY AVE	ARROWHEAD LAKE RD	WIDEN RANCHERO RD FROM DANBURY AVE TO ARROWHEAD LAKE RD FROM 2 TO 4 LANES	2022	\$11,000
LOCAL HIGHWAY	HESPERIA	4160052		RANCHERO RD	TOPAZ AVE	7TH ST	WIDEN RANCHERO RD FROM TOPAZ AVE TO 7TH ST FROM 2 TO 4 LANES	2017	\$20,000
LOCAL HIGHWAY	HESPERIA	4160053		RANCHERO RD	0.15 M E/O MARIPOSA RD	BNSF RR	WIDEN RANCHERO RD FROM 0.15 M E/O MARIPOSA RD TO BNSF RR FROM 2 TO 4 LANES	2020	\$15,000
LOCAL HIGHWAY	HIGHLAND	4160033		GREENSPOT RD	BOULDER AVE	VALENCIA CT	WIDEN GREENSPOT RD FROM BOULDER AVE TO VALENCIA CT FROM 4 TO 6 LANES	2022	\$1,945
LOCAL HIGHWAY	LOMA LINDA	4160024		BEAUMONT AVE	BEAUMONT AVE	@ UPRR	CONSTRUCT GRADE SEPARATION FOR BEAUMONT AVE @ UPRR	2030	\$29,690
LOCAL HIGHWAY	ONTARIO	4160019		8TH ST	WEST CUCAMONGA CHANNEL	GROVE AVE	WIDEN 8TH ST FROM WEST CUCAMONGA CHANNEL FROM 2 TO 4 LANES	2035	\$242
LOCAL HIGHWAY	ONTARIO	4160020		ACACIA ST	BAKER AVE	VINEYARD AVE	WIDEN ACACIA ST FROM BAKER AVE TO VINEYARD AVE FROM 2 TO 4 LANES	2035	\$108
LOCAL HIGHWAY	ONTARIO	4160023		ARCHIBALD AVE	INLAND EMPIRE BLVD	4TH ST	WIDEN ARCHIBALD AVE FROM INLAND EMPIRE BLVD FOR 4 TO 6 LANES	2035	\$2,977

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	ONTARIO	4160025		BON VIEW AVE	MISSION BLVD	BELMONT AVE	WIDEN BON VIEW AVE FROM MISSION BLVD TO BELMONT AVE FROM 2 TO 4 LANES	2035	\$986
LOCAL HIGHWAY	ONTARIO	4160026		CAMPUS AVE	WOODLAWN ST	MISSION BLVD	WIDEN CAMPUS AVE FROM WOODLAWN ST TO MISSION BLVD FROM 2 TO 4 LANES	2035	\$1,751
LOCAL HIGHWAY	ONTARIO	4160030		ETIWANDA AVE	700' N/O AIRPORT DR	700' S/O AIRPORT DR	WIDEN SOUTHBOUND ETIWANDA FROM 700' NORTH OF AIRPORT DRIVE TO 700' SOUTH OF AIRPORT DRIVE FROM 2 TO 3 LANES	2035	\$3,681
LOCAL HIGHWAY	ONTARIO	4160035		GUASTI RD	HOLT BLVD	ARCHIBALD AVE	WIDEN GUASTI RD FROM HOLT BLVD TO ARCHIBALD AVE FROM 2 TO 4 LANES	2035	\$1,444
LOCAL HIGHWAY	ONTARIO	4160044		MILLIKEN/HAMNER AVE	SR-60	RIVERSIDE DR	WIDEN MILLIKEN/HAMNER AVE FROM SR-60 TO RIVERSIDE DR FROM 4 TO 6 LANES	2035	\$590
LOCAL HIGHWAY	ONTARIO	4160050		PHILLIPS ST	BENSON AVE	MOUNTAIN AVE	WIDEN PHILLIPS ST FROM BENSON AVE TO MOUNTAIN AVE FROM 2 TO 4 LANES	2035	\$1,243
LOCAL HIGHWAY	ONTARIO	4160060		SAN ANTONIO AVE	PARK ST	PHILLIPS ST	SPOT WIDEN SAN ANTONIO AVE FROM PARK ST TO PHILLIPS ST FROM 2 TO 4 LANES	2035	\$2,706
LOCAL HIGHWAY	ONTARIO	4160063		STATE ST	BON VIEW AVE	GROVE AVE	WIDEN STATE ST FROM BON VIEW AVE TO GROVE AVE FROM 2 TO 4 LANES	2035	\$1,348
LOCAL HIGHWAY	ONTARIO	4160066		TURNER AVE	INLAND EMPIRE BLVD	4TH ST	SPOT WIDEN TURNER AVE FROM INLAND EMPIRE BLVD TO 4TH ST FROM 2 TO 4 LANES IN SOUTHBOUND DIRECTION ONLY	2035	\$1,106
LOCAL HIGHWAY	ONTARIO	4160070		WALKER AVE	RIVERSIDE DR	MERRILL AVE	WIDEN WALKER AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 2 TO 4 LANES	2035	\$6,735
LOCAL HIGHWAY	RANCHO CUCAMONGA	201134		ETIWANDA AVE	ETIWANDA AVE	@SCRRA	CONSTRUCT GRADE SEPARATION FOR ETIWANDA AVE @ SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY TRACKS WITH OVERHEAD ROADWAY	2025	\$58,500
LOCAL HIGHWAY	RANCHO CUCAMONGA	201137		FOOTHILL BLVD	FOOTHILL BLVD	@ ARCHIBALD AVE	INTERSECTION IMPROVEMENTS AND ADD DESIGNATED RIGHT TURN LANE AT FOOTHILL BLVD/ARCHIBALD AVE	2020	\$640
LOCAL HIGHWAY	RANCHO CUCAMONGA	201138		YOUNGS CANYON RD	SAN SEVAINE	CHERRY AVE	CONSTRUCT NEW 4-LANE DIVIDED YOUNGS CANYON RD FROM SAN SEVAINE TO CHERRY AVE	2026	\$1,899
LOCAL HIGHWAY	RANCHO CUCAMONGA	4160029		CHERRY AVE	SOUTH RANCHO CUCAMONGA CITY LIMITS	WILSON AVE	WIDEN CHERRY AVE FROM SOUTH RANCHO CUCAMONGA CITY LIMITS TO WILSON AVE FROM 2 TO 4 LANES	2021	\$830

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,000's)
County: San Bernardino									
LOCAL HIGHWAY	RANCHO CUCAMONGA	4160034		GROVE AVE	SAN BERNARDINO RD	FOOTHILL BLVD	WIDEN FROM 1 TO 2 LANES (EAST SIDE ONLY)	2025	\$725
LOCAL HIGHWAY	RANCHO CUCAMONGA	20020134		ARROW ROUTE	ETIWANDA AVE	EAST RANCHO CUCAMONGA CITY LIMITS	WIDEN ARROW ROUTE FROM ETIWANDA TO EAST RANCHO CUCAMONGA CITY LIMIT FROM 2 TO 4 LANES	2022	\$1,100
LOCAL HIGHWAY	RIALTO	200603		RIVERSIDE AVE	RIVERSIDE AVE	@ UPRR	CONSTRUCT GRADE SEPARATION FOR RIVERSIDE AVE @ UPRR AND WIDEN BRIDGE FROM 5 TO 7 LANES	2030	\$49,776
LOCAL HIGHWAY	RIALTO	4160027		CEDAR AVE	RANDALL AVE	BASELINE RD	WIDEN CEDAR AVE FROM RANDALL AVE TO BASELINE RD FROM 4 TO 6 LANES	2025	\$5,096
LOCAL HIGHWAY	RIALTO	4160039		LINDEN AVE	MIRO WAY	RENAISSANCE PKWY	WIDEN LINDEN AVE FROM MIRO WAY TO RENAISSANCE PKWY FROM 0 TO 4 LANES	2025	\$2,924
LOCAL HIGHWAY	RIALTO	4160040		LOCUST AVE	MIRO WAY	RENAISSANCE PKWY	WIDEN LOCUST AVE FROM MIRO WAY TO RENAISSANCE PKWY FROM 0 TO 4 LANES	2025	\$2,680
LOCAL HIGHWAY	RIALTO	4160041		MERRILL AVE	0.11 M E/O CACTUS AVE	LILAC AVE	WIDEN MERRILL AVE FROM 0.11M E/O CACTUS AVE TO LILAC AVE FROM 3 TO 4 LANES (ADD 1WB LANE)	2030	\$166
LOCAL HIGHWAY	RIALTO	4160054		RIALTO AVE	SYCAMORE AVE	EUCALYPTUS AVE	WIDEN RIALTO AVE FROM SYCAMORE AVE TO EUCALYPTUS AVE FROM 2 TO 4 LANES	2025	\$1,015
LOCAL HIGHWAY	RIALTO	4160055		RIVERSIDE AVE	FOOTHILL BLVD	EASTON ST	WIDEN RIVERSIDE AVE FROM FOOTHILL BLVD TO EASTON ST FROM 4 TO 6 LANES	2025	\$3,817
LOCAL HIGHWAY	RIALTO	4160056		RIVERSIDE AVE	0.35 M S/O SIERRA AVE	ALDER AVE	WIDEN RIVERSIDE AVE FROM 0.35 M S/O SIERRA AVE FROM 4 TO 6 LANES	2030	\$2,518
LOCAL HIGHWAY	RIALTO	4160057		RIVERSIDE AVE	SAN BERNARDINO AVE	RIALTO AVE	WIDEN RIVERSIDE AVE FROM SAN BERNARDINO AVE TO RIALTO AVE FROM 4 TO 6 LANES	2025	\$2,944
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	200837		VISTA RD	VISTA RD	@ BNSF	CONSTRUCT GRADE SEPARATION FOR VISTA RD @ BNSF	2035	\$48,041
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4160067		STATE ST/ UNIVERSITY PKWY	HANFORD ST	FOOTHILL BLVD	WIDEN STATE ST/UNIVERSITY PKWY FROM HANFORD ST TO FOOTHILL BLVD FROM 0 TO 4 LANES	2030	\$11,876
LOCAL HIGHWAY	VICTORVILLE	4160021		AMETHYST RD	MOJAVE DR	DOS PALMAS RD	WIDEN AMETHYST RD FROM MOJAVE DR TO DOS PALMAS RD FROM 2 TO 4 LANES	2035	\$5,831
LOCAL HIGHWAY	VICTORVILLE	4160022		AMETHYST RD	BEAR VALLEY RD	SYCAMORE RD	WIDEN AMETHYST RD FROM BEAR VALLEY RD TO SYCAMORE RD FROM 2 TO 4 LANES	2035	\$1,458
LOCAL HIGHWAY	VICTORVILLE	4160031		EUCALYPTUS ST	0.15 M W/O COBALT RD	MESA VIEW DR	WIDEN EUCALYPTUS ST FROM 0.15 MILES W/O COBALT RD TO MESA VIEW DR FROM 2 TO 4 LANES	2035	\$5,540

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
LOCAL HIGHWAY	VICTORVILLE	4160036		HOOK BLVD	AMETHYST RD	TOPAZ RD	WIDEN HOOK FROM AMETHYST RD TO TOPAZ RD FROM 2 TO 4 LANES	2025	\$2,165
LOCAL HIGHWAY	VICTORVILLE	4160064		TOPAZ RD	DOS PALMAS RD	LUNARD	WIDEN TOPAZ RD FROM DOS PALMAS RD TO LUNA RD FROM 2 TO 4 LANES	2025	\$1,082
LOCAL HIGHWAY	VICTORVILLE	4160065		TOPAZ RD	0.3 M N/O BEAR VALLEY RD	EUCALYPTUS ST	WIDEN TOPAZ RD FROM 0.3 MI. N/O BEAR VALLEY RD TO EUCALYPTUS ST FROM 2 TO 4 LANES	2035	\$3,790
LOCAL HIGHWAY	YUCCA VALLEY	4160071		YUCCA MESA DR	BUENA VISTA DR	SR-62	WIDEN YUCCA MESA DR FROM BUENA VISTA DR TO SR-62 FROM 2 TO 4 LANES	2040	\$9,110
PASSENGER RAIL	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120194	0	REDLANDS RAIL PHASE II	RIALTO/E ST	UNIVERSITY OF REDLANDS	ADD A SECOND TRACK/ADDITIONAL PASSING TRACK THROUGHOUT THE CORRIDOR OF PHASE I PROJECT	2030	\$217,912
PASSENGER RAIL	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4TR0101	0	REDLANDS RAIL PHASE I	RIALTO/E ST	UNIVERSITY OF REDLANDS	EXTEND METROLINK RAIL SERVICE FROM RIALTO/E ST IN SAN BERNARDINO TO REDLANDS (9 MILES)	2020	\$242,000
PASSENGER RAIL	SANBAG/SCRRA	4CR04	0	METROLINK COMMUTER RAIL	COUNTYWIDE	COUNTYWIDE	SERVICE EXPANSION; SB LINE 50 DAILY TRAINS, RIVERSIDE LINE 46 DAILY TRAINS, IEOC LINE 28 DAILY TRAINS	2030	\$21,884
PASSENGER RAIL	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4122001		METROLINK SAN BERNARDINO LINE	CP LILAC	CP RANCHO	DOUBLE TRACKING OF METROLINK SAN BERNARDINO LINE BETWEEN CP LILAC AND CP RANCHO IN SAN BERNARDINO COUNTY	2025	\$64,971
PASSENGER RAIL	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4122002		METROLINK SAN BERNARDINO LINE	CP CENTRAL	CP ARCHIBALD	DOUBLE TRACKING OF METROLINK SAN BERNARDINO LINE BETWEEN CP CENTRAL AND CP ARCHIBALD IN SAN BERNARDINO COUNTY	2030	\$112,228
STATE HIGHWAY	FONTANA	34090	10				IN FONTANA AT ALDER AVENUE CONSTRUCT 4 LANE INTERCHANGE (2 LANES IN EACH DIRECTION)	2028	\$99,105
STATE HIGHWAY	ONTARIO	200803	10	I-10 AT VINEYARD AVE			I-10 AT VINEYARD AVE. INTERCHANGE. INTERCHANGE WIDENING FROM 4-6 LANES AND WIDEN ON AND OFF RAMP TO TWO LANES. INTERSECTION IMPROVEMENTS AND ENHANCE EXISTING LANDSCAPING	2021	\$504,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
STATE HIGHWAY	ONTARIO	4160002	10	I-10	I-10	VINEYARD AVE	WIDEN INTERCHANGE FOR I-10 @ VINEYARD AVE FROM 4 TO 6 LANES, WIDEN ON/OFF RAMP FROM 2 TO 4 LANES	2030	\$99,758
STATE HIGHWAY	ONTARIO	2002160-2002160	10				I-10 AT GROVE AVE AND 4TH ST: RELOCATE IC FROM 4TH ST TO GROVE AVE. WIDEN THE EXISTING 4TH ST UNDERCROSSING (2-4 LNS) TO MATCH REST OF 4TH STREET. CONCURRENT W GROVE AVE WIDENING (20150201).	2025	\$13,034
STATE HIGHWAY	REDLANDS	200432	10				AT I-10 AND FORD ST. ON RAMP TO THE FREEWAY - SIGNAL AND INTERSECTIONS IMPROVEMENTS	2018	\$700
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120197	10	I-10		ALABAMA ST	INTERCHANGE IMPROVEMENTS FOR I-10 @ ALABAMA ST/INTERCHANGE	2020	\$41,610
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120198	10	I-10		MT VERNON AVE	INTERCHANGE IMPROVEMENTS FRO I-10 @ MT VERNON AVE	2022	\$37,125
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120199	10	I-10		MOUNTAIN VIEW AVE	INTERCHANGE IMPROVEMENTS FOR I-10/MOUNTAIN VIEW AVE	2040	\$82,889
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120200	10	I-10		ALDER AVE	NEW INTERCHANGE FOR I-10 @ ALDER	2035	\$137,541
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4122003	10	I-10	LIVE OAK CANYON ROAD	SINGLETON RD	ON I-10 ADD/CONSTRUCT NEW EASBOUND TRUCK CLIMBING LANE FROM LIVE OAK CANYON ROAD TO SINGLETON RD INCLUDING TRANSITION BETWEEN COUNTY LINE AND CALIMESA BLVD	2023	\$50,024
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4160001	10	I-10	I-15	I-10 @ I-15	EXPRESS LANE DIRECT CONNECTORS FROM SB I-15 TO WB I-10 AND REVERSE, NB I-15 TO WB I-10 AND REVERSE	2035	\$764,117
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4160004	10	I-10	I-10	GROVE AVE/4TH ST	NEW INTERCHANGE/INTERCHANGE IMPROVEMENTS FOR I-10 @ GROVE AVE/4TH ST	2040	\$208,034

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4H01003	10	I-10	FORD ST	RIVERSIDE COUNTY LINE	ADD 1 HOV LANE EACH DIRECTION (PM 33.0-0.0)	2030	\$126,836
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4M01027	10	I-10	I-10	CALIFORNIA ST	INTERCHANGE IMPROVEMENTS FOR I-10 @ CALIFORNIA ST	2040	\$73,137
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	SBD031269	10	I-10	I-10	BEECH AVE	CONSTRUCT 4 LANE OVERCROSSING AND INTERCHANGE FOR I-10 @ BEECH AVENUE (2 LANES IN EACH DIRECTION)	2035	\$157,023
STATE HIGHWAY	SAN BERNARDINO COUNTY	4M01032	10	I-10	I-10	WABASH AVE	INTERCHANGE IMPROVEMENTS FOR I-10 @ WABASH AVE	2040	\$65,011
STATE HIGHWAY	SAN BERNARDINO COUNTY	SBD41339	10				I-10/PEPPER IC: WIDEN BRIDGE FROM FIVE TO SIX LANES TO PROVIDE FOR ONE ADDITIONAL SOUTHBOUND TURN LANE AND ADD AUXILIARY LANES TO FREEWAY	2016	\$39,815
STATE HIGHWAY	SANBAG	4120004-20159902	10				I-10 CORRIDOR EXPRESS LANE WIDENING (PHASE 1): FROM SAN ANTONIO AVE TO I-10/I-15 IC; IMPLEMENT 2 EXPRESS LNS IN EACH DIRECTION FOR A TOTAL OF 4 GENERAL PURPOSE AND 2 EXPRESS LNS IN EACH DIRECTION AND AUX LANE WIDENING, UNDERCROSSINGS, OVERCROSSINGS, AND RECONSTRUCTION OF RAMPS AND LANE TRANSITIONS WHERE NEEDED.	2022	\$11,592,623
STATE HIGHWAY	SANBAG	4120005-20159903	10				I-10 CORRIDOR EXPRESS LANE WIDENING (PHASE 2): IMPLEMENT 2 EXPRESS LANES IN EACH DIRECTION FROM I-10/I-15 INTERCHANGE TO CALIFORNIA ST; IMPLEMENT 1 EXPRESS LANE IN EACH DIRECTION FROM CALIFORNIA ST TO FORD STREET IN REDLANDS FOR A TOTAL OF 10-12 LANES; AND AUX LANES, UNDERCROSSINGS, OVERCROSSINGS, RAMP RECONSTRUCTION AND LANE TRANSITIONS WHERE NEEDED	2024	\$26,179,482

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
STATE HIGHWAY	SANBAG	44810-44811	10				I-10 TIPPECANOE INTERCHANGE ADD EASTBOUND OFF-RAMP AUXILIARY LN FROM WATERMAN ON-RAMP TO TIPPECANOE OFF-RAMP AND WIDEN BRIDGE (NON-CAPACITY)(FORMERLY PART OF RTP ID 44810)	2015	\$21,503
STATE HIGHWAY	SANBAG	44810-44812	10				I-10 TIPPECANOE RECONFIGURE INTERCHANGE & LOCAL RD IMP/MOD (HP 1366)(WESTBOUND - PHASE II)(FORMERLY PART OF RTP ID 44810)	2015	\$57,358
STATE HIGHWAY	SANBAG	4M01025	10				I-10/ALABAMA ST IC: WIDEN OVERCROSSING TO 2-3 LANES EACH DIRECTION AND RECONFIGURE RAMPS. (PA&ED ONLY)	2024	\$10,968
STATE HIGHWAY	SANBAG	4M07002	10				I-10/MONTE VISTA AVE IMPROVEMENTS: UNDERCROSSING WIDENING 4-6 LNS AND RAMP IMPROVEMENTS	2021	\$146,920
STATE HIGHWAY	SANBAG	4M07003	10				I-10 @ UNIVERSITY ST INTERCHANGE: INTERSECTION IMPROVEMENTS WITH ON/OFF RAMP WIDENING, (NO CAPACITY ENHANCEMENTS)	2019	\$5,100
STATE HIGHWAY	SANBAG	4H01001	10	I-10			I-10 HOV LANE ADDITION - FROM HAVEN (ONTARIO TO FORD ST (REDLANDS))-WIDENING FROM 8-10 LANES, AUX LANES WIDENING UNDERCROSSINGS AND OVERCROSSINGS AND RECONSTRUCTION OF RAMPS WHERE NEEDED.	2024	\$535,714
STATE HIGHWAY	UPLAND	4160003	10	I-10		EUCLID AVE	INTERCHANGE RECONSTRUCTION FOR I-10 @ EUCLID AVE	2030	\$10,692
STATE HIGHWAY	VARIOUS AGENCIES	1830	10				I-10 AT CEDAR AVE. BETWEEN SLOVER AND VALLEY- RECONSTRUCT I/C-WIDEN FROM 4-6 LANES WITH LEFT AND RIGHT TURN LANES. ADD AUX LANE ON E/B ON AND OFF RAMPS	2019	\$503,440
STATE HIGHWAY	YUCAIPA	4M04033	10	I-10		WILDWOOD AVE	INTERCHANGE IMPROVEMENTS FOR I-10 @ WILDWOOD CYN	2035	\$48,626
STATE HIGHWAY	CALTRANS	35558	15				IN SAN BERNARDINO CO. - GATEWAY ENHANCEMENTS ON I-15 FROM MOJAVE DR. IN VICTORVILLE TO STODDARD WELLS RD. IN BARSTOW-RETENTION WALL ENHANCEMENTS AND LANDSCAPING(PPNO0175N)	2017	\$2,446

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
STATE HIGHWAY	CALTRANS	20061201-20061201	15				I-15/I-215 I/C IMPROVMTS-DEVORE I/C S/O GLEN HELEN PARKWAY TO N/O KENWOOD & I-215 FROM S/O DEVORE RD. I/C TO I-15 (16.0-17.8) ADD 1 M/F LN IN EA DIR TO EXISTG 3 M/F LNS FROM 3800 FT S/O GLEN HELEN PARKWAY TO 3100 FT N/O I-215 I/C ADD 1 DECEL LN FROM 3200 FT S/O I5/215 I/C OFFRMP TO S/B DEVORE ON I-215. CONSTRUCT TRUCK BYPASS LNS.	2017	\$324,669
STATE HIGHWAY	CALTRANS	35556-35556	15				IN THE CITY OF VICTORVILLE FROM 0.5 MILES NORTH OF MOJAVE DRIVE TO 1.5 NORTH OF EXISTING STODDARD WELLS ROAD OVERCROSSING. RECONSTRUCT D/E/STODDARD WELLS RD ICS. WIDEN BRIDGES (NO NEW LANES). CONSTRUCT NEW COLLECTOR DISTRIBUTOR RD OVER D/E/ AND BNSF RR TO PARRALLEL I-15 NB INCLUDES ITS OWN BRIDGE. RECONST/REALIGN EAST/WEST FRONTAGE RDS. CONST NEW/AUX LN. (REFER TO MODELING DETAILS)(CA061)	2017	\$119,325
STATE HIGHWAY	CALTRANS	41TS04-06841	15				C. V. KANE SCRRRA INTERPRETIVE DISPLAYS (NEAR THE CITY OF BARSTOW, AT THE C.V. KANE SAFETY ROADSIDE REST AREA (SCRRRA) INSTALL INTERPRETIVE DISPLAYS	2015	\$260
STATE HIGHWAY	HESPERIA	4160006	15	I-15		EUCALYPTUS AVE	CONSTRUCT NEW INTERCHANGE AT I-15 @ EUCALYPTUS	2024	\$61,100
STATE HIGHWAY	HESPERIA	4160007	15	I-15		MUSCATEL ST	CONSTRUCT 6 LANE INTERCHANGE FOR I-15 @ MUSCATEL ST	2023	\$21,100
STATE HIGHWAY	HESPERIA	200613	15				I-15 & MUSCATEL STREET CONSTRUCT 6 LANE INTERCHANGE WITH LEFT AND RIGHT TURN LANES, INCLUDING 1700 FT AUX LANE UPSTREAM TO SB EXIT RAMP	2020	\$105,500
STATE HIGHWAY	HESPERIA	SBD41446	15				EUCALYPTUS AT I-15 CONSTRUCT INTERCHANGE 3 LANES IN EA DIR STANDARD I/C CONFIG.(JOINT PROJECT BETWEEN VICTORVILLE AND HESPERIA)	2023	\$61,100

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
STATE HIGHWAY	RANCHO CUCAMONGA	200152	15	I-15	ARROW ROUTE	FOOTHILL BLVD	ON I-15 FROM 3,500 FEET S/O ARROW ROUTE TO 3,500 FEET N/O FOOTHILL BLVD AND ON ARROW ROUTE FROM 1000 FEET WEST TO 100 FEET E/O I-15-CONSTRUCT NEW INTERCHANGE AT ARROW ROUTE, CONSTRUCT SOUTHBOUND DOUBLE DECELERATION LANES TO FOOTHILL BLVD OFFRAMP AND MODIFY RAMPS AT FOOTHILL BLVD	2040	\$148,501
STATE HIGHWAY	RANCHO CUCAMONGA	200048-200048	15	I-15			I-15 AT BASELINE INTERCHANGE - FROM 1,800 N/O BASELINE TO 2,400 FT S/O; 1800 FT W/O EAST AVE. TO 1500 FT E/O EAST AVE- WIDEN RAMPS (INCLUDING BRIDGES), WIDEN BASELINE RD. FROM 4-6 LNS, WIDEN EAST AVE. FROM 2-4 LNS, REALIGN AND WIDEN S/B AND N/B DIAMOND RAMPS FROM 1-2 LNS (INCLUDE BRIDGES, AD S.B LOOP ON-RAMP (INCL BRIDGES) ADD I-15 ACCEL/DECEL LNS, AND OPERATIONAL IMPRVMENTS (EA497100)(CA435)	2016	\$57,504
STATE HIGHWAY	RANCHO CUCAMONGA	4M07034	15	I-15	I-15	FOOTHILL BLVD	WIDEN NORTHBOUND ON-RAMP TO 2 LANES FROM RAMP ENTRANCE TO THE METERING POINT AND TRANSITION TO 1 LANE AT THE GORE POINT & INSTALL RAMP METERING (EA 0H791)	2025	\$1,248
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4122007	15	I-15	I15/215 INTERCHANGE	US-395	I15 EXPRESS LANE ADDITION - EXPRESS LANE WIDENING, ADDING TWO (2) EXPRESS LANES IN EACH DIRECTION FOR A TOTAL OF 12 LANES INCLUDING AUXILIARY LANES, UNDERCROSSINGS, OVERCROSSINGS, AND RECONSTRUCTION OF RAMPS WHERE NEEDED. (SEGMENT 4)	2030	\$687,994
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4160005	15	I-15	SR-210	I-15/I-215 INTERCHANGE	I-15 EXPRESS LANE ADDITION - EXPRESS LANE WIDENING, ADDING TWO EXPRESS LANES IN EACH DIRECTION FOR A TOTAL OF 12 LANES INCLUDING AUXILIARY LANES, UNDERCROSSINGS, OVERCROSSINGS, AND RECONSTRUCTION OF RAMPS WHERE NEEDED. (SEGMENT 3)	2026	\$164,884

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4160008	15	I-15	US-395	HIGH DESERT CORRIDOR	I-15 EXPRESS LANE ADDITION - EXPRESS LANE WIDENING, ADDING ONE EXPRESS LANE IN EACH DIRECTION INCLUDING AUXILIARY LANES, UNDERCROSSINGS, OVERCROSSINGS, AND RECONSTRUCTION OF RAMPS WHERE NEEDED. (SEGMENT 5)	2034	\$194,662
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4M01041	15	I-15	I-15	SIERRA AVE	INTERCHANGE IMPROVEMENTS FOR I-15 @ SIERRA AVE	2030	\$25,280
STATE HIGHWAY	SANBAG	4120006-20159901	15				I-15 EXPRESS LANES: CONST 2 NEW EXPRESS LANES IN EACH DIRECTION FROM CANTU GALLEANO RANCH RD TO SR-210. CONST 1 EXPRESS LANE EACH DIRECTION FROM SR-210 TO DUNCAN CANYON RD. ADDITIONAL IMPROVEMENTS TO AUX LN WIDENING, UNDERCROSSINGS, OVERCROSSINGS, AND RECONSTRUCTION OF RAMPS AND LANE TRANSITIONS WHERE NEEDED.	2022	\$1,906,360
STATE HIGHWAY	SANBAG	SBD031279	15				IN HESPERIA AT I-15 AND RANCHERO ROAD - CONSTRUCT 6 LANE INTERCHANGE WITH LEFT AND RIGHT TURN LANES, INCLUDING 1300 FT. AUX LANE PRIOR TO N/B OFF RAMP AND 3200 FT. AUX LANE FROM TO S/B LOOP ON RAMP	2015	\$64,346
STATE HIGHWAY	VARIOUS AGENCIES	SBD55026	15				EUCALYPTUS STREET FROM I-15 TO PEACH AVENUE - RECONSTRUCT AND WIDEN FROM 2 TO 4 LANES AND CONSTRUCT RAILROAD CROSSING	2015	\$8,546
STATE HIGHWAY	VICTORVILLE	4M07004	15	I-15		BEAR VALLEY RD	INTERCHANGE IMPROVEMENTS FOR I-15 @ BEAR VALLEY RD	2040	\$45,323
STATE HIGHWAY	VICTORVILLE	4M07014	15	I-15		MOJAVE ST	NEW INTERCHANGE FOR I-15 @ MOJAVE ST	2035	\$69,465
STATE HIGHWAY	VICTORVILLE	4M1006	15	I-15		BOULDER RD/DALE EVANS PKWY	RECONSTRUCT INTERCHANGE FOR I-15 @ BOULDER RD/DALE EVANS PKWY	2040	\$906
STATE HIGHWAY	CALTRANS	4A01900	18	SR-18	LOS ANGELES COUNTY LINE	US-395	WIDEN SR-18 FROM LA COUNTY LINE TO US-395 FROM 2 TO 4 LANES (PM 116-100.9)	2030	\$58,588

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
STATE HIGHWAY	CALTRANS	4A04902	18	SR-18	0.8 MILES W/O ORCHARD DR (PM 79.9)	2.1 MILES W/O ORCHARD DR (PM 81.2)	CONSTRUCT PASSING LANES ON SR-18 FROM 0.8 MILES W/O ORCHARD DR TO 2.1 MILES W/O ORCHARD DR (PM 79.9/81.2) AND TURN LANES (PM 73.76/84.33)	2030	\$17,283
STATE HIGHWAY	CALTRANS	4PL07026	18	SR-18	ALSO SBD-189-0.0/0.37: NR RIM FOREST FROM JCT RTE 18/189	0.5 KM EAST	RECONSTRUCT SLOPES, STACK WALL WIDEN LAND & SHOULDER ON RTE 189 AND EXTEND RETAINING WALL ON RTE 18 (EA:1A900)	2030	\$9,010
STATE HIGHWAY	CALTRANS	4351	58				SR58 EXPRESSWAY-REALIGN AND WIDEN FROM 2-4 LANE EXPRESSWAY. NEW INTERCHANGES AT LENWOOD RD AND HINKLEY RD. 2.4 MILES WEST OF HIDDEN RIVER RD. TO 0.7 MILES EAST OF LENWOOD ROAD -- REALIGN AND WIDEN TO 4 LANE EXPRESSWAY (2-4 LANES) (PHASE 2)	2016	\$194,925
STATE HIGHWAY	CALTRANS	34770	58				0.4 MILES WEST OF KERN CO LINE TO 7.5 MI EAST OF JCT RTE 395 - CONSTRUCT 4 LANE EXPRESSWAY ON NEW ALIGNMENT, NEW INTERCHANGE AT US 395 AND SR 58	2019	\$194,838
STATE HIGHWAY	CALTRANS	4M07008	60	SR-60	HAVEN AVE (R91)	SBI-15 CONNECTOR (R9.9)	WIDEN AUX LANES IN EACH DIRECTION, WIDEN CONNECTOR FROM SB-15 TO WB-60 AND EB-60 TO NB/SB-15, WIDEN RAMPS FROM ONE TO TWO LANES (EA:0E330)	2021	\$71,000
STATE HIGHWAY	ONTARIO	200604	60				SR60 AT GROVE AVENUE INTERCHANGE RECONSTRUCTION AND GROVE AVE. +/-300 FT. N/S OF SR 60-WIDEN FROM 4-6 LANES	2022	\$30,484
STATE HIGHWAY	ONTARIO	4160009	60	SR-60	SR-60	GROVE AVE	INTERCHANGE RECONSTRUCTION FOR SR-60 @ GROVE AVE	2040	\$82,889
STATE HIGHWAY	ONTARIO	4160010	60	SR-60	SR-60	VINEYARD AVE	INTERCHANGE RECONSTRUCTION FOR SR-60 @ VINEYARD AVE	2040	\$82,889
STATE HIGHWAY	ONTARIO	200602-200602	60				SR 60 AND VINEYARD AVE. INTERCHANGE RECONSTRUCTION-LENGTHEN BRIDGE TO ACCOMMODATE VINEYARD AVE WIDENING AND RAMP WIDENING 4-6 LANES	2022	\$7,621

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
STATE HIGHWAY	ONTARIO	4M07017	60				SR-60 AT ARCHIBALD AVENUE WIDEN ON AND OFF RAMPS (2-3 LANES EACH WAY); ADD ADDITIONAL LEFT TURN POCKETS FROM ARCHIBALD TO SR-60 ON RAMPS (NON-CAPACITY ENHANCING ALONG ARCHIBALD).	2021	\$7,900
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120202	60	SR-60	SR-60	RAMONA AVE	RECONSTRUCT INTERCHANGE SR-60 @ RAMONA AVE	2027	\$34,028
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4160011	60	SR-60	SR-60	CENTRAL AVE	ULTIMATE INTERCHANGE IMPROVEMENTS INCLUDING POSSIBLE RAMP WIDENING AND AUXILIARY LANES AS NECESSARY	2040	\$81,263
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4160012	60	SR-60	SR-60	EUCLID AVE	INTERCHANGE IMPROVEMENTS FOR SR-60 @ EUCLID AVE	2040	\$9,752
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4P07019	60	SR-60	SR-60	MOUNTAIN AVE	RECONSTRUCT INTERCHANGE SR-60 @ MOUNTAIN AVE	2027	\$17,014
STATE HIGHWAY	SANBAG	4M04050-20114	60				WIDENING OF CENTRAL AVENUE BRIDGE CROSSING SR-60 TO ACCOMMODATE WIDENING OF RAMPS AND THE DESIGNATED FREEWAY LANES.	2020	\$222,260
STATE HIGHWAY	SAN BERNARDINO COUNTY	4160015	62	SR-62	RIVERSIDE COUNTY LINE	WEST YUCCA VALLEY TOWN LIMITS	WIDEN SR-62 FROM RIVERSIDE COUNTY LINE TO YUCCA VALLEY TOWN LIMITS FROM 4 TO 6 LANES	2030	\$36,446
STATE HIGHWAY	YUCCA VALLEY	4160016	62	SR-62	SR-247	EAST YUCCA VALLEY TOWN LIMITS	OPERATIONAL IMPROVEMENTS INCLUDING SIGNAL AND INTERSECTION MODIFICATIONS ON SR-62 FROM SR-247 TO EAST YUCCA VALLEY TOWN LIMITS	2035	\$1,463
STATE HIGHWAY	YUCCA VALLEY	4A01383	62	SR-62 (TWENTY-NINE PALMS HWY)	FAIRWAY DR	SR-247	WIDEN SR-62 FROM FAIRWAY DR TO SR-247 FROM 4 TO 6 LANES (PM 8.75-12.5)	2030	\$26,051
STATE HIGHWAY	YUCCA VALLEY	40M0701-20150301	62				SR-62 TRAFFIC CONTROL SYNCHRONIZATION: 10 TRAFFIC SIGNALS FROM SR-62/SAGE AVE THROUGH SR-62/YUCCA MESA-LA CONTENTA ROAD	2016	\$227
STATE HIGHWAY	CHINO	4A01384	83	SR-83 (EUCLID)	MERRILL AVE	KIMBALL AVE	WIDEN SR-83 FROM MERRILL AVE TO KIMBALL AVE FROM 4 TO 8 LANES	2029	\$1,761

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
STATE HIGHWAY	CALTRANS	0A6410-34D13	138				NEAR THE I-215/SR-138 CAJON JUNCTION: ABOUT 1/2 A MILE WEST ALONG SR-138; WIDEN 2 BNSF BRIDGE STRUCTURES 2-4 LANES.	2018	\$135,000
STATE HIGHWAY	CALTRANS	34011-20150601	138				NEAR THE I-15/SR-138 CAJON JUNCTION: ABOUT 1/2 A MILE WEST ALONG SR-138; WIDEN 2 BNSF BRIDGE STRUCTURES 2-4 LANES. (SURROUNDING ROADWAY WIDENED IN FTIP 34011)(TOLL CREDIT: TO MATCH STPL FY14/15 ENG)	2017	\$13,550
STATE HIGHWAY	CALTRANS	34011-34011	138				NEAR WRIGHTWOOD FROM PHELAN RD TO I-15 WIDEN FROM 2 TO 4 LANES WITH MEDIAN(EA3401U) (BRIDGE WIDENING IN FTIP ID 20150601)	2016	\$87,181
STATE HIGHWAY	CALTRANS	41TS04-0P240	138				CONSTRUCT A NEW VISTA POINT AT ROUTE 138 WITH PAVED AREA FOR 10 PARKING SPACES INCLUDING 2 SPACES FOR ADA DRIVERS WITH DECORATIVE FENCE AND INTERPRETIVE SIGNS.	2015	\$575
STATE HIGHWAY	CALTRANS	4M07035	138	SR-138		PHELAN RD	PHASE II: WIDEN 2 TO 4 LANES FROM SR-18 TO PHELAN RD	2030	\$92,738
STATE HIGHWAY	HIGHLAND	4M01003-201154	210				SR 210 AT 5TH ST/GREENSPOT RD; ON AND OFF RAMP'S WIDENING; PROJECT ADDS 1 LANE TO THE TERMINI (2-3LNS) TO THE N/B ON RAMP, AND BOTH S/B ON/OFF RAMP'S. ALL RAMP'S REMAIN 1LN AT THE MAINLINE.	2017	\$12,450
STATE HIGHWAY	HIGHLAND	4M0801	210	SR-210		VICTORIA AVE	CONSTRUCT NEW INTERCHANGE AT VICTORIA AVE, MODIFICATIONS TO HIGHLAND/ARDEN AVE INTERCHANGE AS APPROPRIATE	2040	\$168,602
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4160017	210	SR-210		I-215	ADD HOV LANE FROM I-215 TO I-10	2040	\$178,780
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4M01047	210	SR-210		DEL ROSA AVE	INTERCHANGE IMPROVEMENTS FOR SR-210 @ DEL ROSA AVE	2040	\$58,510
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4M01049	210	SR-210		WATERMAN AVE	INTERCHANGE IMPROVEMENTS FOR SR-210 @ WATERMAN AVE	2040	\$82,889

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4M07007	210	SR-210	SR-210	BASELINE AVE	INTERCHANGE IMPROVEMENTS FOR SR-210 @ BASELINE AVE	2020	\$15,600
STATE HIGHWAY	SANBAG	4M01005	210				SR210 LANE ADDITION - ADD 1 MIXED FLOW LANE IN EACH DIRECTION FROM HIGHLAND AVE. TO SAN BERNARDINO AVE (REDLANDS) INCLUDES AUX. LANES BETWEEN BASE LINE AND 5TH STS AND AN ACCELERATION LANE AT 5TH ST. E/B ON RAMP AND DECELERATION LANE AT HIGHLAND AVE E/B OFF RAMP. (UNDER 1/4 MILES LENGTH)	2021	\$1,208,403
STATE HIGHWAY	SANBAG	4M1007	210				CONSTRUCT NEW FULL-SERVICE INTERCHANGE WITH DIAMOND CONFIGURATION AT SR-210 AND PEPPER AVENUE IN THE CITY OF RIALTO. ADD WB AND EB ACCEL AND DECEL LANES AND WIDEN PEPPER FROM 2-4 LANES FROM HIGHLAND AVE. TO EXISTING 4 LANE SECTION S/O INTERCHANGE	2016	\$23,770
STATE HIGHWAY	SANBAG	4M0701-20084106	210				ON SR 210 LANDSCAPING SEGMENTS 8-11 - PROVIDE PLANTING, IRRIGATION AND INERT GROUND COVER ALONG SR210 FROM WEST OF SIERRA AVE IN THE CITY OF FONTANA TO SR210/I-215 I.C. IN SAN BERNARDINO	2015	\$8,499
STATE HIGHWAY	CALTRANS	4H01008	215	I-215	SR-210	I-15	ADD 1 HOV LANE EACH DIRECTION (PM 9.5-18.0)	2035	\$249,151
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4M01043	215	I-215	I-215	MT VERNON/ WASHINGTON AVE	INTERCHANGE IMPROVEMENTS FOR I-215 @ MT VERNON/WASHINGTON AVE	2035	\$109,048
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4M01044	215	I-215	I-215	PALM AVE	INTERCHANGE IMPROVEMENTS FOR I-215 @ PALM AVE	2040	\$17,878
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4M01045	215	I-215	I-215	CAMPUS PKWY	NEW INTERCHANGE FOR I-215 @ CAMPUS PKWY	2040	\$92,640

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4M0803	215	I-215	60/91/215 JUNCTION	ORANGE SHOW RD	I-215 BI-COUNTY IMPROVEMENT PROJECT - ADD 1LANE IN EACH DIRECTION; RECONSTRUCT OVERCROSSINGS & UNDERPASSES; CONSTRUCT/ MODIFY FWY ACCESS RAMPS; MODIFY FWY CONNECTORS; ADD DECEL AND ACCEL LNS; WIDEN/ REALIGN LOCAL RDS; ADD/MODIFY SIGNALS	2035	\$347,326
STATE HIGHWAY	SAN BERNARDINO, CITY OF	SBD59204	215				I-215 AT UNIVERSITY PARKWAY INTERCHANGE - RECONSTRUCT INTERCHANGE	2022	\$31,143
STATE HIGHWAY	SANBAG	200614	215				I-215 BI-COUNTY HOV LANE GAP CLOSURE PROJECT- ADD 1 HOV LANE IN EACH DIRECTION FROM SPRUCE ST. ON RIV 91 TO ORANGE SHOW RD.(ALSO INCLUDES RTP 4M0803 (STIP 2010 \$24881 RCTC AND \$45089 SANBAG)(M003)	2015	\$187,249
STATE HIGHWAY	SANBAG	713-20150305	215				I-215 LANDSCAPING (SEGMENTS 1-3 & 5) IN THE CITY OF SAN BERNARDINO (TOLL CREDIT: PNRS CON)	2020	\$14,670
STATE HIGHWAY	VARIOUS AGENCIES	713-713	215				I-215 CORRIDOR NORTH - IN SAN BERNARDINO, ON I-215 FROM RTE 10 TO RTE 210 - ADD 2 HOV & 2 MIXED FLOW LNS (1 IN EA. DIR.) AND OPERATIONAL IMP INCLUDING AUX LANES AND BRAIDED RAMP (M003)	2015	\$724,444
STATE HIGHWAY	VARIOUS AGENCIES	SBD31850	215				IN GRAND TERRACE @ I-215 BARTON RD I/C RECONSTRUCT OC & RAMPS W/ PARTIAL CLOVERLEAF CONFIG. NW OF I-215 WORK INCL ADD OF NB AUX LN.LOCAL ST WORK TO INCL WIDENING OF BARTON RD, REMOVAL OF LA CROSSE AVE. B/W VIVENDA AVE & BARTON RD, RPLCMT W/ NEW LOCAL RD, IMPRVMTS TO BARTON RD & MICHIGAN WAY/ VIVENDA AVE INTERSEC & REALIGNMT OF COMMERCE WY (TOLL CREDITS USED TO MATCH DEMO: ROW)	2018	\$78,600
STATE HIGHWAY	YUCCA VALLEY	4A01386	247	SR-247 (OLD WOMAN SPRINGS RD)	NORTH YUCCA VALLEY TOWN LIMITS	SR-62	WIDEN SR-247 FROM NORTH YUCCA VALLEY TOWN LIMITS TO SR-62 FROM 2 TO 4 LANES (EA:34430) (PM	2035	\$20,599

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
STATE HIGHWAY	CALTRANS	34040	395				REALIGN & WIDEN US-395 TO A 6 LANE FREEWAY FROM I-15 TO SR-18 (PH 1) & A 4 LN FRWY FROM SR-18 TO PURPLE SAGE (PH 2) & WIDEN TO 4 LN EXPWY FROM PURPLE SAGE TO 0.5 MI S/O FARMINGTON RD (PH 3). (PA&ED ONLY)	2020	\$2,629
STATE HIGHWAY	CALTRANS	34042	395				US 395 - NEW ALIGNMENT CONSTRUCT 4-LANE EXPRESSWAY FROM 1.8 MILES SOUTH OF DESERT FLOWER ROAD TO 0.5 MILES SOUTH OF FARMINGTON ROAD (NORTHERLY ALIGNMENT)	2020	\$459,978
STATE HIGHWAY	CALTRANS	4M0802	395	US-395	SR-18 (PALMDALE RD)	CHAMBERLAINE WAY	WIDEN US-395 FROM SR-18 (PALMDALE RD) TO CHAMBERLAINE WAY FROM 4 TO 8 LANES AND INSTALL LEFT TURN CHANNELIZATION	2019	\$48,552
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4A07004	395	US-395	I-15	SR-18 (PALMDALE RD)	WIDEN US-395 FROM I-15 TO SR-18 (PALMDALE RD) FROM 2 TO 6 LANES OR 4 TO 6 LANES, VARIOUS SEGMENTS. 22.25 LANE MILES	2035	\$55,572
STATE HIGHWAY	SANBAG	SBD59303	999				---SET ASIDES/RESERVATIONS FOR FUTURE SB45 -PLANNING, PROGRAMMING, & MONITORING	2019	\$11,010
TRANSIT	MORONGO BASIN TRANSIT AUTHORITY	SBD31037	0				BUS SYSTEM - OPERATING ASSISTANCE	2016	\$22,060
TRANSIT	MOUNTAIN AREA REGIONAL TRANSIT AUTHORITY	20010120	0				TRANSIT SERVICE/REHAB. EQUIPMENT - PURCHASE OF VARIOUS MAINTENANCE EQUIPMENT (ON-GOING PROJECT)	2015	\$63
TRANSIT	MOUNTAIN AREA REGIONAL TRANSIT AUTHORITY	SBD41055	0				BUS SYSTEM - OPERATING ASSISTANCE	2016	\$21,753
TRANSIT	MOUNTAIN AREA REGIONAL TRANSIT AUTHORITY	200423	0				PARATRANSIT VEHICLES - REPLACEMENT - GAS/DIESEL 2013-3, FY14 - 3 (TOLL CREDITS TO MATCH: 5311F FY14/15 \$75, CMAQ: FY14/15 \$42, FY15/16 \$64, FY16/17 \$64, FY17/18 \$64)	2015	\$4,223
TRANSIT	NEEDLES	R569TA	0				INTERSTATE - LOS ANGELES/CHICAGO AT EL GARCES STATION MULTIMODAL - STATION - FACILITY	2015	\$8,290
TRANSIT	NEEDLES	SBD31612	0				BUS SYSTEM - OPERATING ASSISTANCE	2016	\$3,684
TRANSIT	NEEDLES	SBD44003-SBD44003	0				PARATRANSIT VEHICLE REPLACEMENT (10/11-1-18 PAX AND 11/12 1-18 PAX	2017	\$387

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
TRANSIT	OMNITRANS	981114	0				TRANSIT - SECURITY CAPITALIZATION OF SECURITY COSTS	2015	\$1,493
TRANSIT	OMNITRANS	981122	0				CAPITALIZATION OF PREVENTIVE MAINT	2015	\$90,153
TRANSIT	OMNITRANS	20040211	0				REPLACEMENT PARATRANSIT VEHICLES REPLACING PARATRANSIT VEHICLES ON OMNITRANS ACCESS FLEET; 08-50; 2011-50; 2013-15; 2014-15 VEHICLES (TOLL CREDITS: FY14/15 5310 \$87)	2015	\$12,321
TRANSIT	OMNITRANS	40M0701-20060601	0				CAPITALIZATION OF LEASES - FOR CONTRACTORS, RADIO SITES, APC, TIRE LEASES	2015	\$5,359
TRANSIT	OMNITRANS	SBD31084	0				BUS SYSTEM-SERVICE VEHICLES, PURCHASE SEVERAL REPLACEMENT SERVICE VEHICLES FY15 - 45	2016	\$2,862
TRANSIT	OMNITRANS	SBD90105	0				BUS SYSTEM-BUSES BUS REPLACEMENTS ALT. FUEL, 2010-15 AND 15 COACHES PER YEAR AFTER 2010 (TOLL CREDITS ARE BEING USED AS MATCH FOR CMAQ IN FY14/15 \$591. TOLL CREDITS USED TO MATCH 5339 IN FY14/15 \$722)	2015	\$63,012
TRANSIT	OMNITRANS	981111	0				TRANSIT - ENHANCEMENTS: 1% TRANSIT ENHANCEMENTS TO INCREASE ACCESSIBILITY TO BUS STOPS (ONGOING)	2015	\$1,748
TRANSIT	OMNITRANS	SBD31055	0				TRANSIT ADMINISTRATION EQUIPMENT PURCHASE COMPUTER HARDWARE & SOFTWARE FOR MIS	2015	\$33,759
TRANSIT	RIALTO	200450	0				RIALTO METROLINK STATION - INCREASE PARKING SPACES FROM 225-775	2015	\$3,356
TRANSIT	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120204	0	SIERRA AVE	RIVERSIDE AVE	MARYGOLD AVE	EXPRESS BUS	2030	\$15,881
TRANSIT	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120205	0	SAN BERNARDINO AVE	SIERRA AVE	E ST	EXPRESS BUS	2025	\$15,968
TRANSIT	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120206	0	HAVEN AVE	BANYAN ST	EDISON AVE	EXPRESS BUS	2030	\$21,836

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$,00's)
County: San Bernardino									
TRANSIT	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120209	0	RIVERSIDE AVE	SIERRA AVE	UNIVERSITY AVE	EXPRESS BUS	2030	\$33,747
TRANSIT	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120211	0	GRAND/EDISON AVE	CHINO HILLS PKWY	MILLIKEN AVE (HAMNER AVE)	EXPRESS BUS	2030	\$35,732
TRANSIT	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120213	0	WEST VALLEY CONNECTOR	GAREY AVE	SIERRA AVE	BRT	2025	\$245,673
TRANSIT	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120215	0	EUCLID	FOOHILL BLVD	POMONA RINCON	EXPRESS BUS - 15-MINUTE HEADWAYS PEAK, 30-MINUTE OFF PEAK	2030	\$152,695
TRANSIT	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120219	0	FOOTHILL/5TH	MONTE VISTA AVE	BOULDER RD	FULL BRT - 15-MINUTE HEADWAYS PEAK, 30-MINUTE OFF PEAK	2025	\$422,223
TRANSIT	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4120222	0	GOLD LINE PHASE 2B TO MONTCLAIR	COUNTY LINE	MONTCLAIR	LIGHT RAIL EXTENDED FROM COUNTY LINE TO MONTCLAIR (PHASE 2B)	2040	\$217,173
TRANSIT	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4TL104	0	LOCAL TRANSIT SERVICE	COUNTY WIDE	COUNTY WIDE	COUNTY WIDE LOCAL TRANSIT SERVICE OPERATIONS	2040	\$2,747,786
TRANSIT	SANBAG	20020801	0				METROLINK ROLLING STOCK - SANBAG'S SHARE OF PURCHASE OF METROLINK CARS & LOCOM UP TO 47 CARS/CABS AND IN FUTURE YEARS UP TO 22 CARS/CABS & UP TO 8 LOCOM (CO-OP LA00C8231, RIV 010214)/(TOLL CREDITS TO MATCH: FY14/15: \$375, FY17/18: \$375)	2015	\$3,000
TRANSIT	SANBAG	40M0701-20061009	0				METROLINK-SEALED CORRIDOR-SAN GABRIEL SUB-TS THIS PROJECTS CONSISTS OF A COMPREHENSIVE CORRIDOR SAFETY ENHANCEMENT PROGRAM ALONG SANBAG OWNED ROW (TOLL CREDITS TO MATCH: FY14/15: \$250)	2015	\$4,573

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
TRANSIT	SANBAG	990602-990602	0				METROLINK CAPITAL MAINTENANCE (REHABILITATION/RENOVATION OF METROLINK TRACK SIGNALS, COMMUNICATIONS STRUCTURES, FACILITIES, SYSTEMS, AND ROLLING STOCK INCLUDING THE PURCHASE OF 20 REPLACEMENT LOCOMOTIVES WITH TIER-4 TECHNOLOGY)(\$2,713 TRANSPORTATION DEVELOPMENT CREDITS USED TO MATCH: \$1,270 FY12/13, \$841 FY13/14) (TOLL CREDITS USED TO MATCH: FY14/15 \$1,741)	2015	\$37,847
TRANSIT	SANBAG	SBD41109	0				METROLINK OPERATING ASSISTANCE SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY (METROLINK)	2015	\$61,951
TRANSIT	UPLAND	990602-20040825	0				UPLAND METROLINK STATION - ADDITIONAL PARKING FROM 200 TO 500 SPACES	2013	\$3,665
TRANSIT	VICTOR VALLEY TRANSIT AUTHORITY	20040817	0				BUS REHABILITATION: FY12/13-5, FY13/14-11	2015	\$885
TRANSIT	VICTOR VALLEY TRANSIT AUTHORITY	SBD31581	0				BUS SYSTEM - OPERATING ASSISTANCE	2016	\$82,128
TRANSIT	VICTOR VALLEY TRANSIT AUTHORITY	SBD41114	0				PARATRANSIT - VEHICLE REPLACEMENT ALT. FUEL, 2012-3; 2013 VEHICLE REPLACEMENT (2); FY14/15 PARATRANSIT BUS RPLC(2); FY14/15 PARATRANSIT BUS RPLC (8, UNLEADED) BARSTOW AREA TRANSIT. (TOLL CREDIT: 14/15 CMAQ \$80, FY14/15 5310 \$39)	2015	\$3,737
TRANSIT	VICTOR VALLEY TRANSIT AUTHORITY	SBD44003-20150101	0				PARATRANSIT VEHICLE EXPANSION FY14/15(2)	2015	\$245
TRANSIT	VICTOR VALLEY TRANSIT AUTHORITY	200086	0				BUS SYSTEM - PASSENGER FACILITIES. FY12-10 BUS SHELTERS INCLUDING UPGRADES FOR ACCESSIBILITY AND AMENITIES FOR THESE AND OTHER BUS STOPS; FY13-10 BUS SHELTERS AND AMENITIES; FY14-12 BUS SHELTERS AND AMENITIES; BUS SHELTERS INCLUDES BUS STOP LIGHTING EVERY YEAR.	2019	\$1,175
TRANSIT	VICTOR VALLEY TRANSIT AUTHORITY	981104	0				TRANSIT - SECURITY	2016	\$1,135

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: San Bernardino									
TRANSIT	VICTORVILLE	200416	0				SCLA RAIL SERVICE FROM AIR EXPRESSWAY APPROX. 5 MILES NO TO COLUSA RD. BETWEEN PHANTOM EAST & MOJAVE RIVER-PUT IN NEW RAIL LINE FROM BNSF TO SCLA (FOR FREIGHT) PROJECT IN CONNECTION WITH NEW INTERMODAL/MULTIMODAL FACILITY ON SCLA PROPERTY	2019	\$250,000
TRANSIT	OMNITRANS	4160043		MID-VALLEY VEHICLE MAINTENANCE FACILITY	RANCHO CUCAMONGA	RANCHO CUCAMONGA	VEHICLE STORAGE AND MAINTENANCE FACILITY FOR ACCESS PARATRANSIT VEHICLES AND FUTURE BUS RAPID TRANSIT VEHICLES	2020	\$5,000
TRANSIT	OMNITRANS	4160047		NEW FAIR MEDIA TECHNOLOGY IMPLEMENTATION	SYSTEMWIDE	SYSTEMWIDE	IMPLEMENT REGIONALLY COMPATIBLE SMART FARE MEDIA SYSTEM	2019	\$3,000
TRANSIT	OMNITRANS	4160059		ROOFTOP SOLAR PROJECT	OMNITRANS FACILITIES	SYSTEMWIDE	IMPLEMENT ROOFTOP SOLAR AT OMNITRANS OPERATIONS AND MAINTENANCE FACILITIES IN MONTCLAIR AND SAN BERNARDINO AND AT THE DOWNTOWN SAN BERNARDINO TRANSIT CENTER AT E STREET AND RIALTO STREET	2019	\$5,000
TRANSIT	OMNITRANS	4160062		SAN BERNARDINO TRANSIT CENTER PHASE II	F ST AND RIALTO AVE	E ST AND RIALTO AVE	ADDITIONAL 7,000SF BUILDING WITH MEETING ROOMS / OFFICES / TRAINING CENTER AT 599 W. RIALTO AVENUE, SAN BERNARDINO, CA 92410	2021	\$7,500
TRANSIT	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4160042		METROLINK SAN BERNARDINO LINE	LOS ANGELES COUNTY LINE	REDLANDS	DOUBLE TRACKING OF REMAINING SINGLE TRACK SEGMENTS OF METROLINK SAN BERNARDINO LINE.	2040	\$487,581
TRANSIT	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4160048		ONTARIO AIRPORT SHUTTLE	RANCHO CUCAMONGA METROLINK STATION	ONTARIO AIRPORT	DIRECT SHUTTLE BUS CONNECTION FROM RANCHO CUCAMONGA METROLINK STATION TO ONTARIO AIRPORT	2020	\$4,000
TRANSIT	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4160049		PASSENGER RAIL SERVICE TO ONTARIO AIRPORT	METROLINK SAN BERNARDINO LINE	ONTARIO AIRPORT	PASSENGER RAIL SERVICE FROM SAN BERNARDINO TO METROLINK LINE TO ONTARIO AIRPORT	2040	\$1,202,699

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000s)
County: Various									
LOCAL HIGHWAY	VARIOUS AGENCIES	7120001	0	ARTERIAL OPERATIONS & MAINTENANCE	REGIONWIDE		ADDITIONAL O&M AND PRESERVATION - REGIONALLY SIGNIFICANT LOCAL STREETS & ROADS	2040	\$25,000,000
OTHER	VARIOUS AGENCIES	7120004	0	ACTIVE TRANSPORTATION	REGIONWIDE		ADDITIONAL ACTIVE TRANSPORTATION INVESTMENTS	2040	\$6,000,000
OTHER	VARIOUS AGENCIES	7120006	0	TRANSPORTATION DEMAND MANAGEMENT	REGIONWIDE		ADDITIONAL TDM INVESTMENTS	2040	\$4,500,000
OTHER	VARIOUS AGENCIES	7120018	0	GOODS MOVEMENT BOTTLENECK RELIEF STRATEGY	REGIONWIDE		GOODS MOVEMENT - BOTTLENECK RELIEF STRATEGY	2040	\$5,000,000
OTHER	VARIOUS AGENCIES	7120014, 7120015, 7120016, 7120017	0	EAST-WEST FREIGHT CORRIDOR	I-710	JUST WEST OF I-605	EAST-WEST FREIGHT CORRIDOR SEGMENTS 1, 2, & 3, INCLUDING I-15 INITIAL SEGMENTS	2040	\$20,312,357
OTHER	VARIOUS AGENCIES	7160004	0				REGIONAL PEV CHARGER PROGRAM	2040	\$300,000
OTHER		7160001					GOODS MOVEMENT - ITS STRATEGY		\$3,000,000
OTHER		7160002					FREIGHT ARTERIAL O&M		\$7,000,000
OTHER		7160003					ZERO-EMISSION GOODS MOVEMENT		\$3,000,000
OTHER		100705		INTERMODAL FACILITIES			INTERMODAL FACILITIES (SCIG & ICTF)	2016	\$1,000,000
OTHER		REG0701		HIGHWAY OPERATIONS & MAINTENANCE	REGIONWIDE		STATE HIGHWAY PRESERVATION/MAINTENANCE AND OPERATIONS PROJECTS (INCLUDES SHOPP, HIGHWAY BRIDGE PROGRAM, EMERGENCY RELIEF, PUBLIC LAND HIGHWAYS, HAZARD ELIMINATION AND SAFETY, SAFE ROUTES TO SCHOOLS, HIGH RISK RURAL ROADS, AND SECTION 130 STP RAILROAD PROG	2040	SEE FINANCIAL PLAN STATE HIGHWAY OPERATIONS AND MAINTENANCE COST
OTHER		REG0702		TRANSIT OPERATIONS & MAINTENANCE	REGIONWIDE		TRANSIT PRESERVATION/MAINTENANCE, REHABILITATION/REPLACEMENT AND OPERATIONS PROJECTS (SEE FINANCIAL PLAN TRANSIT OPERATIONS AND MAINTENANCE COST FOR PROJECT COST)	2040	SEE FINANCIAL PLAN TRANSIT OPERATIONS AND MAINTENANCE COST
OTHER		REG0703		ARTERIAL OPERATIONS & MAINTENANCE	REGIONWIDE		ARTERIAL PRESERVATION/MAINTENANCE AND OPERATIONS PROJECTS (SEE FINANCIAL PLAN LOCAL STREETS AND ROADS OPERATIONS AND MAINTENANCE COST FOR PROJECT COST)	2040	SEE FINANCIAL PLAN REGIONALLY SIGNIFICANT LOCAL STREETS AND ROADS OPERATIONS & MAINTENANCE COST

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000s)
County: Various									
OTHER		REG0704		OTHER PROGRAMS	REGIONWIDE		RECREATIONAL TRAILS, SCENIC BYWAYS, TRANSPORTATION COMMUNITY AND SYSTEM PRESERVATION PROGRAM PROJECTS (SEE FINANCIAL PLAN OTHER COST FOR PROJECT COST)	2040	SEE FINANCIAL PLAN OTHER COST
OTHER		RRC0701		REGIONAL RAIL CAPACITY PROGRAM	REGIONWIDE		RAIL PACKAGE - RAIL CAPACITY EXPANSION	2040	\$3,092,400
OTHER		RRC0702		REGIONAL RAIL CAPACITY PROGRAM	REGIONWIDE		RAIL PACKAGE - GRADE SEPARATIONS	2040	\$4,535,610
OTHER		RRC0703		GOODS MOVEMENT TECHNOLOGY DEMONSTRATION AND INITIAL DEPLOYMENT	REGIONWIDE		NEAR-TERM ZERO-EMISSION TRUCK TECHNOLOGY DEMONSTRATION AND INITIAL DEPLOYMENT. DEMONSTRATION BY 2013; INITIAL DEPLOYMENT BY 2015.	2021	\$35,000
PASSENGER RAIL		1TR1013	0	CALIFORNIA HIGH-SPEED RAIL	REGIONWIDE		CALIFORNIA HIGH-SPEED RAIL PHASE 2 - ENV/PE	2012	\$85,000
PASSENGER RAIL	CHSRA	7120010	0	CALIFORNIA HIGH-SPEED RAIL	REGIONWIDE		CALIFORNIA HIGH-SPEED RAIL - PHASE 1 (INCLUDES METROLINK AND LOSSAN CORRIDOR SPEED UPGRADES)	2040	\$34,648,921
STATE HIGHWAY	VARIOUS AGENCIES	7120003	0	HIGHWAY OPERATIONS & MAINTENANCE	REGIONWIDE		ADDITIONAL O&M AND PRESERVATION - HIGHWAYS	2040	\$2,500,000
STATE HIGHWAY	VARIOUS AGENCIES	7120005	0	TRANSPORTATION SYSTEMS MANAGEMENT	REGIONWIDE		ADDITIONAL TSM INVESTMENTS (INCLUDES CSMP IMPROVEMENTS)	2040	\$5,000,000
STATE HIGHWAY	VARIOUS AGENCIES	7120013	0	REGIONAL EXPRESS/HOT LANE NETWORK	REGIONWIDE		REGIONAL EXPRESS/HOT LANE NETWORK	2040	\$5,749,607
TRANSIT	VARIOUS AGENCIES	7120002	0	TRANSIT OPERATIONS & MAINTENANCE	REGIONWIDE		ADDITIONAL O&M AND PRESERVATION - TRANSIT	2040	\$2,500,000
TRANSIT	VARIOUS AGENCIES	7120007	0	EXPAND BUS SERVICE	REGIONWIDE		EXPAND BUS SERVICE: PRODUCTIVE CORRIDORS	2040	\$3,000,000
TRANSIT	VARIOUS AGENCIES	7120008	0	EXPAND BUS SERVICE	REGIONWIDE		EXPAND BUS SERVICE: POINT-TO-POINT	2040	\$2,000,000
TRANSIT	VARIOUS AGENCIES	7120009	0	EXPAND BUS SERVICE	REGIONWIDE		EXPAND BUS SERVICE: BRT	2040	\$1,000,000
TRANSIT	VARIOUS AGENCIES	7120012	0	CLEAN BUSES	REGIONWIDE		CARB ZERO EMISSION BUS ACCELERATION	2026	\$72,770

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Ventura									
LOCAL HIGHWAY	CAMARILLO	5A0725	0				CENTRAL AVE FROM US-101 TO CITY LIMITS (1700 FEET), WIDEN FROM 2 TO FOUR LANES AND ADD BIKE LANE.	2020	\$2,000
LOCAL HIGHWAY	CAMARILLO	VEN040502	0				SANTA ROSA ROAD FROM UPLAND ROAD TO WOODCREEK ROAD WIDEN FROM TWO TO FOUR LANES AND ADD BIKE LANES	2015	\$2,904
LOCAL HIGHWAY	CAMARILLO	VEN051211	0				LAS POSAS ROAD FROM VENTURA BLVD TO PLEASANT VALLEY ROAD WIDEN FROM 2 TO 6 LANES	2018	\$4,417
LOCAL HIGHWAY	CAMARILLO	VEN071104	0	PONDEROSA DRIVE EXTENSION	EARL JOSEPH	VENTURA BLVD	CONSTRUCT PONDEROSA EXTENSION FROM LAS POSAS RD TO SPRINGVILLE (0.9 MI) INCLUDING BIKE LANES (SPLIT FROM PROJECT 07-VEN990305)	2015	\$5,114
LOCAL HIGHWAY	CAMARILLO	VEN54019	0				IN CAMARILLO ADOLFO RD EXTENSION EXTEND ROAD EASTERLY TO CAMARILLO SPRINGS RD/US 101 (TWO-LANE UNDIVIDED ROAD)	2018	\$11,358
LOCAL HIGHWAY	FILLMORE	VEN051401	0				ROUTE 126 AND SANTA PAULA BRANCH RAILROAD AT POLE CREEK - CLASS I BIKE PATH UNDERCROSSING 0.2 MILES IN LENGTH (CMAQ INCLUDES \$8 TOLL CREDITS FOR PE.)	2017	\$1,395
LOCAL HIGHWAY	MOORPARK	5A0742	0	NORTH HILLS PARKWAY	W/B SR-118 OFF-RAMP AT PRINCETON	CITY WESTERLY LIMITS AT SR-118	CONSTRUCT 4-LANE FREEWAY (TOTAL OF BOTH DIRECTIONS) CONNECTION ON NEW ALIGNMENT	2023	\$10,664
LOCAL HIGHWAY	MOORPARK	5A0743	0	PRINCETON AVENUE	SR-118 OFFRAMP AT PRINCETON AVE	SPRING ROAD	WIDEN, REALIGN AND RECONSTRUCT FROM 2 LANES TO 2 LANES PLUS CENTER TURN LANE AND BIKE LANES	2016	\$8,000
LOCAL HIGHWAY	OJAI	5A0713	0	TOPA TOPA ST	FOX ST	MONTGOMERY ST	GAP CLOSURE EXTENSION	2019	\$780
LOCAL HIGHWAY	OJAI	5A0715	0	HERMOSA RD	AT SR 150	SR 150	INTERSECTION IMPROVEMENTS	2020	\$300
LOCAL HIGHWAY	OJAI	5A0746	0	PEARL ST	FOX ST	BALD ST	GAP CLOSURE EXTENSION	2020	\$1,515
LOCAL HIGHWAY	OJAI	VEN010203	0				OJAI VALLEY BIKE TRAIL EXTENSION/FULTON ST EXTENSION (STP INCLUDES TOLL CREDITS OF \$54 FOR FY 2010/11 CON AND \$11 FOR FY 13/14 CON)	2014	\$714
LOCAL HIGHWAY	OXNARD	5A0401	0	VICTORIA AVE	AT GONZALES RD	GONZALES ROAD	CONSTRUCT 4 LANE FLYOVER WITH LEFT TURN POCKETS	2018	\$20,000

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Ventura									
LOCAL HIGHWAY	OXNARD	5A0402	0	ROSE AVE	AT GONZALES RD	GONZALES ROAD	CONSTRUCT 4 LANE FLYOVER WITH LEFT TURN POCKETS	2019	\$20,000
LOCAL HIGHWAY	OXNARD	5A0726	0	VICTORIA AVENUE WIDENING IMPROVEMENT - B	GONZALES ROAD	OXNARD CITY LIMITS	WIDEN FROM FOUR LANES TO SIX LANES (TOTAL OF BOTH DIRECTIONS)	2030	\$8,437
LOCAL HIGHWAY	OXNARD	5G0404	0	ROSE AVE	AT SR-34 (E. FIFTH ST)	SR 34	CONSTRUCT 4 LANE GRADE SEPARATION WITH LEFT TURN POCKETS	2020	\$27,000
LOCAL HIGHWAY	OXNARD	5G0405	0	GONZALES RD	SR-1(OXNARD BLVD)	UPRR TRACKS	CONSTRUCT 6 LANE IN BOTH DIRECTIONS GRADE SEPARATION AT SR-1 (OXNARD BLVD) AND UPRR TRACKS WITH LEFT TURN POCKETS	2022	\$21,001
LOCAL HIGHWAY	OXNARD	VEN34094	0				IN OXNARD HUENEME RD SAVIERS TO ARCTURUS WIDEN AND CONSTRUCT FROM 2 TO 4 LANES (SAFETEA-LU PROJECT #735'TIP')	2014	\$2,924
LOCAL HIGHWAY	OXNARD	VEN34095	0				IN OXNARD COLONIA RD/CAMINO DEL SOL OXNARD BOULEVARD (RT 1) TO ENTRADA DR CONSTRUCT 4 LANES	2021	\$10,269
LOCAL HIGHWAY	SAN BUENAVENTURA	5A0723	0	OLIVAS PARK DRIVE	PERKIN AVE	AUTO CENTER DRIVE	CONSTRUCT 4-LANE (TOTAL OF BOTH DIRECTIONS) EXTENSION	2020	\$22,000
LOCAL HIGHWAY	SAN BUENAVENTURA	VEN990341	0				OMER RAINS BIKE PATH RESTORATION RESTORE 0.8 KM BIKEWAY SEGMENT DESTROYED BY STORMS (STPE-R IN FY13/14 INCLUDES \$113 IN TOLL CREDITS FOR CONSTRUCTION).	2015	\$1,444
LOCAL HIGHWAY	SIMI VALLEY	5A0728	0	TAPO CANYON RD	WALNUT STREET	LOST CANYON RD.	WIDEN TAPO CANYON ROAD TO ADD AN ADDITIONAL LANE IN EACH DIRECTION (FROM 2 TO 4 LANES) AND A DIVIDED CENTER MEDIAN.	2018	\$4,500
LOCAL HIGHWAY	SIMI VALLEY	5A0730	0	LOS ANGELES AVENUE	SEGMENT 1: 200' E/O ORCHID AVENUE SEGMENT 2: 200' E/O OF SEQUOIA AVENUE	SEGMENT 1: 100' W/O SYCAMORE DRIVE SEGMENT 2: 100' W/O OF DARRAH AVENUE	WIDEN SOUTH SIDE OF LOS ANGELES AVENUE BY ADDING A LANE (FROM 4 TO 5 LANES BOTH DIRECTIONS - CURRENTLY 2 LANES EACH DIRECTION)	2020	\$2,750
LOCAL HIGHWAY	SIMI VALLEY	5A0734	0	STEARNS STREET	COCHRAN STREET	LEEDS STREET	WIDENING OF STEARNS STREET TO ADD A LANE IN EACH DIRECTION (FROM 2 TO 4 LANES)	2018	\$1,500

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Ventura									
LOCAL HIGHWAY	SIMI VALLEY	5A0735	0	LOS ANGELES AVENUE	APPROXIMATELY 1250' E/O SYCAMORE DRIVE	APPROXIMATELY 1000' E/O SYCAMORE DRIVE	WIDEN TAPO CHANNEL BRIDGE AT LOS ANGELES AVENUE (15' ON THE NORTH SIDE & 20' ON THE SOUTH SIDE). THIS INCLUDES ADDITION OF ONE LANE IN EACH DIRECTION (FROM 4 TO 6 LANES BOTH DIRECTIONS), RELOCATION OF THE EXISTING UTILITIES & MODIFICATIONS TO UPSTREAM & DOWNSTREAM OF THE CHANNEL.	2020	\$1,100
LOCAL HIGHWAY	SIMI VALLEY	5A0736	0	TBD	BETWEEN FLANAGAN DRIVE	AND EVENING SKY DR.	PROVIDES THE MISSING LINK (A 60' ROAD WITH TWO LANES) BETWEEN TWO STREETS (FLANAGAN DR. & EVENING SKY DR.). FROM 0 TO 2 LANES.	2018	\$800
LOCAL HIGHWAY	SIMI VALLEY	5A0738	0	TAPO STREET	WALNUT STREET	PRESIDIO DR.	WIDENING OF TAPO STREET TO ADD A LANE IN EACH DIRECTION (FROM 2 TO 4 LANES)	2018	\$650
LOCAL HIGHWAY	SIMI VALLEY	VEN051201	0				WEST LOS ANGELES AVENUE FROM WEST CITY LIMIT TO EASY STREET 0.4 MILE CLASS II BIKE LANES - CMAQ INCLUDES \$228 OF TOLL CREDITS FOR 1/12 CON.	2013	\$1,986
LOCAL HIGHWAY	THOUSAND OAKS	VEN056407	0				HILLCREST DRIVE FROM TELLER ROAD TO DUESENBERG DRIVE - CLASS II BIKE LANES (CMAQ IN FY14/15 INCLUDES \$30 IN TOLL CREDITS FOR CONSTRUCTION).	2016	\$284
LOCAL HIGHWAY	VARIOUS AGENCIES	VENLS07	0				GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES)	2019	\$20,975
LOCAL HIGHWAY	VARIOUS AGENCIES	VEN54032	0				GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - LOCAL STREETS & ROADS SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION, EMERGENCY RELIEF (23 U.S.C. 125), WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADD TRAVEL LANES)	2019	\$31,167
LOCAL HIGHWAY	VENTURA COUNTY	5A0707	0	GRIMES CANYON ROAD	AT SR118	AT SR 118	REALIGN HITCH BLVD WITH GRIMES CANYON RD AND INTERSECTION IMPROVEMENTS	2030	\$4,222
LOCAL HIGHWAY	VENTURA COUNTY	5A0708	0	HARBOR BLVD	AT GOZALES ROAD	GONZALES ROAD	ADD 2ND SOUTHBOUND THROUGH LANE AND 2ND NORTHBOUND THROUGH LANE	2030	\$2,600

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Ventura									
LOCAL HIGHWAY	VENTURA COUNTY	5A0710	0				ON RICE AVE AT WOOLEY RD IN VENTURA COUNTY IMPROVE SIGNAL AND SIGNAL TIMING.	2014	\$250
LOCAL HIGHWAY	VENTURA COUNTY	5A0711	0	RICE AVENUE	AT CHANNEL ISLANDS BLVD	CHANNEL ISLANDS BLVD	ADD 3RD NORTHBOUND THROUGH LANE AND 3RD SOUTHBOUND THROUGH LANE AND SOUTHBOUND RIGHT-TURN LANE	2016	\$1,300
LOCAL HIGHWAY	VENTURA COUNTY	5A0719	0	SANTA CLARA AVENUE WIDENING IMPROVEMENT	N/O OXNARD CITY LIMITS	SR 118	WIDEN FROM TWO TO FOUR LANES (FROM 1 TO 2 LANES EACH DIRECTION)	2030	\$27,000
LOCAL HIGHWAY	VENTURA COUNTY	5A0720	0	HARBOR BOULEVARD WIDENING IMPROVEMENT	OXNARD CITY LIMITS	VENTURA CITY LIMITS	WIDEN FROM TWO LANES TO FOUR LANES, INCLUDING REPLACEMENT OR WIDENING OF EXISTING BRIDGE	2030	\$60,000
LOCAL HIGHWAY	VENTURA COUNTY	5A0721	0	PLEASANT VALLEY ROAD WIDENING IMPROVEMENT	DODGE RD	LAS POSAS ROAD	WIDEN FROM TWO TO FOUR LANES (TOTAL OF BOTH DIRECTIONS)	2030	\$596,123
LOCAL HIGHWAY	VENTURA COUNTY	5A0722	0	VICTORIA AVENUE WIDENING IMPROVEMENT - A	GONZALES ROAD	VENTURA CITY LIMITS	WIDEN FROM FOUR LANES TO SIX LANES (TOTAL OF BOTH DIRECTIONS - INCLUDING BRIDGE)	2025	\$16,500
LOCAL HIGHWAY	VENTURA COUNTY	VEN01202	0	HUENEME RD.	OXNARD CL	RICE RD	HUENEME RD FROM OXNARD CITY LIMITS TO RICE RD - WIDEN FROM 2 TO 4 LANES	2020	\$6,953
LOCAL HIGHWAY	VENTURA COUNTY	5A0709	0				PLEASANT VALLEY AT FIFTH ST, SIGNALIZATION OF INTERSECTION AND CONSTRUCT SECOND NORTHBOUND AND SECOND SOUTHBOUND THROUGH LANES ON PLEASANT VALLEY RD. (STP IN FY 14/15 \$9 TOLL CREDITS, AND IN FY 15/16 \$167 TOLL CREDITS).	2018	\$1,760
LOCAL HIGHWAY	VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN93017	0				REGIONAL RIDESHARE PROGRAM FOR 14/15, 15/16, 16/17, 17/18.	2019	\$3,703
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5AL04	0	MISC. ARTERIAL IMPROVEMENTS (NON-CAPACITY)	COUNTYWIDE	COUNTYWIDE	MISC. ARTERIAL IMPROVEMENTS (NON-CAPACITY)	2037	\$129,409
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5AL07	0	ARTERIAL IMPROVEMENTS	COUNTYWIDE	COUNTYWIDE	ARTERIAL IMPROVEMENTS LUMP SUM	2037	\$1,000,076
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5GL04	0	GRADE SEPARATION	COUNTYWIDE	COUNTYWIDE	GRADE SEPARATION IMPROVEMENTS	2025	\$147,271

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Ventura									
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5N011	0	ALONG SP BRANCH RAIL LINE	MONTALVO	LOS ANGELES COUNTY LINE	SANTA PAULA BRANCH RECREATIONAL TRAIL	2024	\$48,618
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	500701	0	PLANTING/ LANDSCAPING	COUNTYWIDE	COUNTYWIDE	MISC. PLANTING AND LANDSCAPING	2037	\$31,134
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	500703	0	MISC. TRANSPORTATION ENHANCEMENTS	COUNTYWIDE	COUNTYWIDE	ACTIVE TRANSPORTATION PROGRAM PROJECTS	2037	\$14,379
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5TDL04	0	TDM	COUNTYWIDE	COUNTYWIDE	MISC. TDM (NON-MOTORIZED, TELECOMMUTE, ETC.)	2039	\$31,453
LOCAL HIGHWAY	VENTURA COUNTY	5A0716	118	SOMIS RD/SR118/ DONLON DR INTERSECTION IMPROVEMENTS	DONLON ROAD	SR 34 (SOMIS RD)	WIDEN INTERSECTION, ADD TURN LANES, REALIGN DONLON ROAD (COUNTY PORTION ONLY) (REALIGNMENT PORTION COMPLETE IN 2013), ADDING EB RIGHT/ LEFT TURN LANES, NB LEFT/RIGHT TURN LANES, WB INCREASING FROM 1 TO 2 LEFT TURN LANES.	2017	\$2,100
LOCAL HIGHWAY	CAMARILLO	5160006		PONDEROSA DRIVE	LAS POSAS	SPRINGVILLE	WIDEN FROM 2 TO 4 LANES	2016	\$3,000
LOCAL HIGHWAY	OXNARD	560403		VINEYARD AVE	OXNARD BLVD	SAINT MARY'S DRIVE	CONSTRUCT 6 LANE (TOTAL OF BOTH DIRECTIONS) GRADE SEPARATION OVER UPRR TRACKS	2020	\$20,000
LOCAL HIGHWAY	SIMI VALLEY	560701		LOS ANGELES AVENUE	UPRR	UPRR TRACKS	LA STREET GRADE SEPARATION. GRADE-SEPARATE LA AVENUE (MP 437.0) IN SIMI VALLEY. REALIGN 0.30-MILE-LONG CURVE SOUTH OF LOS ANGELES STREET, CONSTRUCT LOS ANGELES AVENUE OVERPASS; CONSTRUCT 0.48 MILE OF NEW TRACK TO FRA CLASS 5 STANDARDS.	2021	\$93,000
LOCAL HIGHWAY	VENTURA COUNTY	5160003		CHANNEL ISLANDS BOULEVARD	RICE AVENUE	OXNARD CITY LIMIT	WIDEN FROM 2 TO 4 LANES	2028	\$3,448
LOCAL HIGHWAY	VENTURA COUNTY	5160004		OLIVAS PARK DRIVE	TELEPHONE ROAD	VICTORIA AVENUE	WIDEN FROM 2 TO 4 LANES	2028	\$8,345
PASSENGER RAIL	VCTC/SCRRRA	5CR104	0	METROLINK COMMUTER RAIL	IN VENTURA COUNTY	VENTURA COUNTY	METROLINK COMMUTER RAIL SERVICE IMPROVEMENTS	2039	\$37,744

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Ventura									
STATE HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5ITS04	0	ITS	COUNTYWIDE	COUNTYWIDE	MISC. ITS PROJECT IMPLEMENTATION	2039	\$63,876
STATE HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	500702	0	RETROFIT SOUNDWALL PROGRAM	COUNTYWIDE	COUNTYWIDE	RETROFIT SOUNDWALL PROGRAM	2039	\$15,727
STATE HIGHWAY	MOORPARK	VEN051213	23				IN MOORPARK RTE 23 MOORPARK AVE FROM THIRD ST TO CASEY RD WIDEN FROM 1 LANE IN EACH DIRECTION TO 1 LANE NB AND 2 LANES SB. REALIGN FIRST ST/POINDEXTER INTERSECTION AND UPGRADE RAIL CROSSING.	2017	\$2,095
STATE HIGHWAY	CALTRANS	5A0704	33	SR33/SR150	VARIOUS LOCATIONS	VARIOUS LOCATIONS	VARIOUS MINOR SPOT IMPROVEMENTS TO REDUCE CONGESTION ON SR 33 AND 150 IN OJAI VALLEY AND NEAR OJAI	2025	\$19,000
STATE HIGHWAY	OJAI	5A0705	33	SR 33	SR 33	SR 150 AT "Y"	ROUNDABOUT	2020	\$652
STATE HIGHWAY	OJAI	5A0706	33	SR 33	SR 33	CUYAMA RD	ROUNDABOUT	2020	\$460
STATE HIGHWAY	SAN BUENAVENTURA	5A0701	33	SR-33	AT STANLEY AVENUE	STANLEY AVENUE	NEW TWO-LANE FREEWAY BRIDGE FOR SB TRAFFIC	2037	\$18,000
STATE HIGHWAY	OXNARD	VEN040401	34				IN OXNARD AT RICE AVE. RAILROAD GRADE SEPARATION	2021	\$35,000
STATE HIGHWAY	CALTRANS	VEN011205- VEN011205	101				IN T.O. IMPROVEMENTS AT VAR LOCATIONS LA CNTY LINE- MOORPARK RD: CONV AUX LANES TO MF LANES, ADD 1 LANE EACH DIRECTION BY SHIFTING CL NORTHWARDS & WIDENING ON NB SIDE, REALIGN & WIDEN RAMPS; CONS TR SOUNDWALLS (EA 19521, 19522), WIDEN 3 BRIDGES ON NORTHSIDE (HAMPSHIRE UC, CONEJO SCHOOL UC, & MOORPARK UC); IMPROVE 101/23 CONNECTORS.(STP=FY 2010 APPROPS EARMARK)(INCL RT 23 PM 3.3/3.8) STPL-R FY15/16 !	2016	\$46,660

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Ventura									
STATE HIGHWAY	CALTRANS	VEN070201- VEN070201	101				NEAR MUSSEL SHOALS ADD 1 HOV LANE EACH DIR FROM MOBIL PIER ROAD UC TO S/O CASITAS PASS RD IN SANTA BARBARA CO. (PM R 39.8 TO 2.2). HOV LANES ARE PROPOSED TO BE PART-TIME (AM & PM PEAK PERIODS) ONLY. EXTEND ON/OFF-LANES AT MUSSEL SHOALS & LA CONCHITA FOR BETTER ACCEL AND DECEL; KEEP AS SINGLE LANES. CLOSE EXISTING 3 MEDIAN OPENINGS LOCATED NEAR LA CONCHITA AND MUSSEL SHOALS AND TANK FARM.	2016	\$87,760
STATE HIGHWAY	CAMARILLO	VEN031226- VEN031226	101				IN CAMARILLO ROUTE 101 AT PLEASANT VALLEY ROAD IMPROVE INTERSECTION WITH SOUTHBOUND RAMP - WIDEN ONRAMP ENTRANCE FROM 1 TO 2 LANES AND ADD TURN LANES	2019	\$1,053
STATE HIGHWAY	CAMARILLO	VEN051210	101				IN CAMARILLO RECONFIGURE CENTRAL AVENUE / ROUTE 101 INTERCHANGE (INCLUDES CENTRAL AVE BRIDGE WIDENING FROM 1 TO 2 LANES EACH DIRECTION)	2019	\$37,861
STATE HIGHWAY	OXNARD	VEN051006- VEN051006	101				IN OXNARD AT DEL NORTE BOULEVARD - IMPROVE INTERCHANGE, WIDEN DEL NORTE BRIDGE OVER 101 (FROM VENTURA BLVD TO RTE 101 SB RAMP) FROM 2 TO 4 LANES PLUS LEFT-TURN LANE. ADD NB LOOP ONRAMP AND REALIGN AND IMPROVE OTHER RAMP.	2020	\$56,700
STATE HIGHWAY	SAN BUENAVENTURA	VEN010202	101				RECONFIGURE N/B CALIFORNIA ST OFFRAMP (RECONFIGURE RAMP TO TERMINATE AT OAKS ST INSTEAD OF THE CURRENT CALIFORNIA ST LOCATION)	2017	\$24,720
STATE HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5160001	101	VENTURA FREEWAY	MOORPARK ROAD	SR-33	ADD ONE HOV LANE IN EACH DIRECTION.	2029	\$700,000
STATE HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5160005	101	VENTURA FREEWAY	N/O JOHNSON DRIVE	FLYNN OFF RAMP	ADD AUXILIARY LANES	2029	\$229,175
STATE HIGHWAY	CALTRANS	5120001	118	ROUTE 118	TAPO CYN RD	LA AVENUE	ADD ONE LANE EA DIR FROM RT 23 (NEW LA AVE) TO TAPO CYN RD (PENDING ENVIRONMENTAL CLEARANCE) (EA 22550, PPNO 3002)	2025	\$216,463
STATE HIGHWAY	CALTRANS	50M0701	118	SR-118	SR 23	SR 34	CONSTRUCT NEW WEIGH STATION	2025	\$21,769

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Ventura									
STATE HIGHWAY	MOORPARK	12020	118				IN MOORPARK LOS ANGELES AVE WIDEN FROM 4 TO 6 LANES BETWEEN MAUREEN AND LETAYANCY	2015	\$950
STATE HIGHWAY	MOORPARK	5A0703	118	SR-118	AT COLLINS DRIVE	COLLINS DRIVE	INTERCHANGE AND SIGNAL IMPROVEMENT. WIDEN W/B OFF-RAMP TO ADD A FREE RIGHT- TURN LANE AND SIGNAL MODIFICATION.	2020	\$1,800
STATE HIGHWAY	MOORPARK	VEN34089	118				IN MOORPARK L.A. AVE FROM ROUTE 23 (MOORPARK AVE) TO E/O SPRING (0.6 MI) RECONSTRUCT SIDEWALKS, REALIGN ROADWAY AND WIDEN FROM 4 TO 6 LANES	2015	\$1,158
STATE HIGHWAY	SIMI VALLEY	6566-6566	118				NEAR SIMI VALLEY AT ALAMOS CYN RD. ADD RAMPS	2020	\$2,560
STATE HIGHWAY	SIMI VALLEY	VEN051003	118				IN SIMI VALLEY LANDSCAPE ENHANCEMENTS FROM WESTERN CITY LIMIT TO EASTERN CITY LIMIT.	2015	\$1,400
STATE HIGHWAY	CALTRANS	50M0702- VENLS13	999				GROUPED PROJECTS FOR SAFETY IMPROVEMENTS, SHOULDER IMPROVEMENTS, PAVEMENT RESURFACING AND/OR REHAB-MINOR PROGRAM. PROJECTS CONSISTENT WITH 40CFR PART 93.126 EXEMPT TABLES 2 AND 3 CATEGORIES -- RAILROAD/HIGHWAY CROSSING, SAFER NONFEDERALAID SYSTEM ROADS, SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES & OPERATING ASSIST OTHER THAN SIGNALIZATION, INTERSECTION SIGNALIZATION AT INDIVIDUAL INTERSECTIONS.	2017	\$3,537
STATE HIGHWAY	VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN54187	999				5% FOR PLANNING, PROGRAMMING, & MONITORING	2019	\$2,887
TRANSIT	CAMARILLO	VEN050401	0				OPERATING ASSISTANCE - CAMARILLO AREA TRANSIT	2018	\$5,010
TRANSIT	CAMARILLO	VEN061000	0				CAMARILLO RAIL STATION AND BUS MAINTENANCE	2018	\$700
TRANSIT	GOLD COAST TRANSIT	50M0702- VEN120404	0				OPERATING ASSISTANCE - THREE YEAR DEMONSTRATION PROJECT. SERVICE ENDS FY2014/15.	2013	\$2,354
TRANSIT	GOLD COAST TRANSIT	50M0702- VEN130801	0				OPERATING ASSISTANCE FOR TRANSIT	2016	\$4,200
TRANSIT	GOLD COAST TRANSIT	VEN057404	0				PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES - REPLACE MAINTENANCE EQUIPMENT	2016	\$270

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Ventura									
TRANSIT	GOLD COAST TRANSIT	VEN057414	0				MIS EQUIPMENT REPLACE/UPGRADE	2016	\$112
TRANSIT	GOLD COAST TRANSIT	VEN54056	0				PLANNING/IMPLEMENTATION OF COORDINATED PARATRANSIT	2017	\$1,218
TRANSIT	GOLD COAST TRANSIT	VEN54095	0				OPERATING ASSISTANCE - ADA PARATRANSIT CAPITAL	2017	\$1,449
TRANSIT	GOLD COAST TRANSIT	VEN990602	0				TRANSIT PLANNING & PROGRAMMING (PLANNING: PROGRAM SUPPORT & ADM)	2017	\$669
TRANSIT	GOLD COAST TRANSIT	VEN54057	0				MARKETING & PASSENGER AWARENESS ACTIVITIES (PLANNING: PROGRAM SUPPORT & ADM)	2017	\$2,659
TRANSIT	GOLD COAST TRANSIT	VEN64003	0				PREVENTIVE MAINTENANCE - FIXED ROUTE & ADA	2017	\$8,063
TRANSIT	MOORPARK	VEN030608	0				CAPITAL MAINTENANCE FOR MOORPARK TRANSIT - BUSES AND TRANSIT CENTER (MOORPARK RAIL STATION)	2019	\$1,124
TRANSIT	MOORPARK	VEN031218	0				REALIGN MOORPARK RAIL STATION SOUTH PARKING LOT ENTRANCE	2015	\$983
TRANSIT	OJAI	VEN34253	0				OPERATING ASSISTANCE - FIXED ROUTE	2018	\$2,348
TRANSIT	SAN BUENAVENTURA	5TC0701	0	MULTIMODAL TRANSPORTATION CENTER	IN DOWNTOWN VENTURA	IN DOWNTOWN VENTURA	SERVICE CENTER, PARKING, LAYOVER, AND RETAIL SPACE FOR RAIL, BUS, AND BICYCLE COMMUTERS.	2020	\$50,000
TRANSIT	SAN BUENAVENTURA	VEN061007	0				MILLS ROAD AT TELEGRAPH ADJACENT TO PACIFIC VIEW MALL - BUS TURNOUTS WITH BUS SHELTERS, AND OTHER BUS STOP AMENITIES, PLUS STANDARD BUS SHELTERS CITYWIDE	2014	\$359
TRANSIT	SIMI VALLEY	50M0702-VEN120602	0				OPERATING ASSISTANCE - 3 YEAR DEMONSTRATION. SERVICE ENDS FY2017-18.	2015	\$3,200
TRANSIT	SIMI VALLEY	VEN01214	0				DBE GOAL EVALUATION/SETTING CONSULTING SERVICE	2016	\$30
TRANSIT	SIMI VALLEY	VEN020902	0				FINANCIAL MANAGEMENT SYSTEM	2016	\$384
TRANSIT	SIMI VALLEY	VEN051207	0				REPLACE 16 PERSONAL AND LAPTOP COMPUTERS	2018	\$28
TRANSIT	SIMI VALLEY	VEN055412	0				THREE (3) REPLACEMENT PARATRANSIT VANS (CMAQ INCLUDES TRANSPORTATION DEVELOPMENT CREDIT OF \$36 IN FY 10/11)	2015	\$317
TRANSIT	SIMI VALLEY	VEN34206	0				OPERATING ASSISTANCE - FIXED ROUTE	2018	\$16,957
TRANSIT	SIMI VALLEY	VEN981107	0				ADA SERVICE - PARATRANSIT CAPITAL	2018	\$4,657
TRANSIT	SIMI VALLEY	VEN981118	0				PREVENTIVE MAINTENANCE	2018	\$11,826

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Ventura									
TRANSIT	SIMI VALLEY	VEN055413	0				ONE EXPANSION CNG PARATRANSIT VAN	2015	\$128
TRANSIT	SOUTHERN CALIF REGIONAL RAIL AUTHORITY	VEN990609	0				SYSTEMWIDE REHABILITATION AND RENOVATION INCLUDING THE PURCHASE OF REPLACEMENT LOCOMOTIVES WITH TIER-4 TECHNOLOGY, TRACK, SIGNALS, PLATFORMS, POWER SYSTEMS, FACILITIES, ROLLING STOCK, EQUIPMENT, SIGNAGE (TOLL CREDITS OF \$3,738 IN 14/15, \$1,816 IN EACH OF YEARS 15/16, 16/17 & 17/18)	2018	\$45,926
TRANSIT	THOUSAND OAKS	VEN030611	0				PREVENTIVE MAINTENANCE - THOUSAND OAKS TRANSIT FIXED-ROUTE AND DIAL-A-RIDE VEHICLES AND FACILITIES INCLUDING TRANSIT CENTER AND BUS STOPS	2017	\$1,841
TRANSIT	THOUSAND OAKS	VEN030612	0				ADA SERVICE - CAPITAL LEASE	2017	\$405
TRANSIT	VARIOUS AGENCIES	VEN051005	0				GROUPED PROJECTS FOR OPER ASST, PLNG, PUR OF REPL VEH OR MIN EXP - ELDERLY & DISABLED NEW FREEDOMS INITIATIVE (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127.128, EXEMPT TABLES 2&3- PURCHASE OF NEW BUSES TO REPLACE EXIST VEH OR MINOR EXP; OPER ASST TO TRANSIT AGENCIES; PLNG ACT PURS TTLS 23&49 USC).	2018	\$888
TRANSIT	VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN010406	0				FARE COLLECTION PASSENGER COUNTING DATA MANAGEMENT	2018	\$1,910
TRANSIT	VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN010409	0				EAST COUNTY ADA PARATRANSIT SERVICE OPERATIONS	2014	\$238
TRANSIT	VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN040405	0				NEXT BUS UPGRADE FOR REAL-TIME BUS STOP SIGNAGE (TRANSIT ENHANCEMENTS)	2018	\$655
TRANSIT	VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN34348	0				TRANSIT PROGRAMMING & PLANNING	2018	\$2,909
TRANSIT	VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN54069	0				TRANSIT INFORMATION CENTER	2018	\$1,502

TABLE 2 Financially-Constrained RTP Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost (\$1,000's)
County: Ventura									
TRANSIT	VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN54070	0				TRANSIT MARKETING (CMAQ INCLUDES TRANSP DEVEL CREDITS OF \$58 IN FY14/15, FY15/16, FY16/17, AND FY 17/18)	2019	\$4,346
TRANSIT	VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN54115	0				VCTC BUS SYSTEM PLANNING	2018	\$2,009
TRANSIT	VENTURA COUNTY TRANS COMMISSION (VCTC)	50M0702- VEN130803	0				OPERATING ASSISTANCE FOR HERITAGE VALLEY TRANSIT SERVICE	2018	\$2,094
TRANSIT	VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN059401	0				FARE COLLECTION AND RIDERSHIP MONITORING EQUIPMENT AND MAINTENANCE	2018	\$2,017
TRANSIT	VENTURA COUNTY TRANS COMMISSION (VCTC)	VEN54036	0				IN VENTURA COUNTY VCTC INTERCITY CAPITAL LEASE/ MAINTENANCE CONTRACT	2019	\$32,285
TRANSIT	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5TL04	0	TRANSIT SERVICE EXPANSION	COUNTYWIDE	COUNTYWIDE	COUNTYWIDE TRANSIT SERVICE EXPANSION	2039	\$31,453
TRANSIT	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5TL0702	0	PLANNING & ADMINISTRATION	COUNTYWIDE	COUNTYWIDE	TRANSIT PLANNING & ADMINISTRATION	2039	\$52,423
TRANSIT	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5TL0703	0	BUS EXPANSIONS (INCLUDES PARATRANSIT)	COUNTYWIDE	COUNTYWIDE	BUS EXPANSIONS (INCLUDES PARATRANSIT)	2039	\$47,180
TRANSIT	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5TL0706	0	FACILITY IMPROVEMENTS	COUNTYWIDE	COUNTYWIDE	NEW TRANSIT FACILITIES & IMPROVEMENTS	2039	\$31,453
TRANSIT	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5TL0707	0	MISC. ITEMS AND AMENITIES, ENHANCEMENTS	COUNTYWIDE	COUNTYWIDE	MISC. TRANSIT ITEMS	2039	\$15,727

ADDITIONAL TRANSPORTATION SYSTEMS MANAGEMENT (TSM) PROJECTS (INCLUDED IN RTP ID 7120005)

TABLE 3 Additional Transportation System Management (TSM) Projects (Included in RTP ID 7120005)

County	System	Category	Route Name	From	To	Description
LOS ANGELES	LOCAL HIGHWAY	ITS	1ST ST	INDIANA ST	MEDNIK AV	1ST ST SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	ALAMEDA ST	SLAUSON AV	NADEAU ST	ALAMEDA ST SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	AMAR RD/TEMPLE AV	NOGALES ST	GOLDEN SPRINGS DR	AMAR RD/TEMPLE AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	ANZA AV	190TH ST	PACIFIC COAST HWY	ANZA AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	ARROYO PKWY	COLORADO BL	GLENARM ST	ARROYO PKWY SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	ATLANTIC BL/ATLANTIC AV	PINE ST	PACIFIC COAST HWY	ATLANTIC BL/ATLANTIC AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	BALDWIN AV	FOOTHILL BL	I-10	BALDWIN AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	BARRANCA AV/BARRANCA ST	SIERRA MADRE AV	CAMERON AV	BARRANCA AV/BARRANCA ST SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	BASE LINE ST	FOOTHILL BL	COUNTY LINE	BASE LINE ST SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	BEVERLY BL	POMONA ST	PAINTER AV	BEVERLY BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	BLOOMFIELD AV	ROSECRANS AV	DEL AMO BL	BLOOMFIELD AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	BOUQUET CANYON RD	PLUM CANYON RD	SOLEADAD CANYON RD	BOUQUET CANYON RD SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	BROADWAY	124TH ST	157TH ST	BROADWAY SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	CITRUS AV	FOOTHILL BL	ARROW HWY	CITRUS AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	CITY TERRACE DR	INDIANA ST	EASTERN AV	CITY TERRACE DR SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	COLORADO BL	ORANGE GROVE BL	MICHELLINDA AV	COLORADO BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	COLORADO ST	MICHELLINDA AV	COLORADO PL	COLORADO ST SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	COMPTON AV	IMPERIAL HWY	EL SEGUNDO BL	COMPTON AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	COMPTON AV	SLAUSON AV	92ND ST	COMPTON AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	DELA MO BL	AVALON BL	BLOOMFIELD AV	DELA MO BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	DIAMOND BAR BL/MISSION BL	BREA CANYON RD	COUNTY LINE	DIAMOND BAR BL/MISSION BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	DUARTE RD	SAN GABRIEL BL	HIGHLAND AV	DUARTE RD SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	E VICTORIA ST	SANTA FE AV	SUSANA RD	E VICTORIA ST SIGNAL SYNCHRONIZATION

Source:

TABLE 3 Additional Transportation System Management (TSM) Projects (Included in RTP ID 7120005) - Continued

County	System	Category	Route Name	From	To	Description
LOS ANGELES	LOCAL HIGHWAY	ITS	EL SEGUNDO BL	BROADWAY	N CENTRAL AV	EL SEGUNDO BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	FLORAL AV	EASTERN AV	MEDNIK AV	FLORAL AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	FOOTHILL AV	LOWELL AV	BRIGGS AV	FOOTHILL AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	FREMONT AV	COLUMBIA ST	GARVEY AV	FREMONT AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	GAREY AV	COLLEGE WY	SR-60	GAREY AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	GARFIELD AV	PINE ST	OLYMPIC BL	GARFIELD AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	GARVEY AV	ROSEMEAD BL	DURFEE AV	GARVEY AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	GATEWAY CITIES FORUM ITS			GATEWAY CITIES FORUM ITS
LOS ANGELES	LOCAL HIGHWAY	ITS	GRAND AV	ROWLAND ST	LONGVIEW DR	GRAND AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	HASLEY CANYON RD/COMMERCE CENTER	BURLWOOD DR	I-5	HASLEY CANYON RD/COMMERCE CENTER SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	HAWTHORNE BL	104TH ST	MANHATTAN BEACH BL	HAWTHORNE BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	HAWTHORNE BL	244TH ST	PALOSVERDES DR WEST	HAWTHORNE BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	HOOPER AV	SILAUSON AV	92ND ST	HOOPER AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	HUNTINGTON DR/FOOTHILL BL/ALOSTA AV	FAIR OAKS AV	COUNTY LINE	HUNTINGTON DR/FOOTHILL BL/ALOSTA AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	IMPERIAL HWY	MONA BL	1ST AV	IMPERIAL HWY SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	INDIAN HILL BL	AMERICAN AV	HOLT AV	INDIAN HILL BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	INGLEWOOD AV	104TH ST	11TH PL	INGLEWOOD AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	IRWINDALE AV	BADILLO ST	CAMERON AV	IRWINDALE AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	IRWINDALE AV	FOOTHILL BL	ARROW HWY	IRWINDALE AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	LA BREA AV	CENTINELA AV	CENTURY BL	LA BREA AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	LA CRESCENTA AV	ORANGE AV	I-210	LA CRESCENTA AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	LAMBERT RD	WASHINGTON BL	GRAYLING AV	LAMBERT RD SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	LAUREL PARK RD	E VICTORIA ST	ALAMEDA ST	LAUREL PARK RD SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	LEFFINGWELL RD	IMPERIAL HWY	VALLEY VIEW AV	LEFFINGWELL RD SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	LENNOX BL	INGLEWOOD AV	FREEMAN AV	LENNOX BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	LONE HILL AV	ROUTE 66	COVINA BL	LONE HILL AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	LYONS AV	WILEY CANYON RD	NEW HALL AV	LYONS AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	MAIN ST	EL SEGUNDO BL	REDONDO BEACH BL	MAIN ST SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	MANCHESTER AV	HOOPER AV	IVY ST	MANCHESTER AV SIGNAL SYNCHRONIZATION

TABLE 3 Additional Transportation System Management (TSM) Projects (Included in RTP ID 7120005) - Continued

County	System	Category	Route Name	From	To	Description
LOS ANGELES	LOCAL HIGHWAY	ITS	MANHATTAN BEACH BL	MANHATTAN AV	VAN NESS AV	MANHATTAN BEACH BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	MCBEAN PKWY/STEVENSON RANCH PKWY	COPPER HILL DR	THE OLD ROAD	MCBEAN PKWY/STEVENSON RANCH PKWY SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	MIRAMONTE BL	76TH ST	83RD ST	MIRAMONTE BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	MISSION RD	WINCHESTER AV	SANTA ANITA ST	MISSION RD SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	MONTEBELLO BL/GREENWOOD AV	PARAMOUNT BL	UNION ST	MONTEBELLO BL/GREENWOOD AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	MONTRÖSE AV	FLORENCITA AV	DEL MAR RD	MONTRÖSE AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	MOUNTAIN AV	FOOTHILL BL	DUARTE RD	MOUNTAIN AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	MYRTLE AV/PECK RD/WORKMAN MILL RD/NORWALK BL/SAN ANTONIO BL/ANTONIO BL/PIONEER BL	HUNTINGTON DR	CARSON ST	MYRTLE AV/PECK RD/WORKMAN MILL RD/NORWALK BL/SAN ANTONIO BL/PIONEER BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	NADEAU ST	HOOPER AV	SANTA FE AV	NADEAU ST SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	NORMANDIE AV	89TH ST	EL SEGUNDO BL	NORMANDIE AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	NORWALK AV	ROSECRANS AV	CARSON ST/ WARDLOW RD	NORWALK AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	OCEANVIEW BL	FOOTHILL FWY	FLORENCITA AV	OCEANVIEW BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	OLYMPIC BL	INDIANA ST	CONCOURSE AV	OLYMPIC BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	PACIFIC BL	LIVE OAK ST	BROADWAY	PACIFIC BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	PENNSYLVANIA AV	ORANGE AV	I-210	PENNSYLVANIA AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	PICO CANYON RD	DEAD HORSE CYN	I-5	PICO CANYON RD SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	PRAIRIE AV	118TH ST	REDONDO BEACH BL	PRAIRIE AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	RAMONA BL/BADILLO ST/COVINA BL	SANTA ANITA AV	I-210	RAMONA BL/BADILLO ST/COVINA BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	RAMSDELL AV	ORANGE AV	MONTRÖSE AV	RAMSDELL AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	REDONDO BEACH BL/ COMPTON BL/SOMERSET BL	FREEMAN AV	WOODRUFF AV	REDONDO BEACH BL/COMPTON BL/SOMERSET BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	ROSECRANS AV	BROADWAY	MERCADO AV	ROSECRANS AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	ROSEMEAD BL	RUSH ST	TELEGRAPH RD	ROSEMEAD BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	ROSEMEAD BL	SAN GABRIEL BL	HUNTINGTON DR	ROSEMEAD BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	ROSEMONT AV	FOOTHILL BL	MONTRÖSE AV	ROSEMONT AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	RYE CANYON RD/COPPER HILL RD	THE OLD ROAD	MCBEAN PKWY	RYE CANYON RD/COPPER HILL RD SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	SAN DIMAS AV	FOOTHILL BL	VIA VERDE	SAN DIMAS AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	SAN FERNANDO VALLEY FORUM ITS			SAN FERNANDO VALLEY FORUM ITS
LOS ANGELES	LOCAL HIGHWAY	ITS	SAN GABRIEL VALLEY FORUM ITS			SAN GABRIEL VALLEY FORUM ITS

TABLE 3 Additional Transportation System Management (TSM) Projects (Included in RTP ID 7120005) - Continued

County	System	Category	Route Name	From	To	Description
LOS ANGELES	LOCAL HIGHWAY	ITS	SAN PEDRO ST	EL SEGUNDO BL	157TH ST	SAN PEDRO ST SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	SANTA ANITA AV	FOOTHILL BL	DURFEE AV	SANTA ANITA AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	SANTA FE SPRINGS RD/BLOOMFIELD AV	WHITTIER BL	FIRESTONE BL	SANTA FE SPRINGS RD/BLOOMFIELD AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	SEVILLE AV	GRAND AV	BROADWAY	SEVILLE AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	SLAUSON AV	COMPTON AV	STAMY RD	SLAUSON AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	SOLEDAD CANYON RD	GOLDEN OAK RD	GATEON RD	SOLEDAD CANYON RD SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	SOUTH BAY FORUM ITS			SOUTH BAY FORUM ITS
LOS ANGELES	LOCAL HIGHWAY	ITS	SOUTH ST	ATLANTIC AV	CARMENITA RD	SOUTH ST SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	STEVENSON RANCH PKWY	PICO CYN	I-5	STEVENSON RANCH PKWY SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	SUSANA RD	VICTORIA ST	DEL AMO BL	SUSANA RD SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	TELEGRAPH RD	EASTERN AV	SPRINGVIEW DR	TELEGRAPH RD SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	TEMPLE CITY BL	DUARTE RD	I-10	TEMPLE CITY BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	THE OLD ROAD	HASLEY CYN	PICO CYN	THE OLD ROAD SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	TOWNE AV	BASE LINE RD	SR-60	TOWNE AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	UNION PACIFIC AV	INDIANA ST	MARIANNA AV	UNION PACIFIC AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	VALLEY BL	TEMPLE CITY BL	DURFEE AV	VALLEY BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	VALLEY VIEW AV	LEFFINGWELL RD	FIRESTONE BL SOUTH	VALLEY VIEW AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	WASHINGTON BL	GRAND VISTA AV	SORENSEN AV	WASHINGTON BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	WESTERN AV	104TH ST	111TH ST	WESTERN AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	WHITE AV	FOOTHILL BL	LEXINGTON AV	WHITE AV SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	WHITTIER BL	INDIANA ST	PARAMOUNT BL	WHITTIER BL SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	WILLOW ST	I-710	I-605	WILLOW ST SIGNAL SYNCHRONIZATION
LOS ANGELES	LOCAL HIGHWAY	ITS	WILLOWBROOK AV	124TH ST	STOCKWELL ST	WILLOWBROOK AV SIGNAL SYNCHRONIZATION
ORANGE	LOCAL HIGHWAY	ARTERIAL OPERATIONAL IMPROVEMENTS ITS	CENTRAL COUNTY ARTERIALS			ADDITIONAL ARTERIAL AND INTERSECTION OPTIMIZATION - ADDITIONAL TURN LANES, ADVANCED TRAFFIC MANAGEMENT SYSTEMS, COMMUNICATIONS, IMPROVED LIGHTING AND SAFETY TREATMENTS ON 9 ARTERIALS AND AT 60 INTERSECTIONS IDENTIFIED IN CENTRAL COUNTY MIS

STRATEGIC PROJECTS

TABLE 4 Strategic Projects

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
IMPERIAL	LOCAL HIGHWAY	S6120017		EIGHTH STREET	WAKE AVENUE	CENTINELA	WIDEN AND IMPROVE TO FOUR LANE PRIME ARTERIAL INCLUDING WIDENING OF OVERCROSSING AT I-8	EL CENTRO
IMPERIAL	LOCAL HIGHWAY	S6120018		IMPERIAL AVENUE	INTERSTATE 8	ATEN ROAD	WIDEN AND IMPROVE TO SIX LANE PRIME ARTERIAL	EL CENTRO
IMPERIAL	LOCAL HIGHWAY	S6120019		IMPERIAL AVENUE	MCCABE ROAD	INTERSTATE 8	CONSTRUCT SIX LANE PRIME ARTERIAL	EL CENTRO
IMPERIAL	LOCAL HIGHWAY	S6160001					CONSTRUCT 1.5 MILE MULTIMODAL LANE FOR NEIGHBORHOOD ELECTRIC VEHICLE (NEV), PEDESTRIAN, AND BICYCLES; AND ACQUISITION OF UNION PACIFIC RAILROAD WITHIN THE CITY OF HOLTVILLE	HOLTVILLE
IMPERIAL	LOCAL HIGHWAY	S6160002					DEVELOP 4.47 MILES OF CLASS I & II OF BICYCLE LANES WITHIN THE CITY OF HOLTVILLE	HOLTVILLE
IMPERIAL	LOCAL HIGHWAY	S6160003					CONSTRUCT TWO NEIGHBORHOOD ELECTRIC VEHICLE (NEV) CHARGING STATIONS AND DESIGNATED NEV PARKING SPACES WITHIN THE CITY OF HOLTVILLE	HOLTVILLE
IMPERIAL	LOCAL HIGHWAY	S6120014		AUSTIN ROAD	MCCABE ROAD	STATE ROUTE 86	WIDEN AND IMPROVE TO SIX LANE PRIME ARTERIAL	IMPERIAL COUNTY
IMPERIAL	LOCAL HIGHWAY	S6120015		DOGWOOD ROAD	STATE ROUTE 98	MEAD ROAD	WIDEN AND IMPROVE TO FOUR LANE PRIME ARTERIAL	IMPERIAL COUNTY
IMPERIAL	LOCAL HIGHWAY	S6120020		KEYSTONE ROAD	FORRESTER ROAD	STATE ROUTE 115	CONSTRUCT NEW SIX LANE PRIME ARTERIAL ON THE KEYSTONE ROAD CURRENT ALIGNMENT	IMPERIAL COUNTY
IMPERIAL	LOCAL HIGHWAY	S6120021		MCCABE ROAD	AUSTIN ROAD	STATE ROUTE 111	WIDEN AND IMPROVE TO SIX LANE PRIME ARTERIAL	IMPERIAL COUNTY
IMPERIAL	LOCAL HIGHWAY	S6120027		ATEN ROAD (IMPERIAL)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120029		DOGWOOD ROAD (IMPERIAL COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120028		EVAN HEWES HIGHWAY (IMPERIAL COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION

Source:

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
IMPERIAL	LOCAL HIGHWAY	S6120030		HEBER AVENUE (IMPERIAL COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120026		KEYSTONE ROAD (IMPERIAL COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120024		MALAN STREET (BRAWLEY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120025		MEAD ROAD (BRAWLEY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120023		SR-78/SR-111 (BRAWLEY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120022		WARD ROAD (IMPERIAL COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120031		WEST COLE ROAD (CALEXICO)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	STATE HIGHWAY	S6120003	111	STATE ROUTE 111	INTERSTATE 8	STATE ROUTE 78	WIDEN AND IMPROVE TO SIX LANE FREEWAY, ADD INTERCHANGES AT ATEN ROAD, WORTHINGTON ROAD, KEYSTONE ROAD, AND SR-78	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120004	111	STATE ROUTE 111	SHANK ROAD	STATE ROUTE 115	WIDEN AND IMPROVE TO FOUR LANE CONVENTIONAL HIGHWAY	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120005	111	STATE ROUTE 111	YOUNG ROAD	RIVERSIDE COUNTY LINE	WIDEN AND IMPROVE TO FOUR LANE CONVENTIONAL HIGHWAY	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120006	115	STATE ROUTE 115	STATE ROUTE 111	STATE ROUTE 78	WIDEN AND IMPROVE TO FOUR LANE EXPRESSWAY	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120001	8	INTERSTATE 8	AUSTIN ROAD	AUSTIN ROAD	CONSTRUCT FULL INTERCHANGE	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120002	8	INTERSTATE 8	BOWKER ROAD	BOWKER ROAD	IMPROVE INTERCHANGE	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120009	115	STATE ROUTE 115	EVAN HEWES HIGHWAY	STATE ROUTE 78	WIDEN AND IMPROVE TO FOUR LANE EXPRESSWAY	CALTRANS

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
IMPERIAL	STATE HIGHWAY	S6120007	7	STATE ROUTE 7	MCCABE ROAD	MCCABE ROAD	CONSTRUCT NEW INTERCHANGE TO ACCOMMODATE FUTURE AIRPORT ACCESS	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120010	78/86	STATE ROUTE 78/STATE ROUTE 86 (DUAL SIGNED)	BRAWLEY BYPASS	STATE ROUTE 78	CONSTRUCT NEW FOUR LANE EXPRESSWAY BYPASS ROUTE AROUND THE CITY OF WESTMORLAND	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120008	8	INTERSTATE 8	FORRESTER ROAD	STATE ROUTE 111	WIDEN AND IMPROVE TO SIX LANE FREEWAY	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120011	98	STATE ROUTE 98	DOGWOOD ROAD	STATE ROUTE 111	CONSTRUCT GRADE SEPARATED RAILROAD CROSSINGS, NEW ROADWAY SEGMENTS, SIGNALIZATION, CHANNELIZATION, AND ROADWAY GEOMETRIC IMPROVEMENTS.	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120012	78/115	STATE ROUTE 78/STATE ROUTE 115 (JUNCTION)	BRAWLEY BYPASS	STATE ROUTE 115	WIDEN AND IMPROVE TO FOUR LANE CONVENTIONAL HIGHWAY	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120013	78	STATE ROUTE 78	STATE ROUTE 115	RIVERSIDE COUNTY LINE	PROVIDE OPERATIONAL AND SAFETY IMPROVEMENTS; INTERSECTION IMPROVEMENTS AND ROADWAY GEOMETRIC IMPROVEMENTS	CALTRANS
LOS ANGELES	LOCAL HIGHWAY	S1120187		SLAUSON AVENUE	110 FWY	ALAMEDA ST	DESIGN AND CONSTRUCTION OF STREET IMPROVEMENTS AND SIGNAGE FOR COMMERCIAL VEHICLES	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120167		OLYMPIC BOULEVARD	SOTO ST		IMPROVEMENTS TO THE INTERSECTION BY INCREASING THE CURB RETURN RADIUS OF ALL FOUR CORNERS AND OLYMPIC BLVD APPROACHES. ROW REQUIRED	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120143		FALLBROOK AVENUE	VICTORY BLVD		WIDENING TO ADD WESTBOUND RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120144		FIGUEROA STREET	146TH ST	REDONDO BEACH BLVD	WIDEN FIGUEROA ST TO MAJOR HIGHWAY STANDARD FROM 62 FT TO 80 FT TO PROVIDE THREE LANES IN EACH DIRECTION	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120145		FLETCHER STREET BRIDGE	LA RIVER		WIDEN TO INCREASE CAPACITY AND IMPROVE ACCESS TO I-5 FWY; ADD BIKE LANES AND SIDEWALKS	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120146		FOOTHILL BOULEVARD	BALBOA BLVD		WIDEN NORTH OF BALBOA BLVD OVER CULVERT AND WIDEN WEST LEG OF FOOTHILL BLVD AT BALBOA BLVD. UPGRADE TRAFFIC SIGNAL TO IMPROVE INTERSECTION CAPACITY	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120147		FOREST LAWN DRIVE	NEAR SR-134 BRIDGE	/LA RIVER	CONSTRUCT A NEW BRIDGE WITH BIKE PATH (INCLUDING EQUESTRIAN TRAIL) OVER LA RIVER AT LAEC. RE-ALIGN THE SR-134 FREEWAY ON/OFF RAMP AT FOREST LAWN DR. TO IMPROVE FLOW AND CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120148		FOUNTAIN AVENUE	SUNSET BLVD	WESTERNAVE	WIDEN FOUNTAIN AVE TO ADD A LEFT-TURN LANE AT EACH INTERSECTION-ROW ACQUISITION NEEDED	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120149		GLENDAKS BOULEVARD	SUNLAND BLVD		WIDEN GLENDAKS BLVD TO PROVIDE AN EASTBOUND RIGHT-TURN LANE	LOS ANGELES CITY

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1120150		GRAND AVENUE BRIDGE	CESAR CHAVEZ AVE	TEMPLE ST	WIDEN BRIDGE OVER US-101 FWY TO IMPROVE ACCESS TO US-101, SR-110, FUTURE SCHOOL AND GRAND AVE.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120151		GRAND AVENUE BRIDGE	OVER US 101 FWY		WIDEN THE EXISTING BRIDGE TO PROVIDE DUAL LEFT-TURN LANE ONTO THE 101 AND 110 FREEWAYS ON-RAMPS, INCLUDES, AND ADD THROUGH LANE AND RIGHT-TURN LANE, AND WIDEN SIDEWALK.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120152		IMPERIAL HIGHWAY	SEPULVEDA BLVD	PERSHING DR	WIDEN TO PROVIDE CONTINUOUS THREE THROUGH LANES IN EACH DIRECTION	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120153		IRWIN STREET	OWENSMOUTH AVE	DE SOTO ST	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASINGS NEEDED TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120154		LA CIENEGA BOULEVARD	ARBOR VITAE ST	11TH ST	WIDEN AND RESTRIPE TO ACCOMMODATE THREE THROUGH LANES IN EACH DIRECTION	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120155		LA TIJERA BOULEVARD	AIRPORT BLVD	LA CIENEGA BLVD	WIDEN AND RESTRIPE TO PROVIDE CONTINUOUS THREE THROUGH LANES IN EACH DIRECTION	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120156		LAUREL CANYON BOULEVARD	MULHOLLAND DR		WIDEN THE WEST SIDE OF LAUREL CANYON BLVD SOUTH OF MULHOLLAND DR TO CARRY TWO SOUTHBOUND LANES THROUGH THE INTERSECTION	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120157		LINCOLN BOULEVARD	JEFFERSON BLVD	FIJI WAY	PARTNERING WITH CALTRANS & LA COUNTY, IMPROVE LINCOLN BLVD BETWEEN JEFFERSON BLVD & FIJI WAY INCLUDING REMOVING THE EXISTING BOTTLENECK BY REPLACING/ WIDENING THE EXISTING BRIDGE TO PROVIDE AN ADD'L LANE IN EACH DIRECTION & ON-STREET BIKE LANES	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120158		MACLAY STREET	GLADSTONE AVE		REMOVE JUT-OUTS ON MACLAY AT GLADSTONE AND INSTALL A NEW TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120159		MAGNOLIA BOULEVARD	CAHUENGA BLVD	VINELAND AVE (NORTH SIDE)	WIDEN THE NORTH SIDE OF MAGNOLIA BLVD. TO PROVIDE AN ADDITIONAL LANE IN THE WESTBOUND DIRECTION.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120160		MASON AVENUE	SATICOY ST		WIDENING TO ADD EXCLUSIVE RIGHT-TURN LANES FOR ALL APPROACHES AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120161		MISSION ROAD	GRIFFIN AVE	MARENGO ST	WIDEN MISSION ROAD TO PROVIDE AN ADDITIONAL THROUGH LANE IN EACH DIRECTION, AND INSTALL NEW PEDESTRIAN SIGNAL AT SICHEL STREET	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120162		MOORPARK AVENUE	WOODMAN AVE	MAMMOTH AVE	WIDEN MOORPARK AVE. TO INCREASE CAPACITY AND INSTALL STREET LIGHTS, CURB, AND GUTTER.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120164		NORTH SPRING STREET	ROUNDOUT ST	BAKER ST	WIDEN N. SPRING ST. BETWEEN ROUNDOUT ST. TO BAKER ST. FROM 44 FT. TO AN 80' ROADWAY WIDTH AND INSTALL LANDSCAPED MEDIANS	LOS ANGELES CITY

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1120165		OLYMPIC BOULEVARD	ALAMEDA ST		WIDEN TO IMPROVE TRUCK MOVEMENT (RIGHT-OF-WAY REQUIRED)	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120166		OLYMPIC BOULEVARD	SANTA FE AVE		WIDENING CURB RETRUN TO IMPROVE TRUCK MOVEMENT THROUGH THE INTERSECTION.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120168		OWENSMOUTH AVENUE	CANYON CREEK DR (PRIVATE)		WIDENING TO ADD SOUTHBOUND AND EASTBOUND RIGHT-TURN LANES, ADD A NORTHBOUND LEFT-TURN LANE, AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120169		OWENSMOUTH AVENUE	SATICOY ST		WIDENING TO ADD NORTHBOUND LEFT-TURN AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120170		OXNARD STREET	AMC DWY	DE SOTO ST	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASINGS AS NEEDED TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120171		OXNARD STREET	WHITE OAK AVE	LINDLEY AVE	OXNARD STREET WIDENING FROM 75 FT. EXITTING ROW TO 100 FT. (REQUIRE ADDITIONAL ROW) TO ALLOW THROUGH LANE IN EACH DIRECTION	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120172		RESEDA BOULEVARD	BURBANK BLVD	US-101 FWY WB RAMPS	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASINGS AS NEEDED TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120173		RIVERSIDE DRIVE	SR-134 FWY		WIDEN THE BRIDGE TO IMPROVE THE CAPACITY AND TO ADD THE BIKE LANE	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120174		ROBERTSON AVENUE	NATIONAL BLVD	/I-10 FWY INTERCHANGE	RECONFIGURE EXISTING RAMPS AND CONSTRUCT NEW RAMPS TO IMPROVE CAPACITY	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120176		SAN FERNANDO ROAD	SIERRA HWY	ROXFORD ST	INSTALL A CENTER-REVERSIBLE LANE ON THE OLD ROAD TO PROVIDE EXTRA CAPACITY DURING PEAK HOURS ALONG AN APPROXIMATELY 3 MILE SEGMENT.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120177		SANTA FE AVENUE	PORTER ST		WIDENING CURB RETRUN TO IMPROVE TRUCK MOVEMENT THROUGH THE INTERSECTION.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120179		SEPULVEDA BOULEVARD	NATIONAL BLVD	OLYMPIC BLVD	WIDEN TO MAJOR HIGHWAY STANDARD AND INCREASE NUMBER OF THROUGH LANES FROM TWO TO THREE LANES	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120180		SEPULVEDA BOULEVARD CORRIDOR	WILSHIRE BLVD	LAX	PARTNERING WITH CULVER CITY & LA COUNTY, IDENTIFY AND IMPLEMENT WAYS OF IMPROVING TRAFFIC FLOW, CARRYING CAPACITY, AND EFFICIENCY IN THE UTILIZATION OF THE SEPULVEDA CORRIDOR FROM WILSHIRE TO LAX.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120181		SEPULVEDA TUNNEL	MULHOLLAND BRIDGE		WIDEN EXISTING TUNNEL TO PROVIDE ADDITIONAL TRAFFIC LANES AND BIKE LANES	LOS ANGELES CITY

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1120182		SHERMAN WAY AVENUE	JORDAN AVE	DE SOTO ST	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASING AS NEEDED TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120183		SHOUP AVENUE	IRWIN AVE		WIDENING TO ADD NORTHBOUND RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NORTHBOUND PROTECTED LEFT-TURN PHASING	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120184		SHOUP AVENUE	OKNARD ST		WIDENING TO ADD NORTHBOUND RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL TO INCLUDE WESTBOUND AND NORTHBOUND PROTECTED LEFT-TURN PHASINGS	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120185		SHOUP AVENUE	SHERMAN WAY		WIDENING TO ADD NORTHBOUND RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120186		SHOUP AVENUE	VANOWEN ST		WIDENING TO ADD EASTBOUND RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120188		VAIEL AVENUE	KITTRIDGE ST		WIDENING TO ADD EASTBOUND AND WESTBOUND THROUGH LANES AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120189		VALLEY BOULEVARD	SAN PABLO ST	BOCA AVE	IMPROVE CAPACITY AND ENHANCE TRAFFIC FLOW AT RAILROAD CROSSING BY WIDENING TO ADD LANES, TO IMPROVE CURB, AND TO UPGRADE SIGNAL SYSTEMS AND RAIL ROAD EQUIPMENT ALONG VALLEY BLVD.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120190		VAN NESS AVENUE	US-101 FWY SB OFF-RAMP	SUNSET BLVD	WIDEN BOTH SIDES OF VAN NESS AVE. TO ACCOMMODATE ONE ADDITIONAL SOUTHBOUND LANE.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120191		VANALDEN AVENUE	US-101 FWY EB RAMP	/VENTURA BLVD	WIDENING TO ADD WESTBOUND THROUGH LANE AND UPGRADE TRAFFIC SIGNAL TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120192		VANOWEN AVENUE	OWENSMOUTH AVE	MASON AVE	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASING AS NEEDED TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120193		VENTURA BOULEVARD	SHOUP AVE	US-101 SB RAMP	WIDEN BETWEEN SHOUP AVE AND US-101 FREEWAY SOUTHBOUND RAMP TO PROVIDE DOUBLE LEFT-TURN LANES	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120194		VERMONT AVENUE	WASHINGTON BLVD	I-10 FWY WB OFF-RAMP	WIDEN 10 FT. OF EAST-SIDE OF VERMONT AVE TO PROVIDE LEFT-TURN LANE	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120195		VICTORY BOULEVARD	OWENSMOUTH AVE	WINNETKA AVE	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASING AS NEEDED TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120196		WILSHIRE BOULEVARD	SAN VICENTE BLVD	CENTINELA AVE	ARTERIAL WIDENING TO PROVIDE AN ADDITIONAL LANE IN EACH DIRECTION.	LOS ANGELES CITY

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1120197		WINNETKA AVENUE	OXNARD ST		WIDENING TO ADD WESTBOUND RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120198		WINNETKA AVENUE	VANOWEN ST		WIDENING TO ADD NORTHBOUND AND SOUTHBOUND RIGHT-TURN LANES AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120199		WINNETKA AVENUE	VENTURA BLVD		CHANGE WESTBOUND RIGHT-TURN LANE TO A SHARED THROUGH-RIGHT TURN LANE, ADD AN EASTBOUND LEFT-TURN LANE, AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120200		WOODLAKE AVENUE	VICTORY BLVD		WIDENING TO ADD NORTHBOUND SHARED-THROUGH RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120112	213	WESTERN AVENUE	EXPOSITION BLVD		WIDEN WESTERN BLVD. TO ADD NORTHBOUND AND SOUTHBOUND LEFT-TURN LANES AT EXPOSITION BLVD.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120113	213	WESTERN AVENUE	FLORENCE AVE	80TH ST/ MANCHESTER AVE	WIDEN EAST SIDE OF WESTERN AVE. TO ACCOMMODATE LEFT-TURN LANES AT VARIOUS INTERSECTIONS WITHIN THE PROJECT LIMITS.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120108	27	TOPANGA CANYON BOULEVARD	MULHOLLAND DR		WIDENING TO ADD A SOUTHBOUND RIGHT-TURN LANE AND UPGRADE TRAFFIC SIGNAL TO INCLUDE SOUTHBOUND RIGHT-TURN OVERLAP PHASE	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120109	27	TOPANGA CANYON BOULEVARD	ROSCOE BVD		WIDENING TO ADD NORTHBOUND LEFT-TURN AND SOUTHBOUND RIGHT-TURN LANES AND TRAFFIC SIGNAL UPGRADE.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120110	27	TOPANGA CANYON BOULEVARD	VANOWEN ST	VENTURA BLVD	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASING AS NEEDED TO IMPROVE INTERSECTION CAPACITY. INSTALL NEW SIGNAL AT TOPANGA CANYON BLVD. AND CALIFA ST.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120175		ROXFORD STREET	SEPULVEDA BLVD		REALIGN ROXFORD ST. AT SEPULVEDA BLVD. BY WIDENING CURB RADIUS TO ENHANCE TRAFFIC FLOW.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120163		NORTH MAIN STREET	ALBION ST		GRADE SEPARATE NORTH MAIN STREET OVER THE EXITING METROLINK AND FREIGHT TRACKS; REDUCES DELAYS FOR VEHICLES AND TRANSIT RIDERS TRAVELING ON MAIN STREET	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120178		SATICOY STREET	VAN NUYS BLVD	WOODMAN AVE	CONSTRUCT GRADE SEPARATION AND EXTEND ROADWAY WESTERLY FROM WOODMAN AVE TO VAN NUYS BLVD	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120212		THE OLD ROAD	HILLCREST PKWY	LAKE HIGHER RD	THE OLD ROAD	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120083		50TH ST EAST CONNECTOR			E-220 TO SR-138/PALMDALE BL ROUNDABOUT	LOS ANGELES COUNTY MTA

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1120084		ALAMEDA ST			ALAMEDA ST	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120085		ALONDRA BL			ALONDRA BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120086		ARTESIA BL			ARTESIA BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120087		ATLANTIC BL			ATLANTIC BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120088		AVENUE G	SR-14	25TH ST	AVENUE G CORRIDOR IMPROVEMENTS - INTERCHANGE IMPROVEMENTS FOR ACCESS TO WILLIAM J. FOX AIRPORT	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120089		AVIATION BL/ROSECRANS AV			AVIATION BL/ROSECRANS AV GRADE SEPARATION - GRADE SEPARATE AVIATION BL UNDER ROSECRANS AV FOR FREE-FLOW NORTH-SOUTH MOVEMENTS VIA TUNNEL AND AT-GRADE EAST-WEST MOVEMENTS AT SIGNALIZED INTERSECTION	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120090		BELLFLOWER BL			BELLFLOWER BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120091		COLUMBIA WY/AVENUE M			COLUMBIA WY/AVENUE M CORRIDOR IMPROVEMENTS - CAPACITY AND INTERCHANGE IMPROVEMENTS AT SR-14 FROM 10TH ST W TO 15TH ST W, SERVING MAJOR INDUSTRIAL CENTERS AND COURTHOUSE	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120092		DEL AMO BL			DEL AMO BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120093		FIRESTONE BL			FIRESTONE BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120094		GARFIELD BL			GARFIELD BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120095		IMPERIAL HWY			IMPERIAL HWY	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120096		LAKEWOOD BL/ROSEMEAD BL			LAKEWOOD BL/ROSEMEAD BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120097		LONG BEACH BL			LONG BEACH BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120098		NORWALK BL			NORWALK BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120099		PACIFIC COAST HWY			PACIFIC COAST HWY	LOS ANGELES COUNTY MTA

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1120100		PARAMOUNT BL			PARAMOUNT BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120101		PEARBLOSSOM HWY	SR-14	SR-138	PEARBLOSSOM HWY IMPROVEMENT PROJECT - CORRIDOR IMPROVEMENTS BETWEEN SR-14 AND SR-138 TO COMMUTER/TRUCKING ROUTE	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120102		RANCHO VISTA BL			RANCHO VISTA BL GRADE SEPARATION - PROVIDES ACCESS TO PALMDALE REGIONAL AIRPORT AND CONNECTION TO E-220	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120103		ROSECRANS BL			ROSECRANS BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120104		TIERRA SUBIDA AV/10TH ST W	SR-14/10TH ST W	SR-14/AV S	TIERRA SUBIDA AV/10TH ST W IMPROVEMENT PROJECT - CAPACITY IMPROVEMENTS	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120105		WASHINGTON BL			WASHINGTON BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120106		WHITTIER BL			WHITTIER BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120132		CASTAIC CUTOFF			NEW ROAD (LAKE HUGHES RD/SAN FRANCISQUITO CANYON RD)	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120141		DEL AMO BL	NORMANDIE AV	VERMONT AV	CONSTRUCTION OF A ROADWAY TO CLOSE THE GAP ON DEL AMO BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120211		GALE AV	FULLERTON RD	NOGALES ST	WIDEN FROM FOUR TO SIX LANES	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120111	90	SR-90	LINCOLN BL	ADMIRALTY WY	EXTENSION	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120107					SOUTH BAY PACIFIC COAST HWY INTERSECTION & OPERATIONAL IMPROVEMENTS	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120203					MALIBU/KANAN DUME TUNNEL LINING PROJECTS	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120201		COLIMA RD			INTERSECTION IMPROVEMENTS AT FULLERTON RD	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120210		FULLERTON RD			INTERSECTION IMPROVEMENTS AT PATHFINDER RD	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120202		HACIENDA BL			INTERSECTION IMPROVEMENTS AT GALE AV	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120205	5	I-5			INTERSECTION IMPROVEMENTS INCLUDING BRIDGE WIDENING AND LANE ADDITIONS AT PARKER RD	LOS ANGELES COUNTY MTA

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1120204	5	I-5			INTERSECTION IMPROVEMENTS AND WIDENING TO PROVIDE ADDITIONAL LANES ON EAST BOUND AND WEST BOUND APPROACHES AT LAKE HIGHERS RD	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120206		ADMIRALTY WY WIDENING	VIA MARINA	FIJI WY	WIDENING	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120207		AVENUE L & K ET AL.	40TH ST	50TH ST	WIDENING	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120208		AVIATION BL	IMPERIAL HIGHWAY	ROSECRANS AV	WIDENING	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120209		COLIMA RD			ROAD WIDENING (HALLIBURTON RD/CITY OF DIAMOND BAR CITY BOUNDARY)	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120079		EL SEGUNDO BL			EL SEGUNDO BL OVER UPRR AND METRO AT WILLOW/BROOK AV	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120080		SIERRA HWY/BARREL SPRINGS RD			SIERRA HWY/BARREL SPRINGS RD UNDER SCRRA	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120081		SR-126/COMMERCE CENTER DR			SR-126/COMMERCE CENTER DR	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1121001	101	US-101	SANTA MONICA BOULEVARD	HOLLYWOOD BOULEVARD	HOLLYWOOD CENTRAL PARK - 44-ACRE CAP PARK PLANNED FOR US-101 BETWEEN SANTA MONICA AND HOLLYWOOD BLVDS	LOS ANGELES CITY
LOS ANGELES	STATE HIGHWAY	S1120082					SR-710 TRANSPORTATION IMPROVEMENT OPTIONS	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120077	10	I-10			I-10/ROBERTSON/NATIONAL AREA CIRCULATION IMPROVEMENT--IMPROVE BOTTLENECK TRAC ON I-10 AND AROUND FUTURE EXPOVENICE/ROBERTSON STATION	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120075	5	I-5	I-605	I-710	I-5 CORRIDOR	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120076	5	I-710			I-710 FREIGHT MOVEMENT CORRIDOR (BEYOND I-5)	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120078	91,605,405	SR-91/I-605/I-405			ADDITIONAL SR-91/I-605/I-405 SOLUTIONS (BEYOND IDENTIFIED HOT SPOTS)	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120037	126	SR-126	COMMERCE CTR DR	COUNTY LINE	SR-126 CORRIDOR IMPROVEMENT PROJECT - INTERSECTION IMPROVEMENTS AND WIDENING	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120038	5	I-5 NORTH CAPACITY ENHANCEMENTS	N/A	N/A	I-5 NORTH CAPACITY ENHANCEMENTS	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120039		ADDITIONAL CALTRANS CORRIDORS			ADDITIONAL CALTRANS CORRIDORS NOT INCLUDED IN METRO'S PERFORMANCE EVALUATION	LOS ANGELES COUNTY MTA

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	STATE HIGHWAY	S1120041	10	I-10	LINCOLN BLVD	I-5	CARPOOL LANES	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120051	10, 605	I-10/I-605			PARTIAL HOV CONNECTOR (FROM EAST TO SOUTH AND FROM WEST TO SOUTH)	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120055	10, 605	I-10/I-605			I-10/I-605 PARTIAL HOV INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120046	101	US-101	ROUTE 23	TOPANGA CANYON	ADD HOV LANE ON US-101	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120047	101	US-101	SR-27	VENTURA COUNTY LINE	ADD CARPOOL LANE IN EACH DIRECTION	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120057	101	US-101 CORRIDOR			ADD CARPOOL LANE IN EACH DIRECTION BETWEEN SR-27 (TOPANGA CANYON BL) AND SR-2 IN DOWNTOWN LOS ANGELES AND RESTRIPE FOR MIXED-FLOW LANE IN EACH DIRECTION BETWEEN SR-27 AND VENTURA COUNTY LINE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120048	110	I-110	ADAMS BL	UNION STATION	I-110 HIGH OCCUPANCY VEHICLE (HOV) VIADUCT	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120054	405	I-405	I-405	LAX	I-405 DIRECT HOV CONNECTOR TO LAX	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120040	5	I-5 CARPOOL AND MIXED-FLOW LANES	I-605	I-710	I-5 CARPOOL AND MIXED-FLOW LANES	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120042	57	SR-57	I-60	I-210	SR-57 HOV	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120043	57	SR-57	SR-60	I-210	CARPOOL LANES	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120045	60	SR-60	US-101	I-605	SR-60 HOV	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120044	60	SR-60	US-101	I-605	CARPOOL LANES	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120052	60, 105	SR-60/I-105			PARTIAL HOV CONNECTOR (FROM EAST TO SOUTH AND FROM EAST TO NORTH)	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120056	60, 605	SR-60/I-605			SR-60/I-605 PARTIAL HOV INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120049	605	I-605	I-10	I-210	I-605 HOV	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120050	605	I-605	I-210	I-10	CARPOOL LANES	LOS ANGELES COUNTY MTA

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	STATE HIGHWAY	S1120053	91, 110	SR-91/I-110			PARTIAL HOV CONNECTOR (FROM EAST TO SOUTH AND FROM EAST TO NORTH)	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120058	101, 170	US-101/SR-170			US-101/SR-170 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120059	101, 170, 134	US-101/SR-170/SR-134 INTERCHANGE			COMPLETE TWO CONNECTORS	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120060	405, 101	I-405/US-101			I-405/US-101 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120061	5, 10	I-5/I-10			I-5/I-10 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120062	5, 134	I-5/SR-134			I-5/SR-134 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120063	5, 14	I-5/SR-14			I-5/SR-14 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120064	5, 2	I-5/SR-2			I-5/SR-2 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120065	5, 405	I-5/I-405			I-5/I-405 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120066	60, 605	SR-60/I-605			SR-60/I-605 INTERCHANGE IMPROVEMENTS	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120067	605, 10	I-605/I-10			I-10/605 INTERCHANGE UPGRADE – NB I-605 TO WB I-10 CONNECTOR	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120068	134, 210	SR-134/I-210			SR-134/I-210 INTERCHANGE IMPROVEMENTS	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120069	39, 2	ROUTE 39/ROUTE 2			ROUTE 39 TO ROUTE 2 CONNECTION	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120070	10, 57	I-10/SR-57			I-10 TO SR-57 WB CONNECTOR TRUCK CLIMBING LANE AND OFF-RAMP	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120072	138	SR-138	I-5	SR-14	ADD 2 MIXED-?OW LANES IN EACH DIRECTION	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120071	14	SR-14 MIXED FLOW IMPROVEMENTS	I-5	KERN COUNTY LINE	SR-14 MIXED FLOW IMPROVEMENTS	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120074		ADDITIONAL SOUNDWALLS			ADDITIONAL SOUNDWALLS BEYOND FUNDED PLAN	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120073	210	I-210	BERKSHIRE AV	OCEAN VIEW BL	I-210 SOUNDWALLS	LOS ANGELES COUNTY MTA

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	STATE HIGHWAY	S1121004	10	I-10			TWO SITES OVER THE I-10 FREEWAY, BOTH ADJACENT TO EXPO LINE PHASE 2 STATIONS. POTENTIAL PARK/OPEN CAP OVER I-10, WITH POSSIBLE BRIDGE WIDENING OR CANTILEVERING APPROACHES.	VARIOUS AGENCIES
LOS ANGELES	STATE HIGHWAY	S1121002	101	US-101	UNION STATION	LA CATHEDRAL	PARK 101 - FOCUSES ON A "DISTRICT" ROUGHLY BETWEEN UNION STATION AND THE LA CATHEDRAL. POTENTIAL FREEWAY RAMP RE-CONFIGURATION AND CAPPING OR ELIMINATING OF RAMPS.	VARIOUS AGENCIES
LOS ANGELES	STATE HIGHWAY	S1121003	134	SR-134	CENTRAL	BRAND	SPACE 134 - POTENTIAL PARK/OPEN SPACE CAP OVER SR-134 FREEWAY ROUGHLY BETWEEN CENTRAL AND BRAND	VARIOUS AGENCIES
LOS ANGELES	TRANSIT	S1120003		VAREL AVENUE	OXNARD ST		CONSTRUCTION OF A 4TH ORANGE LINE STATION IN WARNER CENTER AREA	LOS ANGELES CITY
LOS ANGELES	TRANSIT	S1120005		CANOGA AVENUE	VENTURA BLVD	CANOGA ORANGE LINE STATION	PURCHASE 20 NEW BUSES TO ADD TO A LOCAL CIRCULATOR BUS SYSTEM BETWEEN VENTURA BOULEVARD AND CANOGA ORANGE LINE STATION. INSTALL NEW BUS SHELTERS AND/OR ENHANCE THE EXISTING BUS SHELTERS ALONG THE ROUTE AS REQUIRED.	LOS ANGELES CITY
LOS ANGELES	TRANSIT	S1120006		VICTORY BOULEVARD	OWENSMOUTH AVE TO OXNARD ST	VAREL AVE TO VICTORY BLVD	PURCHASE 20 NEW BUSES TO ADD TO A LOCAL CIRCULATOR BUS SYSTEM TO OPERATE FROM VICTORY TO OWENSMOUTH TO OXNARD TO VAREL AND BACK TO VICTORY. INSTALL NEW BUS SHELTERS AND/OR ENHANCE THE EXISTING BUS SHELTERS ALONG THE ROUTE AS REQUIRED	LOS ANGELES CITY
LOS ANGELES	TRANSIT	S1120004					SR-134 TRANSIT CORRIDOR BRT PROJECT	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120001		METRO ORANGE LINE			METRO ORANGE LINE EXTENSION TO BOB HOPE AIRPORT	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120002		METRO RAPID BUS EXPANSION CORRIDORS			METRO RAPID BUS EXPANSION CORRIDORS BEYOND FUNDED PLAN	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120009		METRO PURPLE LINE			WESTSIDE SUBWAY EXTENSION (BEYOND SEGMENTS IN THE CONSTRAINED PLAN)	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120010		WESTSIDE SUBWAY EXTENSION			HEAVY RAIL EXTENSION	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120011		ORANGELINE			ORANGELINE HIGH SPEED TRANSIT SYSTEM-- EXTENSION OF WEST SANTA ANA BRANCH FROM UNION STATION TO SANTA CLARITA	LOS ANGELES COUNTY MTA

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	TRANSIT	S1120012		"SILVER" LINE LRT	RED LINE VERMONT/ SANTA MONICA STATION	CITY OF LA PUENTE	LIGHT RAIL EXTENSION	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120013		"YELLOW" LINE LRT	RED LINE NORTH HOLLYWOOD STATION	REGIONAL CONNECTOR	"YELLOW" LINE LRT	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120014		BURBANK/GLENDALE LRT	L.A. UNION STATION	BURBANK METROLINK STATION	NEW LIGHT RAIL	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120015		CRENSHAW			CRENSHAW LIGHT RAIL TRANSIT NORTH FROM EXPOSITION BL	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120016		CRENSHAW BLVD CORRIDOR EXTENSION			LIGHT RAIL EXTENSION	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120017		GREEN LINE	LAX	SANTA MONICA	GREEN LINE EXTENSION FROM LAX TO SANTA MONICA	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120018		METRO BLUE LINE			BLUE LINE EXTENSION TO CALIFORNIA STATE UNIVERSITY LONG BEACH	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120019		METRO GOLD LINE			METRO GOLD LINE EASTSIDE EXTENSION BEYOND PHASE II TERMINUS	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120020		METRO GOLD LINE EASTSIDE TRANSIT CORRIDOR PHASE 2 BRANCH			LIGHT RAIL EXTENSION	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120021		METRO GREEN LINE	GREEN LINE SOUTH TERMINUS AT TORRANCE	SAN PEDRO, LONG BEACH, AND LOS ANGELES/ ORANGE COUNTY LINE	GREEN LINE FROM GREEN LINE SOUTH TERMINUS AT TORRANCE TO SAN PEDRO, LONG BEACH, AND LOS ANGELES/ORANGE COUNTY LINE	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120022		METRO GREEN LINE LRT EXTENSION	LAX	EXPO SANTA MONICA STATION	LIGHT RAIL EXTENSION	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120023		SOUTH BAY/METRO GREEN LINE EXTENSION			LIGHT RAIL EXTENSION	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120036					CITY OF LONG BEACH EASTERN TRANSIT CORRIDOR CONNECTION -- DOWNTOWN TO METRO BLUE LINE	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120029			GLENDALE	DOWNTOWN LOS ANGELES	GLENDALE -- DOWNTOWN LOS ANGELES CORRIDOR	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120030			NORTH HOLLYWOOD	PASADENA	SR-134 EAST-WEST CORRIDOR CONNECTING NORTH HOLLYWOOD, BURBANK, GLENDALE AND PASADENA	LOS ANGELES COUNTY MTA

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	TRANSIT	S1120031			PORT COMMUNITIES OF LOS ANGELES/ LONG BEACH	ARROYO VERDUGO SUBREGION	NORTH-SOUTH RAIL CORRIDOR BETWEEN PORT COMMUNITIES OF LOS ANGELES/LONG BEACH AND ARROYO VERDUGO SUBREGION-SR-710 TRANSPORTATION IMPROVEMENT OPTIONS	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120032			SAN GABRIEL VALLEY	LOS ANGELES/ ORANGE COUNTY LINE	I-605 NORTH-SOUTH CORRIDOR	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120033			UCLA/WESTWOOD	LAX	I-405 CORRIDOR SOUTH	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120034			VENTURA BL/ ORANGE LINE	NORTH-EAST SAN FERNANDO VALLEY/ SYLMAR METROLINK STATION	I-405 CORRIDOR NORTH	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120035			WEST SAN FERNANDO VALLEY	WEST LOS ANGELES	WEST LOS ANGELES COUNTY/WEST SAN FERNANDO VALLEY TO WEST LOS ANGELES DIRECT CONNECTION	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120024					ADDITIONAL METRO AND OTHER BUS AND RAIL CAPITAL SYSTEM IMPROVEMENTS	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120025					METRO RED LINE	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120026					REGIONAL INTERMODAL CENTER	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120027			RED LINE NORTH HOLLYWOOD STATION	GOLD LINE DEL MAR STATION	SR-134 TRANSIT CORRIDOR	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120028					STREETCAR CIRCULATOR SYSTEMS	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120007					ADDITIONAL METROLINK EXPANSION	METROLINK
ORANGE	LOCAL HIGHWAY	S2120057			PAULARINO AVE	BAKER AVE	WIDEN AND RESTRIPE SR-55 FRONTAGE ROAD	COSTA MESA
ORANGE	LOCAL HIGHWAY	S2160002			PASEO DE COLINAS	CAMINO CAPISTRANO	EXTEND CABOT TO CAMINO CAPISTRANO TO IMPROVE ACCESS TO METROLINK STATION	LAGUNA NIGUEL
ORANGE	LOCAL HIGHWAY	S2160001			I-5	GREENFIELD	ADD CAPACITY BEYOND MPAH TO IMPROVE ACCESS TO SR-73 AT GREENFIELD	LAGUNA NIGUEL

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
ORANGE	LOCAL HIGHWAY	S2160005	1	PCH/SUPERIOR			PEDESTRIAN BRIDGE	NEWPORT BEACH
ORANGE	LOCAL HIGHWAY	S2120055	73, 241	SR-73/SR-241			STATE ROUTE 73/STATE ROUTE 241 ROADWAY CONNECTOR - FOUR LANE LIMITED ACCESS ROAD CONNECTING INTERSTATE 5 AND STATE ROUTE 73 TO ANTONIO PARKWAY AND COW CAMP ROAD	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2120056		HARBOR BOULEVARD			CONSTRUCT GRADE SEPARATED INTERSECTION AT HARBOR BOULEVARD AND BALL ROAD	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2120058		HARBOR BOULEVARD	WARNER AVENUE	17TH STREET	ADD ONE LANE IN EACH DIRECTION	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2120062		LOSSAN CORRIDOR/BALL ROAD			NEW RAIL GRADE SEPARATION ON LOSSAN CORRIDOR (ANAHEIM)	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2120063		LOSSAN CORRIDOR/GRAND AVENUE			NEW RAIL GRADE SEPARATION ON LOSSAN CORRIDOR (SANTA ANA)	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2120064		LOSSAN CORRIDOR/MAIN STREET			NEW RAIL GRADE SEPARATION ON LOSSAN CORRIDOR (ORANGE)	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2160003		LOSSAN CORRIDOR/NEWPORT AVE			GRADE SEPARATION	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2120065		LOSSAN CORRIDOR/ ORANGETHORPE AVENUE			NEW RAIL GRADE SEPARATION ON LOSSAN CORRIDOR (ANAHEIM)	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2160004		LOSSAN CORRIDOR/RED HILL AVE			GRADE SEPARATION	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2160012	133	SR-133	EL TORO RD	CANYON ACRES DR	MULTIMODAL CORRIDOR IMPROVEMENTS	LAGUNA BEACH
ORANGE	STATE HIGHWAY	S2120031	74	SR-74			IMPLEMENT OPERATIONAL IMPROVEMENTS ON STATE ROUTE 74	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120033	55	SR-55	I-405	19TH STREET	EXTEND HOV LANES	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2160010	57	SR-57/CERRITOSAVE			ADD HOV DROP RAMP	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120036	405	I-405			ADD HOV RAMP AT VON KARMAN AVENUE	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120035	405	I-405			ADD HOV RAMP AT BEAR STREET	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120034	55	SR-55			ADD HOV RAMP AT ALTON PARKWAY	ORANGE COUNTY TRANS AUTHORITY

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
ORANGE	STATE HIGHWAY	S2120040	22	SR-22			CONNECT STATE ROUTE 22 TO THE PACIFIC ELECTRIC RIGHT-OF-WAY	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120042	241	SR-241			ADD NEW INTERCHANGE ON STATE ROUTE 241 AT CROWN VALLEY PARKWAY	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120045	405	I-405			IMPROVE INTERCHANGE OF INTERSTATE 405 SOUTHBOUND WITH STATE ROUTE 133 NORTHBOUND	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120038	5	I-5			MODIFY INTERCHANGE OF INTERSTATE 5 WITH EL CAMINO REAL	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120037	5	I-5			IMPROVE INTERCHANGE OF INTERSTATE 5 WITH STATE ROUTE 57 AND STATE ROUTE 22	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120039	5	I-5			MODIFY INTERCHANGE OF INTERSTATE 5 WITH PACIFIC COAST HIGHWAY	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2160007	5	I-5	1ST STREET	4TH STREET	INTERCHANGE IMPROVEMENT	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2160008	5	I-5/MAGUERITE PKWY			ADD NEW INTERCHANGE	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2160006	5	I-5/PASEO DE COLINAS			ADD NEW INTERCHANGE	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2160009	5	I-5/STONEHILL DR.			ADD INTERCHANGE	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120041	73	SR-73			IMPROVE INTERCHANGE OF STATE ROUTE 73 WITH EL TORO ROAD AND LAGUNA CANYON ROAD	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120050	405	I-405	CULVER DRIVE	SR-133	ADD ONE MIXED-FLOW LANE IN EACH DIRECTION	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120048	5	I-5	AVENIDA PICO	SR-74	ADD ONE MIXED-FLOW LANE IN EACH DIRECTION	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120049	55	SR-55	19TH STREET	INDUSTRIAL WAY	EXTEND THE FREEWAY	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120053	5	I-5			ADD ONE NORTHBOUND TRUCK CLIMBING LANE FROM AVENIDA PICO TO AVENIDA VAGUERO	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2160011	73	SR-73/GLENWOOD			INTERCHANGE IMPROVEMENT (PHASE III)	TCA
ORANGE	STATE HIGHWAY	S2160013	241	SR-241/COW CAMP RD			ADD NEW INTERCHANGE	TCA
ORANGE	TRANSIT	S2160014					FULLERTON COLLEGE CONNECTOR GUIDEWAY	FULLERTON

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
ORANGE	TRANSIT	S2160015					LOSSAN STRATEGIC PLANS - INCREASE FROM 62 TO 98 WEEKDAY TRAINS, CAPITAL IMPROVEMENTS INCLUDING IRVINE THIRD MAIN TRACK EXTENSION AND SERRA SIDING	ORANGE COUNTY TRANS AUTHORITY
ORANGE	TRANSIT	S2160016					STREETCAR CONNECTIONS ON HARBOR BLVD BETWEEN SANTA ANA/GARDEN GROVE, ANAHEIM, AND POTENTIALLY FULLERTON IMPLEMENT OCTA TRANSIT SYSTEM STUDY	ORANGE COUNTY TRANS AUTHORITY
ORANGE	TRANSIT	S2160017						ORANGE COUNTY TRANS AUTHORITY
ORANGE	TRANSIT	S2160018					ZERO-EMISSION TRANSIT INVESTMENTS (BUS AND RAIL)	ORANGE COUNTY TRANS AUTHORITY
ORANGE	TRANSIT	S2120024		FULLERTON TRANSPORTATION CENTER			TRANSIT STATION IMPROVEMENTS	ORANGE COUNTY TRANS AUTHORITY
ORANGE	TRANSIT	S2120028		SANTA ANA REGIONAL TRANSPORTATION CENTER			EXPAND TO INCLUDE FIXED-GUIDEWAY STATION AND MAINTENANCE/STORAGE FACILITY; BRT STATION; RECONSTRUCTED AND ADDITIONAL PARKING; PEDESTRIAN BRIDGES; CIRCULATION IMPROVEMENTS; AND SANTA ANA BOULEVARD GRADE SEPARATION	ORANGE COUNTY TRANS AUTHORITY
RIVERSIDE	LOCAL HIGHWAY	S3120024		7TH ST (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120015		APACHE TRAIL (RIVERSIDE COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120027		AVENUE 54 (COACHELLA)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120028		AVENUE 58 (RIVERSIDE COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120025		BROADWAY (RIVERSIDE COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120014		BROCKTON AVE (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120006		BUCHANAN ST (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
RIVERSIDE	LOCAL HIGHWAY	S3120019		CENTER ST (RIVERSIDE COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120004		COTA STREET (CORONA)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120017		CRIDGE STREET (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120009		GIBSON STREET (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120008		HARRISON STREET (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120010		JACKSON STREET (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120011		JEFFERSON STREET (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120020		MAIN STREET (RIVERSIDE COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120012		PALM AVE (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120018		PALMYRITA AVE (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120016		PANDRAMA ROAD (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120023		PENNSYLVANIA AVENUE (BEAUMONT)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
RIVERSIDE	LOCAL HIGHWAY	S3120003		RAILROAD ST (CORONA)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120007		RUTILE STREET (JURUPA VALLEY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120021		SAN TIMOTEO CANYON (CALIMESA)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120022		SHERIDAN ST (CORONA)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120002		SMITH AVE (CORONA)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120026		TIPTON ROAD (PALM SPRINGS)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120013		WASHINGTON STREET (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	STATE HIGHWAY	S3160001	0	CETAP - RIVERSIDE COUNTY TO ORANGE COUNTY	WESTERN RIVERSIDE COUNTY	ORANGE COUNTY	CETAP - RIVERSIDE COUNTY TO ORANGE COUNTY - CONSTRUCT NEW INTERCOUNTY TRANSPORTATION CORRIDOR A - 2 TOLL EACH DIR ON NEW FACILITY PARALLEL TO SR-91, FROM SR- 241 TO I-15, WITH I/C AT SR-241, SR-71, I-15	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	TRANSIT	S3120001		COACHELLA VALLEY RAIL SERVICE	L.A. UNION STATION	INDIO	ESTABLISH DAILY RAIL SERVICE BETWEEN DOWNTOWN LOS ANGELES AND THE COACHELLA VALLEY	LOS ANGELES COUNTY MTA
RIVERSIDE	TRANSIT	S3160002	0	PERRIS VALLEY LINE EXTENSION TO TEMECULA	SOUTH PERRIS	TEMECULA	METROLINK PERRIS VALLEY LINE COMMUTER RAIL EXTENSION FROM PERRIS TO TEMECULA (~16.5 MILES), STATIONS AT NEWPORT RD (@ I-215), CLINTON KEITH RD (@ I-215), AND WINCHESTER RD (SR-79 @ I-215)	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
SAN BERNARDINO	TRANSIT	S4120001		REDLANDS RAIL PHASE III			REDLANDS RAIL PHASE III	SAN BERNARDINO ASSOCIATED GOVERNMENTS
SAN BERNARDINO	TRANSIT	S4120003		SAN BERNARDINO MOUNTAIN-VALLEY RAILWAY SYSTEM	SAN BERNARDINO/HIGHLAND	BIG BEAR LAKE	SAN BERNARDINO MOUNTAIN-VALLEY RAILWAY SYSTEM	SAN BERNARDINO ASSOCIATED GOVERNMENTS

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
SAN BERNARDINO	TRANSIT	S4120002		NEW EXPRESS BUS SERVICE FROM ONTARIO INTERNATIONAL AIRPORT HEADING EAST ON I-10/I-215	ONTARIO INTERNATIONAL AIRPORT	TBD	NEW EXPRESS BUS SERVICE FROM ONTARIO INTERNATIONAL AIRPORT HEADING EAST ON I-10/I-215	TBD
VARIOUS	LOCAL HIGHWAY	S7120010					CORDON PRICING DEMONSTRATION PROJECTS (LOCATIONS TO BE DETERMINED)	VARIOUS AGENCIES
VARIOUS	LOCAL HIGHWAY	S7120011					MILEAGE-BASED USER FEE DEMONSTRATION PROJECTS AND IMPLEMENTATION STRATEGY	VARIOUS AGENCIES
VARIOUS	OTHER	S7120012					LONG-TERM GOODS MOVEMENT EMISSION REDUCTION STRATEGIES FOR RAIL AND TRUCKS; DEMONSTRATION PROJECTS AND IMPLEMENTATION STRATEGY	VARIOUS AGENCIES
VARIOUS	STATE HIGHWAY	S7120008		IRVINE-CORONA EXPRESSWAY	SR-133/SR-241 IN ORANGE COUNTY	I-15 IN RIVERSIDE	TUNNEL (CORRIDOR B)	VARIOUS AGENCIES
VARIOUS	STATE HIGHWAY	S7120009					EXPANDED EXPRESS/HOT LANE NETWORK (BEYOND CONSTRAINED PLAN)	VARIOUS AGENCIES
VARIOUS	TRANSIT	S7120004		CALIFORNIA HIGH-SPEED TRAIN SYSTEM PHASE II	L.A. UNION STATION	SAN DIEGO LINDBERGH FIELD	HIGH-SPEED TRAIN SERVICE FROM L.A. UNION STATION TO SAN DIEGO THROUGH THE INLAND EMPIRE	CALIFORNIA HIGH-SPEED RAIL AUTHORITY
VARIOUS	TRANSIT	S7120006		CALIFORNIA/NEVADA SUPER SPEED TRAIN SYSTEM	ANAHEIM	LAS VEGAS	NEW SERVICE FROM ANAHEIM TO LAS VEGAS	CALIFORNIA/NEVADA SUPER SPEED TRAIN COMMISSION
VARIOUS	TRANSIT	S7120007		METRO GOLD LINE	MONTCLAIR	ONTARIO INTERNATIONAL AIRPORT (ONT)	GOLD LINE FOOTHILL EXTENSION	LOS ANGELES COUNTY MTA
VARIOUS	TRANSIT	S7120001		NEW EXPRESS BUS SERVICE FROM ARTIC TO LAX	ARTIC	LAX	NEW EXPRESS BUS SERVICE FROM ARTIC TO LAX	TBD
VARIOUS	TRANSIT	S7120002		NEW EXPRESS BUS SERVICE FROM ARTIC TO ONTARIO INTERNATIONAL AIRPORT	ARTIC	ONTARIO INTERNATIONAL AIRPORT (ONT)	NEW EXPRESS BUS SERVICE FROM ARTIC TO ONTARIO INTERNATIONAL AIRPORT	TBD
VARIOUS	TRANSIT	S7120003		NEW EXPRESS BUS SERVICE FROM ONTARIO INTERNATIONAL AIRPORT HEADING WEST ON I-10/SR-57	ONTARIO INTERNATIONAL AIRPORT	TBD	NEW EXPRESS BUS SERVICE FROM ONTARIO INTERNATIONAL AIRPORT HEADING WEST ON I-10/SR-57	TBD
VARIOUS	TRANSIT	S7120005		XPRESSWEST	LAS VEGAS	PALMDALE	HIGH-SPEED RAIL SERVICE FROM LAS VEGAS TO PALMDALE WITH INTERMEDIATE STOP IN VICTORVILLE	VARIOUS AGENCIES

TABLE 4 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
VENTURA	STATE HIGHWAY	S5121001	101	US-101	DOWNTOWN VENTURA		BEACH+TOWN - CAP OVER US-101 THREE BLOCKS WHERE US-101 CUTS OFF DOWNTOWN VENTURA FROM THE NEARBY BEACH AND PIER. EXTENSIVE DEVELOPMENT ON THE SPACE CREATED BY THE CAP.	VARIOUS AGENCIES
VENTURA	STATE HIGHWAY	S5160001		ROUTE 101	L.A. COUNTY LINE	ROUTE 33	ADD ONE HIGH-OCCUPANCY VEHICLE LANE IN EACH DIRECTION	VENTURA COUNTY TRANSPORTATION COMMISSION
VENTURA	TRANSIT	S5120002		SANTA PAULA BRANCH LINE	MONTALVO	L.A. COUNTY LINE	RAIL IMPROVEMENTS	VENTURA COUNTY TRANSPORTATION COMMISSION





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2016
2040
RTPSCS

APPENDIX

TRANSPORTATION SYSTEM | PROJECT LIST
DRAFT DECEMBER 2015

WWW.SCAGRTPSCS.NET

APPENDIX C

AIR QUALITY AND GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE TECHNICAL REPORT

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The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of SCAG or DOT. This report does not constitute a standard, specification or regulation.

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1.0 EXECUTIVE SUMMARY

The Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan and Sustainable Communities Strategy (2016 RTP/SCS) would generally improve air quality, with the exception of re-entrained roadway dust resulting from total vehicle miles travelled (VMT); improve health, as a result of greatly reduced diesel particulates that are strongly correlated with cancer risk; and reduce greenhouse gas (GHG) emissions consistent with Senate Bill (SB) 375 requirements. According to SB 375, the state's targets for the SCAG region are an 8 percent per capita reduction in GHG emissions from automobiles and light trucks by 2020 and a 13 percent reduction by 2035 (compared with 2005 levels). The 2016 RTP/SCS is anticipated to result in an 8 percent reduction in emissions by 2020, an 18 percent reduction by 2035, and a 22 percent reduction by 2040 as compared to 2005 levels. For air quality in the SCAG region, the three criteria pollutants that are not in attainment are ozone, PM₁₀, and PM_{2.5}. The 2016 RTP/SCS would help reduce these emissions and bring the region into attainment by increasing land use density, incorporating alternative fuels and technologies, increasing transit and active transportation options, and improving community design.

2.0 INTRODUCTION

This Air Quality and Greenhouse Gas Emissions Technical Report describes the air quality and GHG emissions in the SCAG region, includes an explanation of the methodology and assumptions used in the analysis, discusses the potential impacts of the 2016 RTP/SCS on air quality and GHG, identifies mitigation measures for the impacts, and evaluates the residual impacts. Air quality was evaluated in accordance with Appendix G of the 2015 California Environmental Quality Act Guidelines (State CEQA Guidelines). Air quality within the SCAG region was evaluated at programmatic level of detail, in relation to Air Quality Management Plans (AQMPs) for the five air quality districts and the general plans of the six counties and 191 cities within the SCAG region, a review of published and unpublished literature germane to the SCAG region, as well as a review of the 2012 SCAG RTP/SCS. This analysis focuses on air pollution from on-road motor vehicles in two perspectives: daily emissions and pollutant concentrations. The analysis is based upon air quality modeling, performed by SCAG, using EMFAC2014. Air quality modeling that produces criteria pollutant emissions for the SCAG region and by county is based on SCAG's transportation modeling and network built for the existing conditions and the Plan.

GHGs are emitted by natural processes and human activities. GHGs are responsible for trapping heat in the atmosphere and regulating the Earth's temperature. The six major GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). While there is no set significance threshold for GHGs, they are evaluated for consistency with legislation such as Assembly Bill (AB) 32, SB 375, Executive Order (EO) B-30-15, and EO S-03-05. Because the EIR is a programmatic document, the analysis concludes whether SCAG is on track for meeting the regional goals set by the legislation.

Consistent with the emphasis of the 2016 RTP/SCS on environmental justice, the PEIR considers the potential for benefits and impacts on sensitive receptors and low-income and minority populations, in the vicinity of transportation facilities that have the potential to increase or decrease diesel particulate emissions.

Definitions

Air Dispersion: Air dispersion is defined as how air pollutants travel through ambient air. Toxic Air Contaminants/Mobile Source Air Toxics (TACs/MSATs) impact those located closest to the emission sources more than those located further away. A California law passed in 2003 (Public Resources Code Section 21151.8) prohibits the siting of a school within 500 feet of a freeway unless "the school district determines, through analysis based on appropriate air dispersion modeling, that the air quality at the proposed site is such that neither short-term nor long-term exposure poses significant health risks to pupils." The U.S. EPA has issued a number of regulations that will dramatically decrease MSATs through cleaner fuels and cleaner engines.

Carbon Dioxide (CO₂): Enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

Carbon Dioxide-Equivalent (CO_{2e}): The standard unit to measure the amount of GHGs in terms of the amount of CO₂ that would cause the same amount of warming. CO_{2e} is based on the GWP ratios between the various GHGs relative to CO₂.

Chlorofluorocarbons (CFCs): One of a class of fluorinated gases with a high greenhouse warming potential, CFCs are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are therefore being replaced by other GHG compounds covered under the Kyoto Protocol.

Climate Change: Climate change is the variation of earth's climate over time, whether due to natural variability or as a result of human activities. Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use.

Concentrations: The amount of pollutant material per volumetric unit of air, measured in parts per million (ppm) or micrograms per cubic meter (µg/m³). The following discussion identifies the pollutants included in this analysis.

Criteria Pollutants: Health-based air quality standards have been established by California and the federal government for the following criteria pollutants: carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter 2.5 microns or less in diameter (PM_{2.5}), particulate matter 10 microns or less in diameter (PM₁₀), and lead (Pb). California also includes standards for hydrogen sulfide, vinyl chloride, sulfates, and visibility.

The following describes the criteria pollutants and summarizes the health effects of each criteria pollutant:¹

Carbon Monoxide (CO): CO is a colorless, odorless, relatively inert gas. It is a trace constituent in the unpolluted troposphere, and is produced by both natural processes and human activities. In remote areas far from human habitation, carbon monoxide occurs in the atmosphere at an average background concentration of 0.04 ppm, primarily as a result of natural processes such as forest fires and the oxidation of methane. Global atmospheric mixing of CO from urban and industrial sources creates higher background concentrations (up to 0.20 ppm) near urban areas. The major source of CO in urban areas is incomplete combustion of carbon containing fuels, mainly gasoline. CO concentrations are generally highest in the vicinity of major concentrations of vehicular traffic.

CO is a primary pollutant, meaning that it is directly emitted into the air, not formed in the atmosphere by chemical reaction of precursors, as is the case with ozone and other secondary pollutants. Ambient concentrations of CO exhibit large spatial and temporal variations due to variations in the rate at which CO is emitted and in the meteorological conditions that govern transport and dilution. Unlike ozone, CO tends to reach high concentrations in the fall and winter months. The highest concentrations frequently

¹ South Coast Air Quality Management District. February 2013. *Final Environmental Impact Report for the 2012 Air Quality Management Plan*. Available at: [http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2012-air-quality-management-plan/final-2012-aqmp-\(february-2013\)/final-ceqa-eir/2012-program-environmental-impact-report-ch-3-2.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2012-air-quality-management-plan/final-2012-aqmp-(february-2013)/final-ceqa-eir/2012-program-environmental-impact-report-ch-3-2.pdf?sfvrsn=2)

occur on weekdays at times consistent with rush hour traffic and late night during the coolest, most stable portion of the day.

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart.

Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

Reductions in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO, resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels. These include preterm births and heart abnormalities.

Lead (Pb): Lead in the atmosphere is present as a mixture of a number of lead compounds. Leaded gasoline and lead smelters have been the main sources of lead emitted into the air. Due to the phasing out of leaded gasoline, there was a dramatic reduction in atmospheric lead in Southern California over the past three decades.

Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

Lead poisoning can cause anemia, lethargy, seizures, and death. It appears that there are no direct effects of lead on the respiratory system. Lead can be stored in the bone from early age environmental exposure, and elevated blood lead levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland), and osteoporosis (breakdown of bone tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of previous environmental lead exposure of their mothers.

Nitrogen Dioxide and Nitric Oxide (NO_x): NO₂ is a reddish-brown gas with a bleach-like odor. Nitric oxide (NO) is a colorless gas, formed from the nitrogen and oxygen in air under conditions of high temperature and pressure which are generally present during combustion of fuels; NO reacts rapidly with the oxygen in air to form NO₂. NO₂ is responsible for the brownish tinge of polluted air. The two gases, NO and NO₂, are referred to collectively as NO_x. In the presence of sunlight, NO₂ reacts to form nitric oxide and an oxygen atom. The oxygen atom can react further to form ozone, via a complex series of chemical reactions involving hydrocarbons. Nitrogen dioxide may also react to form nitric acid (HNO₃), which reacts further to form nitrates, components of PM_{2.5} and PM₁₀.

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO₂ at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California.

Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO₂ in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma and/or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these subgroups. More recent studies have found associations between NO₂ exposures and cardiopulmonary mortality, decreased lung function, respiratory symptoms, and emergency room asthma visits.

In animals, exposure to levels of NO₂ considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO₂.

Ozone (O₃): Ozone, a colorless gas with a sharp odor, is a highly reactive form of oxygen. High ozone concentrations exist naturally in the stratosphere. Some mixing of stratospheric ozone downward through the troposphere to the earth's surface does occur; however, the extent of ozone transport is limited. At the earth's surface in sites remote from urban areas, ozone concentrations are normally very low (e.g., from 0.03 ppm to 0.05 ppm).

While ozone is beneficial in the stratosphere because it filters out skin-cancer-causing ultraviolet radiation, it is a highly reactive oxidant. It is this reactivity that accounts for its damaging effects on materials, plants, and human health at the earth's surface.

The propensity of ozone for reacting with organic materials causes it to be damaging to living cells. Ozone enters the human body primarily through the respiratory tract and causes respiratory irritation and discomfort, makes breathing more difficult during exercise, and reduces the respiratory system's ability to remove inhaled particles and fight infection.

Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible subgroups for ozone effects. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high-ozone communities. Elevated ozone levels are also associated with increased school absences.

Ozone exposure under exercising conditions is known to increase the severity of the abovementioned observed responses. Animal studies suggest that exposures to a combination of pollutants that includes ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

Particulate Matter: Of great concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. Respirable particles (particulate matter less than about 10 micrometers in diameter [PM₁₀]) consists of suspended particles or droplets 10 micrometers or smaller in diameter. Some sources of PM₁₀, like pollen and windstorms, are naturally occurring. However, in populated areas, most PM₁₀ is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes,

and construction activities. Sources of fine particulate matter (particulate matter less than about 2.5 micrometers in diameter [$PM_{2.5}$]) include fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel-powered vehicles such as buses and trucks. These fine particles are also formed in the atmosphere when gases such as sulfur dioxide, NO_x , and ROGs are transformed in the air by chemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of PM_{10} and $PM_{2.5}$.

A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks, and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. Studies have reported an association between long-term exposure to air pollution dominated by fine particles ($PM_{2.5}$) and increased mortality, reduction in lifespan, and an increased mortality from lung cancer.

Daily fluctuations in fine particulate matter concentration levels have also been related to hospital admissions for acute respiratory conditions, to school and kindergarten absences, to a decrease in respiratory function in normal children and to increased medication use in children and adults with asthma. Studies have also shown lung function growth in children is reduced with long-term exposure to particulate matter. In addition to children, the elderly, and people with preexisting respiratory and/or cardiovascular disease appear to be more susceptible to the effects of PM_{10} and $PM_{2.5}$.

Sulfates: Sulfates (SO_x) are chemical compounds which contain the sulfate ion and are part of the mixture of solid materials which make up PM_{10} . Most of the sulfates in the atmosphere are produced by oxidation of SO_2 . Oxidation of sulfur dioxide yields sulfur trioxide (SO_3) which reacts with water to form sulfuric acid, which contributes to acid deposition. The reaction of sulfuric acid with basic substances such as ammonia yields sulfates, a component of PM_{10} and $PM_{2.5}$.

Most of the health effects associated with fine particles and SO_2 at ambient levels are also associated with SO_x . Thus, both mortality and morbidity effects have been observed with an increase in ambient SO_x concentrations. However, efforts to separate the effects of SO_x from the effects of other pollutants have generally not been successful.

Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure. Animal studies suggest that acidic particles such as sulfuric acid aerosol and ammonium bisulfate are more toxic than nonacidic particles like ammonium sulfate. Whether the effects are attributable to acidity or to particles remains unresolved.

A key criteria pollutant, SO_2 (sulfur dioxide), is a type of sulfate. SO_2 is a colorless gas with a sharp odor. It reacts in the air to form sulfuric acid (H_2SO_4), which contributes to acid precipitation, and sulfates, which are components of PM_{10} and $PM_{2.5}$. Most of the SO_2 emitted into the atmosphere is produced by burning sulfur containing fuels.

Exposure of a few minutes to low levels of SO₂ can result in airway constriction in some asthmatics. All asthmatics are sensitive to the effects of SO₂. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, is observed after acute higher exposure to SO₂. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO₂.

Animal studies suggest that despite SO₂ being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO₂ levels. In these studies, efforts to separate the effects of SO₂ from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

Vinyl Chloride: Vinyl chloride is a colorless, flammable gas at ambient temperature and pressure. It is also highly toxic and is classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as A1 (confirmed carcinogen in humans) and by the International Agency for Research on Cancer (IARC) as 1 (known to be a human carcinogen). At room temperature, vinyl chloride is a gas with a sickly sweet odor that is easily condensed. However, it is stored as a liquid. Due to the hazardous nature of vinyl chloride to human health there are no end products that use vinyl chloride in its monomer form. Vinyl chloride is a chemical intermediate, not a final product. It is an important industrial chemical chiefly used to produce polymer polyvinyl chloride (PVC). The process involves vinyl chloride liquid fed to polymerization reactors where it is converted from a monomer to a polymer PVC. The final product of the polymerization process is PVC in either a flake or pellet form. Billions of pounds of PVC are sold on the global market each year. From its flake or pellet form, PVC is sold to companies that heat and mold the PVC into end products such as PVC pipe and bottles.

Diesel Particulate Matter (diesel PM): According to the California Air Resources Board (CARB), most toxic air emissions are from motor vehicles and the particulate matter from the exhaust of diesel-fueled engines.² In 1998, the OEHHA completed a comprehensive health assessment of diesel exhaust. This assessment formed the basis for a decision by the CARB to formally identify particles in diesel exhaust as a TAC that may pose a threat to human health.³

Diesel particulate matter is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is commonly found throughout the environment and is estimated by EPA's National Scale Assessment to contribute to the human health risk in New England. Diesel exhaust is composed of two phases, either gas or particle, and both phases contribute to the risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, and polycyclic aromatic hydrocarbons. The particle phase also has many different types of particles that can be classified by size or composition. The size of diesel particulates that are of greatest health concern are those that are in the categories of fine, and ultra-fine particles. The composition of these fine and ultrafine particles may be composed of elemental carbon with absorbed compounds such as organic

² California Air Resources Board. Accessed 8 September 2015. *Reducing Toxic Air Pollutants in California's Communities*. Available at: <http://www.arb.ca.gov/toxics/brochure.pdf>

³ Office of Environmental Health Hazard Assessment. Accessed 8 September 2015. *Health Effects of Diesel Exhaust*. Available at: http://oehha.ca.gov/public_info/facts/dieselselfacts.html

compounds, sulfate, nitrate, metals, and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines: the on-road diesel engines of trucks, buses, and cars and the off-road diesel engines that include locomotives, marine vessels, and heavy-duty equipment.⁴ People living and working in urban and industrial areas are more likely to be exposed to this pollutant. Those spending time on or near roads and freeways, truck loading and unloading operations, operating diesel-powered machinery, or working near diesel equipment face exposure to higher levels of diesel exhaust and face higher health risks.⁵

The most common exposure pathway is breathing the air that contains the diesel particulate matter. The fine and ultrafine particles are respirable, which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lung. In the National Scale Assessment, there are several steps used to characterize public health risks. For diesel particulate matter, not all of the steps could be completed but a qualitative assessment was provided that provided modeling estimates of population exposures. The estimated population exposure concentrations for diesel particulate matter were the highest exposure concentrations in all of the New England states. EPA has medium confidence in the overall NATA estimate for diesel particulate exposure based on the emissions and exposure modeling. Exposure to diesel particulate matter comes from both on road and off road engine exhaust that is either directly emitted from the engines or aged through lingering in the atmosphere.⁶

Diesel exhaust causes health effects from both short-term or acute exposures and also long-term chronic exposures, such as repeated occupational exposures. The type and severity of health effects depends upon several factors including the amount of chemical you are exposed to and the length of time you are exposed. Individuals also react differently to different levels of exposure. There is limited information on exposure to just diesel particulate matter but there is enough evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects.⁷

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat, and lungs and some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic exposure in experimental animal inhalation studies have shown a range of dose-dependent lung inflammation and cellular changes in the lung, and there are also diesel exhaust immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.⁸ The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. Numerous studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks and premature deaths among those

⁴ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

⁵ Office of Environmental Health Hazard Assessment. Accessed 8 September 2015. *Health Effects of Diesel Exhaust*. Available at: http://oehha.ca.gov/public_info/facts/dieselfacts.html

⁶ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

⁷ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

⁸ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

suffering from respiratory problems. Because children's lungs and respiratory systems are still developing, they are also more susceptible than healthy adults to fine particles. Exposure to fine particles is associated with increased frequency of childhood illnesses and can also reduce lung function in children. For the average Californian, 70 percent of cancer risk from breathing toxic air pollutants stem from diesel exhaust particles.⁹

EPA's National Scale Assessment uses several types of health hazard information to provide a quantitative "threshold of concern" or a health benchmark concentration at which it is expected that no adverse health effects occur at exposures to that level. Health effects information on carcinogenic, short- and long term non-carcinogenic end points are used to establish selective protective health levels to compare to the modeled exposures levels. Unfortunately the exposure response data in human studies are considered too uncertain to develop a carcinogenic unit risk for EPA's use. There is a Reference Concentration (RFC) that is used as a health benchmark protective of chronic noncarcinogenic health effects, but it is for diesel exhaust and not specifically set for diesel particulate matter, which is what was modeled in NATA. The RFC for diesel exhaust, which includes diesel particulate matter is $5 \mu\text{g}/\text{m}^3$. This value is similar to the National Ambient Air Quality Standard established for fine particulate matter, which is $15 \mu\text{g}/\text{m}^3$.¹⁰

Emissions: The quantity of pollutants released into the air, measured in pounds per day (ppd) or tons per day (tpd).

Fluorinated Gases: Synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but they are potent GHGs, sometimes referred to as high greenhouse warming potential gases.

Global Warming Potential (GWP): Metric used to describe how much heat a molecule of a GHG absorbs relative to a molecule of carbon dioxide (CO_2) over a given period of time (20, 100, and 500 years). CO_2 has a GWP of 1.

Greenhouse Gases (GHGs): GHGs are those compounds in the earth's atmosphere that play a critical role in determining the earth's surface temperature. Specifically, these gases allow high-frequency solar radiation to enter the earth's atmosphere but retain the low-frequency energy, which is radiated back from the earth to space, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Increased concentrations of GHGs in the earth's atmosphere are thought to be linked to global climate change, such as rising surface temperatures, melting icebergs and snowpack, rising sea levels, and the increasing frequency and magnitude of severe weather.

GHGs include CO_2 , CH_4 , O_3 , water vapor, N_2O , HFCs, PFCs, and SF_6 . Carbon dioxide is the most abundant GHG. Other GHGs are less abundant, but have higher global warming potential than CO_2 . (**Table 2-1, *Greenhouse Gases and Their Relative Warming Potential Compared to CO_2***).

⁹ Office of Environmental Health Hazard Assessment. Accessed 8 September 2015. *Health Effects of Diesel Exhaust*. Available at: http://oehha.ca.gov/public_info/facts/dieselfacts.html

¹⁰ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

**TABLE 2-1
GREENHOUSE GASES AND THEIR RELATIVE GLOBAL WARMING POTENTIAL
COMPARED TO CO₂**

GHG	Atmospheric Lifetime (years)	Global Warming Potential Relative to CO ₂ ^a
Carbon Dioxide (CO ₂)	50 to 100	1
Methane (CH ₄) ^b	12 (±3)	25
Nitrous Oxide	120	298
Hydrofluorocarbons:		
HFC-23	264	14,800
HFC-32	5.6	675
HFC-125	32.6	3,500
HFC-134a	14.6	1,100
HFC-143a	48.3	1,430
HFC-152a	1.5	124
HFC-227ea	36.5	3,220
HFC-236fa	209	9,810
HFC-43-10mee	17.1	1,640
Perfluoromethane: CF ₄	50,000	7,390
Perfluoroethane: C ₂ F ₆	10,000	12,200
Perfluorobutane: C ₄ F ₁₀	2,600	8,860
Perfluoro-2-methylpentane: C ₆ F ₁₄	3,200	9,300
Sulfur Hexafluoride (SF ₆)	3,200	22,800

NOTE:

- a. Based on 100-Year Time Horizon of the Global Warming Potential (GWP) of the air pollutant relative to CO₂.
- b. The methane GWP includes the direct effects and those indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO₂ is not included.

SOURCE:

Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report (AR4). 4 April 2014. *Emission factors for greenhouse gas inventories*. Available at: <http://www.epa.gov/climateleadership/documents/emission-factors.pdf>

Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO₂, denoted as CO_{2e}. GHGs are the result of natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions.

Understanding of the fundamental processes responsible for global climate change has been improved over the past decade, and the predictive capabilities are advancing. However, there remain significant scientific uncertainties, for example, in predictions of local effects of climate change, occurrence of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the earth's climate system, the uncertainty in its description and in the prediction of changes may never be completely eliminated. Because of these uncertainties, there continues to be significant debate over the extent to which increased concentrations of GHGs have caused or will cause climate change and over the appropriate actions to limit and/or respond to climate change.

Hydrofluorocarbons (HFCs): One of a class of fluorinated gases with a high greenhouse warming potential, HFCs contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs.

Hydrochlorofluorocarbons (HCFCs): One of a class of fluorinated gases with a high greenhouse warming potential, HCFCs contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are GHGs.

Methane (CH₄): Emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.

MTCO_{2e}: Metric ton of CO_{2e}.

MMTCO_{2e}: Million metric tons of CO_{2e}.

Nitrous oxide (N₂O): Emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

Sulfur Hexafluoride (SF₆): One of a class of fluorinated gases with a high greenhouse warming potential, SF₆ is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF₆ is a strong GHGs used primarily in electrical transmission and distribution systems as an insulator.

Perfluorocarbons (PFCs): One of a class of fluorinated gases with a high greenhouse warming potential, PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF₄] and perfluoroethane [C₂F₆]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are also used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high global warming potential.

Toxic Air Contaminants (TACs): TACs, also referred to as hazardous air pollutants (HAPs), are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. TACs are also defined as an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Other factors, such as the amount of the chemical, its toxicity, how it is released into the air, the weather, and the terrain, all influence whether the emission could be hazardous to human health. Toxic air contaminants can result from manufacturing industries, automobile repair facilities, and diesel particulate emissions associated with heavy-duty equipment operations. TACs are emitted by a variety of industrial processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust and may exist as PM₁₀ and PM_{2.5} or as vapors (gases). TACs include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources.

TACs increase the likelihood of health problems and can cause ecological impacts. The resultant health effects depend on the pollutant, exposure level, site conditions, and characteristics of the populations affected. Human exposure to these pollutants at sufficient concentrations and durations can result in cancer, poisoning, and rapid onset of sickness, such as nausea or difficulty in breathing. Other less measurable effects include immunological, neurological, reproductive, developmental, and respiratory problems. Pollutants deposited onto soil or into lakes and streams affect ecological systems and eventually human health through consumption of contaminated food. The carcinogenic potential of TACs is a particular public health concern because many scientists currently believe that there is no “safe” level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of contracting cancer.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule in 2007 on the Control of Hazardous Air Pollutants from Mobile Sources,¹¹ and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://www.epa.gov/iris/>). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (<http://www.epa.gov/ttn/atw/nata1999/>). These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While the Federal Highway Administration (FHWA) considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules. The 2007 EPA rule mentioned above requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines.¹²

Visibility: With the exception of Lake County, which is designated in attainment, all of the air districts in California are currently designated as unclassified with respect to the California Ambient Air Quality Standards (CAAQS) for visibility reducing particles. (A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.)

Since deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public’s perception of air quality, the state of California has adopted a standard for visibility or visual range. Until 1989, the standard was based on visibility estimates made by human observers. The standard was changed to require measurement of visual range using instruments that measure light scattering and absorption by suspended particles. The visibility standard is based on the distance that atmospheric conditions allow a person to see at a given time and location. Visibility reduction from air pollution is often due to the presence of sulfur and nitrogen oxides, as well as particulate matter. Visibility degradation occurs when visibility reducing particles are produced in sufficient amounts such that the extinction coefficient is greater than 0.23 inverse kilometers (to reduce the visual range to less than 10 miles) at relative humidity less than 70 percent, 8-hour average (from 10:00 a.m. to 6:00 p.m.) according to the state standard.

¹¹ *Federal Register*, 26 February 2007, 72(37): 8430.

¹² Federal Highway Administration, 6 December 2012. *Memorandum. Information: Interim Guidance on Mobile Source Air Toxic Analysis in NEPA*. Available at: http://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/ajintguidmem.cfm

Volatile organic compounds (VOCs): Reactive organic gases (ROGs) are referred to as reactive organic compounds (ROCs) or volatile organic compounds (VOCs). ROGs are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary air pollutants, including ozone. ROGs themselves are not criteria pollutants; however, they contribute to formation of ozone. It should be noted that there are no state or national ambient air quality standards for VOCs because they are not classified as criteria pollutants. VOCs are regulated, however, because limiting VOC emissions reduces the rate of photochemical reactions that contribute to the formation of ozone. VOCs are also transformed into organic aerosols in the atmosphere, contributing to higher PM₁₀ and lower visibility levels.

Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOCs because of interference with oxygen uptake. In general, ambient VOC concentrations in the atmosphere are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis, even at low concentrations. Some hydrocarbon components classified as VOC emissions are thought or known to be hazardous. Benzene, for example, one hydrocarbon component of VOC emissions, is known to be a human carcinogen.

3.0 PROJECT DESCRIPTION

Project Location

SCAG is the federally designated Metropolitan Planning Organization (MPO) under Title 23, United States Code (USC) 134(d)(1). SCAG is a six-county region that includes the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, and 191 cities (**Figure 3-1, SCAG Region**). To the north of the SCAG region are the counties of Kern and Inyo, to the east are the states of Nevada and Arizona, to the south is the U.S.-Mexico border, to the west is the county of San Diego, and to the northwest is the Pacific Ocean. The SCAG region also consists of 15 subregional entities that have been recognized by the Regional Council, SCAG's governing body, as partners in the regional policy planning process (**Figure 3-2, SCAG Subregions**). There are 16 federally recognized tribal sovereign nations located within the SCAG region (**Figure 3-3, Federally Recognized Tribal Sovereign Nations**).

SCAG is one of the 18 MPOs in the State of California. The total area of the SCAG region is approximately 38,000 square miles. The region includes the county with the largest land area in the nation, San Bernardino County, as well as the county with the highest population in the nation, Los Angeles County. The SCAG region is home to approximately 19 million people, or 49 percent of California's population, representing the largest and most diverse region in the country. If it were its own state, the SCAG region would be the fifth most populous in the nation, just behind Florida and ahead of Illinois. Between 2016 and 2040, SCAG forecasts that there will be an additional 3.88 million people added to this large and diverse area.

2016 RTP/SCS

The RTP/SCS is a long-range transportation plan that provides a vision for regional transportation investments over a 20-year period. In accordance with applicable federal and state laws, SCAG updates the RTP/SCS every four years to reflect changes to the transportation network, the most recent planning assumptions, economic trends, and population and jobs growth forecasts. The RTP/SCS is developed and implemented through a collaborative, continuous, and coordinated process that involves key stakeholders such as the six County Transportation Commissions (CTCs), California Department of Transportation (Caltrans), transit operators, airport and port authorities, air districts, and other agencies including local jurisdictions in our region. The 2016 RTP/SCS will be the culmination of a multi-year effort, which was initiated since the adoption of the 2012 RTP/SCS. The 2016 RTP/SCS will largely embody the goals, objectives, and transportation improvements that have been considered in the adopted 2012 RTP/SCS, as amended in September 2014.

As a blueprint for the region's growth through 2040, the 2016 RTP/SCS outlines the region's goals, policies, and strategies that improve the balance between land use and transportation systems, both current and future. It integrates the multi-modal transportation network and related strategies with an overall land use pattern that responds to projected population and employment growth, housing needs and changing demographics, and transportation demands, including transit and active transportation. It outlines improvements to the existing transportation system, as well as the strategic expansion of the transportation system. While the Sustainable Communities and Climate Protection Act of 2008 places a great deal of attention on meeting GHG emission reduction targets set forth by the California Air Resources Board (CARB), SCAG has also established other important goals that are aimed to improving the overall quality of life in the region. The 2016 RTP/SCS builds from the foundation of the adopted

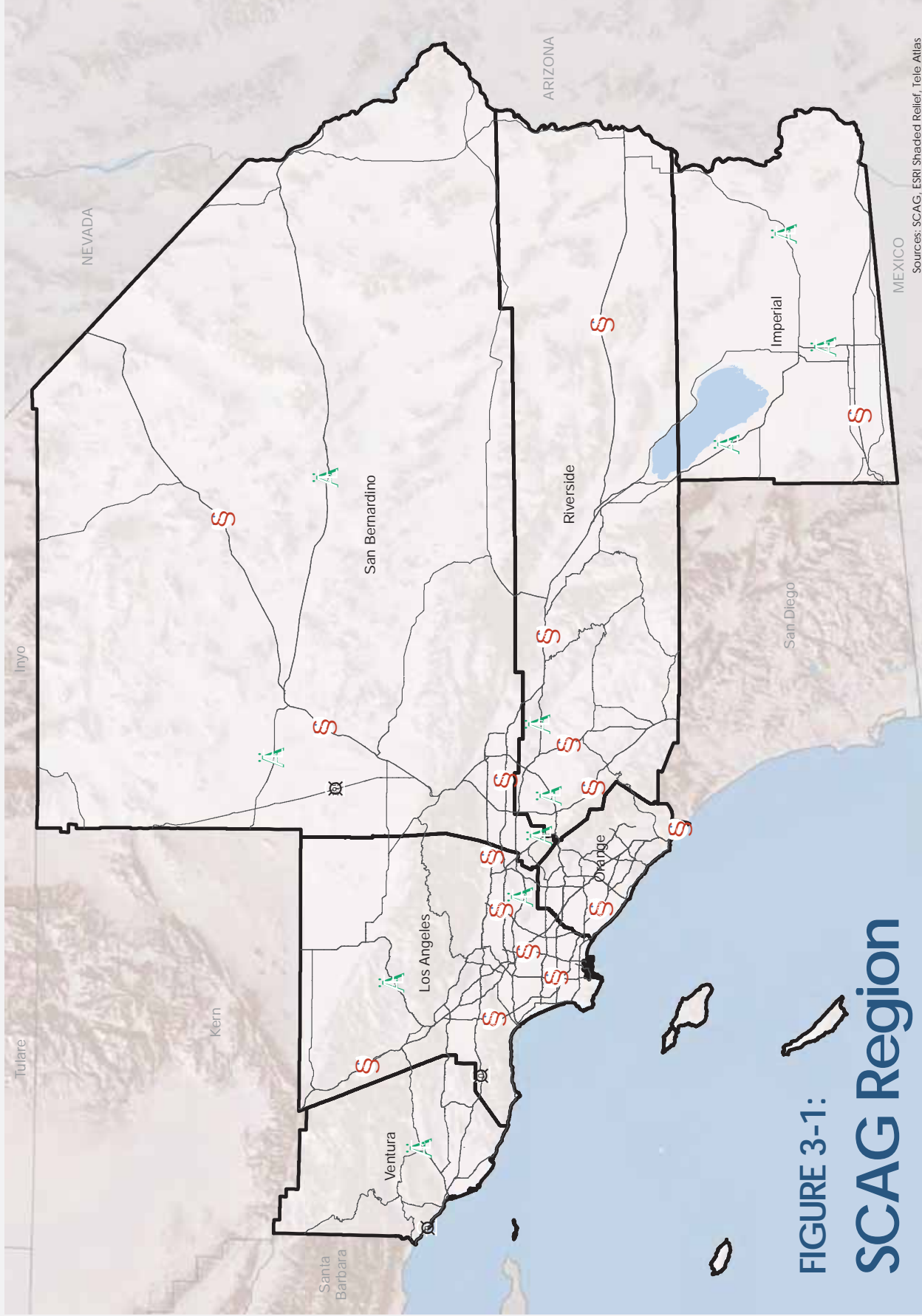


FIGURE 3-1:
SCAG Region

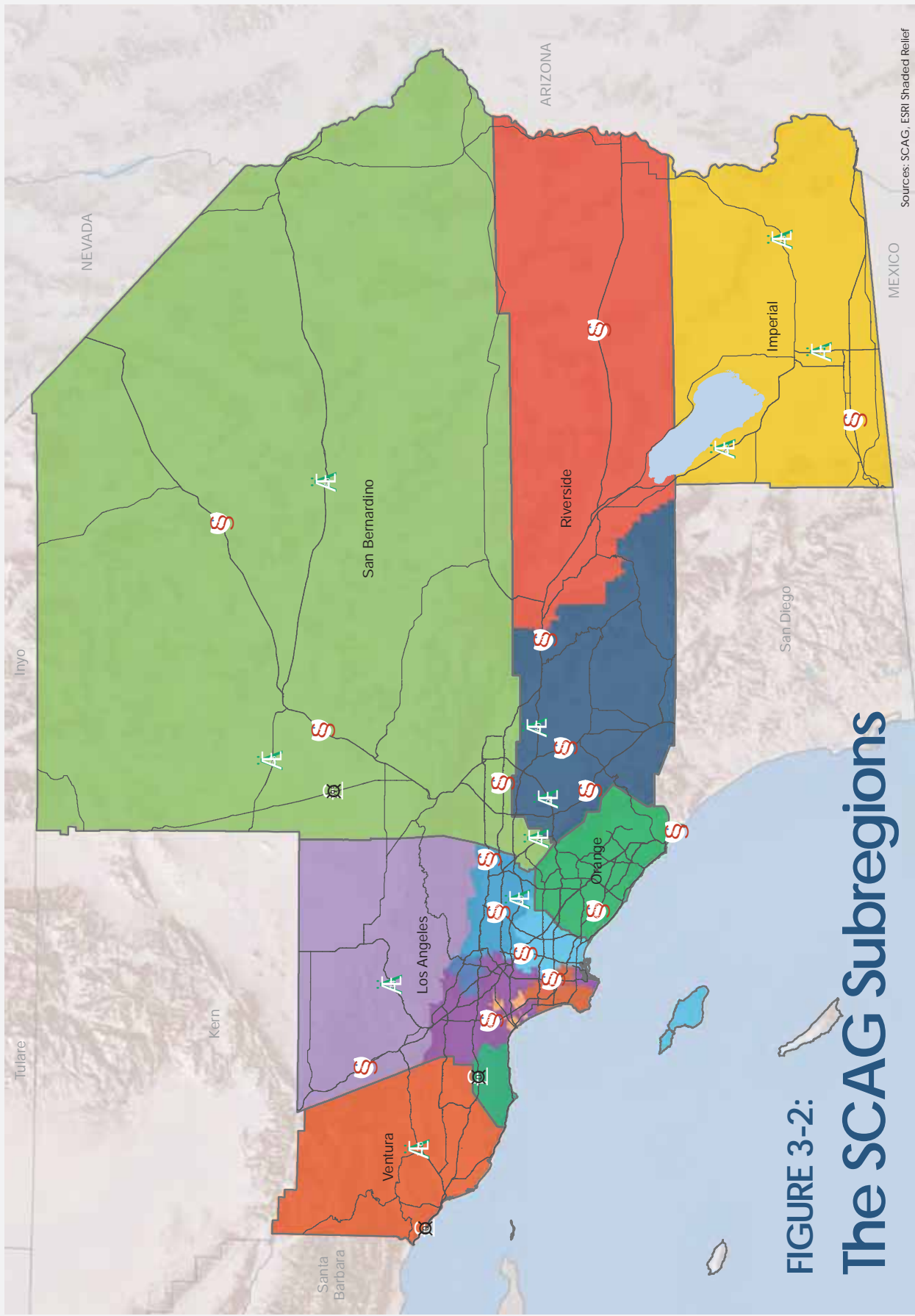


FIGURE 3-2:
The SCAG Subregions

- Arroyo Verdugo
- Coachella Valley Association of Governments (CVAG)
- City of Los Angeles
- Gateway Cliffs
- Imperial Valley Association of Governments (IVAG)
- Las Virgenes
- North Los Angeles County
- Orange County
- San Bernardino Associated Governments (SANBAG)
- San Gabriel Valley Association of Cities
- South Bay Cities Association
- Ventura Council of Governments (VCOG)
- Western Riverside Council of Governments (WRCOG)
- Westside Cities

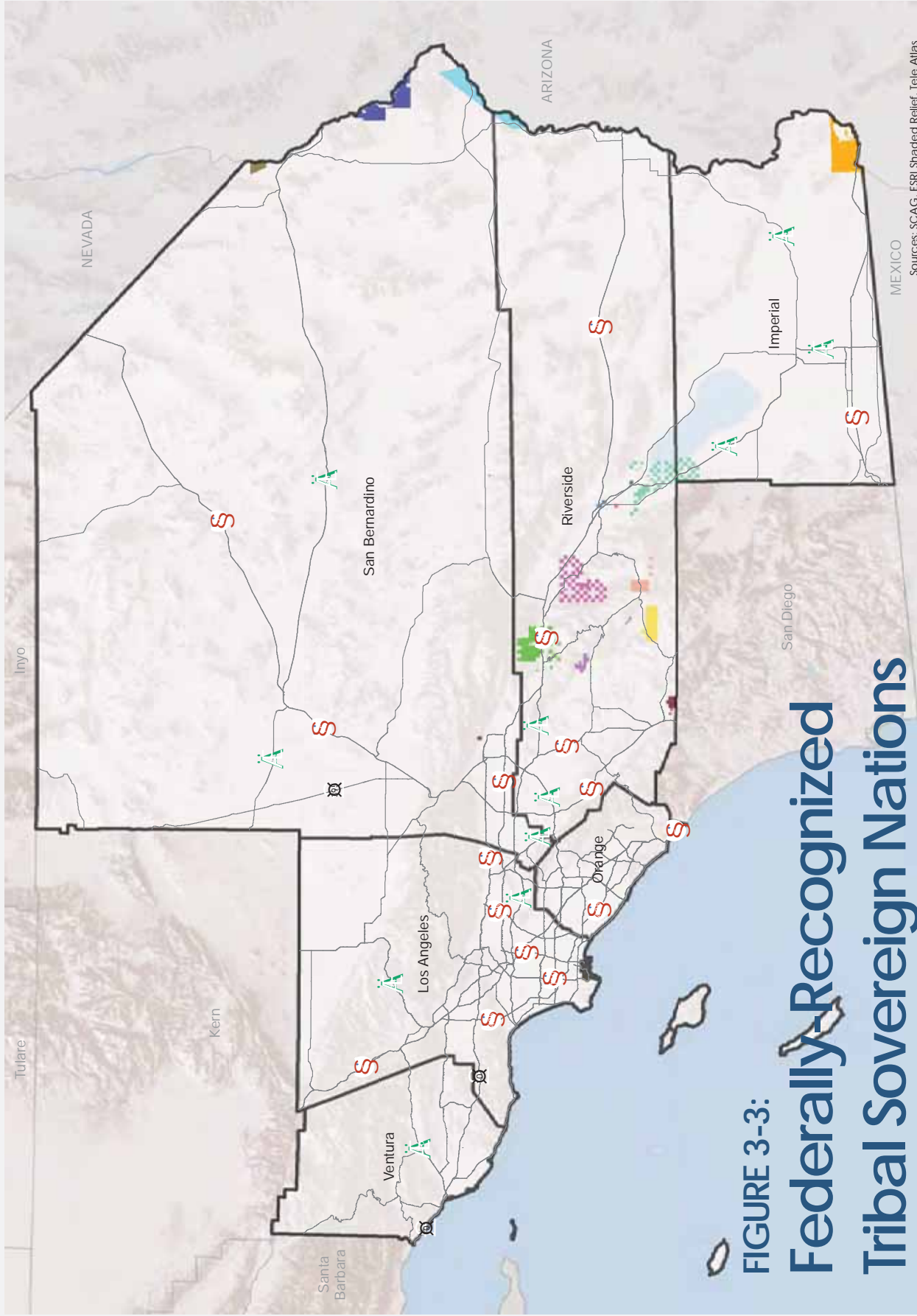


FIGURE 3-3:
Federally-Recognized
Tribal Sovereign Nations

- Agua Caliente
- Augustine
- Cabazon
- Cahulla
- Chemehuevi
- Cocopah
- Colorado River
- Fort Mojave
- Morongo
- Pechanga
- Quechan
- Ramona
- San Manuel
- Santa Rosa
- Soboba
- Torres-Martinez
- Twenty-Nine Palms



Sources: SCAG, ESRI Shaded Relief, Tele Atlas

2012 RTP/SCS, as amended in September 2014, as the baseline scenario to be utilized to review the progress in implementing strategies identified in the 2012 RTP/SCS.

The 2016 RTP/SCS is intended to meet the changing socioeconomic, transportation infrastructure, financial, technological, and environmental conditions of the region. Individual projects are preliminarily identified in the 2016 RTP/SCS. The PEIR is a programmatic level of analysis of the potential for the anticipated transportation improvements and sustainable communities strategies under consideration for the 2016 planning horizon to result in significant impacts on the environment and an assessment of the feasibility of measures and alternatives to avoid, reduce, or mitigate the anticipated significant direct, indirect, and cumulative impacts. Project-level analyses will be considered by implementing agencies on a project-by-project basis as projects proceed through the design and decision-making process. Project-specific planning and implementation undertaken by each implementing agency will depend on a number of issues, including: policies, programs and projects adopted at the local level; restrictions on federal, State and local transportation funds; the results of feasibility studies for particular corridors; and project-specific environmental review.

Objectives of the 2016 RTP/SCS

This 2016 RTP/SCS strives to support California's major initiatives for reducing climate change or GHG emissions as outlined in California Global Warming Solutions Act of 2006, 2005 action by then-Governor Arnold Schwarzenegger (EO S-3-05), and a related regulation to reduce passenger car GHG emissions. These efforts aim at reducing GHG emissions to 1990 levels by 2020—a reduction of approximately 30 percent, and then an 80 percent reduction below 1990 levels by 2050.

SCAG is also required to prepare an RTP and pursuant to Section 65080 of the California Government Code. The state requirements largely mirror the federal requirements and require each Regional Transportation Planning Agency (RTPA) in urban areas to adopt and submit an updated RTP to the CTC and Caltrans every four years. To ensure a degree of statewide consistency in the development of RTPs, the CTC under Government Code Section 14522 prepared RTP Guidelines. The adopted guidelines include a requirement for program level performance measures, which include objective criteria that reflect the goals and objectives of the RTP. In addition, the initial years of the plan must be consistent with the Federal Transportation Improvement Program (TIP). Pursuant to SB 375, SCAG is required to submit the SCS to CARB for the purpose of determining whether GHG targets have been met.

Under SB 375, California's Sustainable Communities and Climate Protection Act, SCAG is also required to prepare an SCS as part of the RTP that reduces GHG emissions by 8 percent per capita by 2020 and 13 percent per capita by 2035, as set by the CARB. According to Section 65080 of the California Government Code, in summary the SCS must:

- Identify existing land use;
- Identify areas to accommodate long-term housing needs;
- Identify areas to accommodate an eight-year projection of regional housing needs;
- Identify transportation needs and the planned transportation network;
- Consider resource areas and farmland;
- Consider state housing goals and objectives;
- Set forth a forecasted growth and development pattern; and
- Comply with federal law for developing an RTP.

SCAG's SCS demonstrates the region's ability to attain the GHG emissions reduction targets set forth by the CARB. The SCS outlines SCAG's plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs and changing demographics, and transportation demands.

Prior to adopting the 2016 RTP/SCS, SCAG's Regional Council must certify the PEIR for the Plan. Local and state transportation agencies will use the 2016 RTP/SCS and the PEIR as a reference for their own planning purposes.

Goals

The goals of the 2016 RTP/SCS are expected to remain substantively the same as the goals established in the 2012 RTP/SCS (Table 3-1, 2016 RTP/SCS Goals). The regional goals reflect the wide-ranging challenges facing transportation planners and decision-makers in achieving the RTP/SCS vision. The goals demonstrate the need to balance many priorities in the most cost-effective manner.

**TABLE 3-1
2016 RTP/SCS GOALS**

1. Align the plan investments and policies with improving regional economic development and competitiveness.
2. Maximize mobility and accessibility for all people and goods in the region.
3. Ensure travel safety and reliability for all people and goods in the region.
4. Preserve and ensure a sustainable regional transportation system.
5. Maximize the productivity of our transportation system.
6. Protect the environment and health of our residents by improving air quality and encouraging Active Transportation (non-motorized transportation, such as bicycling and walking)
7. Actively encourage and create incentives for energy efficiency, where possible.
8. Encourage land use and growth patterns that facilitate transit and active transportation
9. Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.

In addition to meeting the GHG emissions reduction targets that the CARB has set for the SCAG region pursuant to SB 375, SCAG intends to address the goals set forth in EO S-3-05 (to reduce GHG emissions to 1990 levels by 2020, and to reduce GHG emissions to 80 percent below 1990 levels by 2050).

4.0 REGULATORY FRAMEWORK

International

U.S.-China Climate Agreement

In November 2014, the United States and China made a joint announcement to cooperate on combatting climate change and promoting clean energy. In the U.S., President Obama announced a climate target to reduce greenhouse gas emissions by 26 to 28 percent below 2005 levels by 2025. In China, President Xi Jinping announced a climate target to reduce peak CO₂ emissions by 2030 and to increase the renewable energy share across all sectors to 20 percent by 2030. China will need to build an additional 800 to 1,000 gigawatts of nuclear, wind, solar, and other zero emission generation capacity by 2030 to reach this target. Together, the United States and China have agreed to: expand joint clean energy research and development at the U.S.-China Clean Energy Research Center (CERC), advance major carbon capture, use and storage demonstrations, enhance cooperation on HFCs, launch a climate-smart/low-carbon cities initiative, promote trade in green goods, and demonstrate clean energy on the ground.¹³

United Nations Framework Convention on Climate Change (UNFCCC)

A new international climate change agreement will be adopted at the Paris UNFCCC climate conference in December 2015 and implemented from 2020. The last two climate conferences in Warsaw (2013) and Lima (2014) decided that countries shall submit their proposed emissions reduction targets for the 2015 conference as “intended nationally determined contributions” prior to the Paris conference. The European Union has committed to an economy-wide, domestic greenhouse gas reduction target of 40 percent below 1990 levels by 2030.¹⁴ The United States has set its intended nationally determined contribution to reduce its greenhouse gas emissions by 26 to 28 percent below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28 percent. These targets are set with the goal of limiting global temperature rise to below 2 degrees Celsius and getting to the 80 percent emission reduction by 2050.¹⁵

Federal

Federal Clean Air Act

Congress passed the first major Clean Air Act (CAA) in 1970 (42 USC Sections 7401 et seq.). This Act gives the U.S. Environmental Protection Agency (EPA) broad responsibility for regulating motor vehicle

¹³ The White House. 11 November 2014. *Fact Sheet: U.S.-China Joint Announcement on Climate Change and Clean Energy Cooperation*. Available at: <https://www.whitehouse.gov/the-press-office/2014/11/11/fact-sheet-us-china-joint-announcement-climate-change-and-clean-energy-c>

¹⁴ European Commission. Accessed 13 October 2015. *The 2015 International Agreement*. Available at: http://ec.europa.eu/clima/policies/international/negotiations/future/index_en.htm

¹⁵ United Nations Framework Convention on Climate Change (UNFCCC). Accessed 14 October 2015. *United States Intended Nationally Determined Contribution*. Available at: <http://www4.unfccc.int/submissions/INDC/Published%20Documents/United%20States%20of%20America/1/U.S.%20Cover%20Note%20INDC%20and%20Accompanying%20Information.pdf>

emissions from many sources of air pollution from mobile to stationary sources. Pursuant to the CAA, the EPA is authorized to regulate air emissions from mobile sources like heavy-duty trucks, agricultural and construction equipment, locomotives, lawn and garden equipment, and marine engines; and stationary sources such as power plants, industrial plants, and other facilities. The CAA sets National Ambient Air Quality Standards (NAAQS) for the six most common air pollutants to protect public health and public welfare. These pollutants include particulate matter, ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. For each pollutant, the EPA designates an area as attainment for meeting the standard or nonattainment for not meeting the standard. A maintenance designation entails an area that was previously designated as nonattainment but is currently designated as attainment. The CAA directs states to develop state implementation plans (SIPs), applicable to appropriate industrial sources in the state, in order to achieve these standards.

CAA Section 111

Under Section 111 of the CAA, the EPA issues standards, regulations, and guidelines to reduce carbon pollution on new, modified and existing power plants. Section 111(b) creates a federal program to establish standards for new, modified, and reconstructed stationary sources. Section 111(d) is a state-based program for existing stationary sources where the EPA sets the guidelines and the states implement programs to meet those guidelines.

Clean Power Plan

On August 3, 2015, President Obama and the EPA announced the Clean Power Plan. The Clean Power Plan sets achievable standards to reduce carbon dioxide emissions by 32 percent from 2005 levels by 2030.¹⁶ This Plan establishes final emissions guidelines for states to follow in developing plans to reduce GHG emissions from existing fossil fuel-fired electric generating units (EGUs). Specifically, the EPA is establishing: (1) carbon dioxide emission performance rates representing the best system of emission reduction (BSER) for two subcategories of existing fossil fuel-fired EGUs, fossil fuel-fired electric utility steam generating units and stationary combustion turbines; (2) state-specific CO₂ goals reflecting the CO₂ emission performance rates; and (3) guidelines for the development, submittal and implementation of state plans that establish emission standards or other measures to implement the CO₂ emission performance rates, which may be accomplished by meeting the state goals. This final rule will continue progress already under way in the U.S. to reduce CO₂ emissions from the utility power sector.¹⁷

CAA Section 112(f) and 112(d): National Emission Standards for Hazardous Air Pollutants (NESHAPs)

Section 112 of the CAA addresses emissions of hazardous air pollutants. Prior to 1990, CAA established a risk-based program under which only a few standards were developed. The 1990 CAAA revised Section 112 to first require issuance of technology-based standards for major sources and certain area sources. “Major sources” are defined as a stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year or more of a hazardous air pollutant or 25 tons per year or

¹⁶ The White House. Accessed 2 September 2015. *Climate Change and President Obama's Action Plan*. Available at: <https://www.whitehouse.gov/climate-change>

¹⁷ U.S. Environmental Protection Agency. 3 August 2015. *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*. Available at: <http://www2.epa.gov/sites/production/files/2015-08/documents/cpp-final-rule.pdf>

more of a combination of hazardous air pollutants. An “area source” is any stationary source that is not a major source.¹⁸

For major sources, Section 112 requires that EPA establish emission standards that require the maximum degree of reduction in emissions of hazardous air pollutants. These emission standards are commonly referred to as “maximum achievable control technology” or MACT standards. Eight years after the technology-based MACT standards are issued for a source category, EPA is required to review those standards to determine whether any residual risk exists for that source category and, if necessary, revise the standards to address such risk.¹⁹

The Risk and Technology Review (RTR) is a combined effort to evaluate both risk and technology as required by the CAA after the application of MACT standards. Section 112(f) of the CAA requires EPA to complete a report to Congress that includes a discussion of methods the EPA would use to evaluate the risks remaining after the application of MACT standards. These are known as residual risks. EPA published the Residual Risk Report to Congress (PDF) in March 1999. Section 112(f)(2) directs EPA to conduct risk assessments on each source category subject to MACT standards, and to determine if additional standards are needed to reduce residual risks. Section 112(d)(6) of the CAA requires EPA to review and revise the MACT standards, as necessary, taking into account developments in practices, processes and control technologies.²⁰

National Ambient Air Quality Standards (NAAQS)

The federal CAA required the EPA to establish NAAQS. The NAAQS set primary standards and secondary standards for specific air pollutants (**Table 4-1, *National Ambient Air Quality Standards***). Primary standards define limits for the intention of protecting public health, which include sensitive populations such as asthmatics, children, and the elderly. Secondary standards define limits to protect public welfare to include protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

¹⁸ U.S. Environmental Protection Agency. 13 March 2015. *Summary of the Clean Air Act*. Available at: <http://www2.epa.gov/laws-regulations/summary-clean-air-act>

¹⁹ U.S. Environmental Protection Agency. 13 March 2015. *Summary of the Clean Air Act*. Available at: <http://www2.epa.gov/laws-regulations/summary-clean-air-act>

²⁰ U.S. Environmental Protection Agency. Accessed 18 August 2015. *Risk and Technology Review*. Available at: <http://www.epa.gov/ttn/atw/rrisk/rtrpg.html>

**TABLE 4-1
NATIONAL AMBIENT AIR QUALITY STANDARDS**

Pollutant		Primary/Secondary	Averaging Time	Level
Carbon monoxide		Primary	8 hours	9 ppm
			1 hour	35 ppm
Lead		Primary and secondary	Rolling 3-month average	0.15 µg/m ³
Nitrogen dioxide		Primary	1 hour	100 ppb
		Primary and secondary	Annual	53 ppb
Ozone		Primary and secondary	8 hours	0.075 ppm
Particulate matter	PM _{2.5}	Primary	Annual	12 µg/m ³
		Secondary	Annual	15 µg/m ³
		Primary and secondary	24 hours	35 µg/m ³
	PM ₁₀	Primary and secondary	24 hours	150 µg/m ³
Sulfur dioxide		Primary	1 hour	75 ppb
		Secondary	3 hours	0.5 ppm

NOTE:

ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter.

SOURCE:

California Air Resources Board. 4 June 2013. *Ambient Air Quality Standards*. Available at: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>

State Implementation Plan (SIP)/ Air Quality Management Plans (AQMPs)

An SIP is required by the EPA to ensure compliance with the NAAQS. States must develop a general plan to maintain air quality in areas of attainment and a specific plan to improve air quality for areas of nonattainment. SIPs are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. The SIP verifies that the state has a proper air quality management program that adheres to or strives to reach the most up to date emissions requirements. The 1990 amendments to the federal CAA set deadlines for attainment based on the severity of an area's air pollution problem. In adherence to CAA Section 172, states must adopt additional regulatory programs for nonattainment areas. Particularly in California, the SIP not only complies with NAAQS, but also the more stringent California Ambient Air Quality Standards (CAAQS).

Air Quality Management Plans (AQMPs) are required to ensure compliance with the state and federal requirements. AQMPs contain scientific information and use analytical tools to demonstrate a pathway towards achieving attainment for the criteria air pollutants. Within the SCAG region, five air districts—the Southern California Air Quality Management District (SCAQMD), Mojave Desert Air Quality Management District (MDAQMD), Imperial County Air Pollution Control District (ICAPCD), Antelope Valley Air Quality Management District (AVAQMD), and Ventura County Air Pollution Control District

(VCAPCD)—are responsible for developing the AQMPs.²¹ The approval process begins when the regional air districts submit their AQMPs to the CARB. CARB is the lead agency and responsible agency for submitting the SIP to the EPA. CARB forwards SIP revisions to the EPA for approval and publication in the *Federal Register*. The Code of Federal Regulations Title 40, Chapter I, Part 52, Subpart F, Section 52.220, lists all of the items included in the California SIP.

Transportation Conformity

Transportation conformity is required under federal CAA section 176(c) to ensure that federally supported highway and transit project activities are consistent with (“conform to”) the purpose and requirements of the SIP. Conformity currently applies to areas that are designated nonattainment, and those redesignated to attainment after 1990 (“maintenance areas” with plans developed under CAA section 175A) for the following transportation-related criteria pollutants: ozone, particulate matter (PM_{2.5} and PM₁₀), CO, and NO₂. Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS. The transportation conformity regulation is found in 40 Code of Federal Regulations (CFR) Part 93. Conformity requires reporting on the timely implementation of Transportation Control Measures (TCMs) in ozone nonattainment areas designated as serious or worse, thus reinforcing the link between AQMP/SIPs and the transportation planning process. TCMs are expected to be given funding priority and to be implemented on schedule, and in the case of any delays, any obstacles to implementation have been or are being overcome. In the SCAG region, there are two areas for which the ozone SIPs contain TCMs: SCAB and the Ventura County portion of SCCAB. (It is noted that the Ventura County SIP does not claim emission reduction credits from TCM projects. They have been included to assist transportation and air quality agencies to identify projects that have the potential of reducing vehicle emissions, vehicle trips, and vehicle miles traveled.)

Federal CAA Rules

The mobile and stationary sources of emissions are subject to different rules and regulations. For the mobile sources, the rules apply to cars, trucks, buses, recreational vehicles, engines, generators, farm and construction machines, lawn and garden equipment, marine engines, and locomotives. In addition, the compositions of fuels used to operate mobile sources are regulated to help reduce harmful emissions. For stationary resources including factories and chemical plants, pollution control equipment are installed to meet specific emission limits set under the CAA. The New Source Review (NSR) and Prevention of Significant Deterioration (PSD) require large industrial operators such as coal-fired power, acid, glass, and cement plants and petroleum refineries to make modifications to existing facilities or install new controls resulted in emissions of pollutants on new facilities to reduce degradation and harm against public health. EPA works with its federal partners through CAA to ensure compliance with rules through active monitoring and to make sure that the regulated community obeys environmental laws/regulations through on-site inspections and record reviews that lead to enforcement in order to meet environmental regulatory requirements.

²¹ Southern California Association of Governments. Accessed 7 April 2015. *Air Quality Management Plans*. Available at: <http://www.scag.ca.gov/programs/Pages/ManagementPlans.aspx>

Mobile Source Air Toxics (MSAT) Modeling and Programs

MOVES2014. In 2010, the EPA released the emission model, the Motor Vehicle Emissions Simulator (MOVES). On February 8, 2011, EPA issued guidance on “Using the MOVES and Emission Factors (EMFAC) Models in NEPA Evaluation” that recommended a two-year grace period be applied to project-level emissions analysis for NEPA purposes. At the end of this grace period, that is, beginning December 20, 2012, lead agencies should use MOVES to conduct emissions analysis for NEPA purposes. To prepare for this transition, FHWA is updating the September 2009 Interim Guidance to incorporate the analysis conducted using MOVES. Based on FHWA's analysis using MOVES2010 diesel particulate matter (diesel PM) has become the dominant MSAT of concern. MOVES2014, the latest version of MOVES, was released in October 2014, and incorporates the Tier 3 Rule and other EPA rulemakings since the last MOVES release.

The U.S. EPA has adopted several mobile source emission control programs such as:²²

Control of Hazardous Air Pollutants from Mobile Sources. In February 2007, EPA finalized this rule to reduce hazardous air pollutants from mobile sources. The rule limits the benzene content of gasoline and reduces toxic emissions from passenger vehicles and gas cans. EPA estimates that in 2030 this rule would reduce total emissions of mobile source air toxics by 330,000 tons and VOC emissions (precursors to ozone and PM_{2.5}) by over 1 million tons.

Heavy-Duty Onboard Diagnostic Rule (74 FR 8310). In February 2009, the EPA published a final rule, requiring that these advanced emissions control systems be monitored for malfunctions via an onboard diagnostic system (OBD), similar to those systems that have been required on passenger cars since the mid-1990s. This final rule will require manufacturers to install OBD systems that monitor the functioning of emission control components and alert the vehicle operator to any detected need for emission related repair.

Small SI and Marine SI Engine Rule (73 FR 25098). Published October 2008, these exhaust emission standards applied starting in 2010 for new marine spark-ignition (SI) engines, including first-time EPA standards for sterndrive and inboard engines. The exhaust emission standards applied starting in 2011 and 2012 for different sizes of new land based, spark-ignition engines at or below 19 kilowatts (kW). These small engines are used primarily in lawn and garden applications. Estimated annual nationwide reductions are anticipated to be 604,000 tons of volatile organic hydrocarbon emissions, 132,200 tons of NO_x emissions, and 5,500 tons of directly emitted particulate matter (PM_{2.5}) emissions.

Locomotive and Commercial Marine Rule (66 FR 5002). Published May 2008, the controls apply to all types of locomotives, including line-haul, switch, and passenger, and all types of marine diesel engines below 30 liters per cylinder displacement, including commercial and recreational, propulsion and auxiliary. The near-term program, which started in 2009, includes new emission limits for existing locomotives and marine diesel engines that apply when they are remanufactured, and take effect as soon as certified remanufacture systems are available. The long-term emissions standards for newly-built locomotives and marine diesel engines are based on the application of high-efficiency catalytic after-treatment technology. These standards take effect in 2015 for locomotives and in 2014 for marine diesel engines.

²² U.S. Environmental Protection Agency. 26 June 2014. *Mobile Source Air Toxics*. Available at: <http://www.epa.gov/otaq/toxics.htm>

Clean Air Nonroad Diesel Rule (65 FR 6698). Published June 2004, this comprehensive national program regulates nonroad diesel engines and diesel fuel as a system. New engine standards took effect in the 2008 model year, phasing in over a number of years. These standards are based on the use of advanced exhaust emission control devices.

Heavy-duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements (66 FR 5002). Published January 2001, the EPA established a comprehensive national control program to regulate the heavy-duty vehicle and its fuel as a single system. As part of this program, new emission standards took effect in model year 2007, and apply to heavy-duty highway engines and vehicles. These standards are based on the use of high-efficiency catalytic exhaust emission control devices or comparably effective advanced technologies.

New Source Performance Standards (NSPS) for Stationary Engines. Nonroad diesel engines are used in excavators and other construction equipment, farm tractors and other agricultural equipment, heavy forklifts, airport ground service equipment, and utility equipment such as generators, pumps, and compressors.²³ The first set of emission regulations, known as Tier 1, was published in 1996. With each successive tier of regulations, the permitted levels of nitrogen oxides and particulate matter, the two main pollutants from diesel engines, have gone down significantly. Tier 4 is a more than 95 percent reduction in tailpipe emission levels compared with nonregulated amounts. Tier 4 final requirements, which require manufactures to produce new engines with advanced emission control technologies, will be phased-in for all engines by 2017.²⁴

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (42 USC 17001) includes several key provisions that will increase energy efficiency and the availability of renewable energy, which will reduce greenhouse gas emissions as a result. First, the Act sets a Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel by 2022. Second, it increased Corporate Average Fuel Economy (CAFE) Standards to require a minimum average fuel economy of 35 miles per gallon for the combined fleet of cars and light trucks by 2020. Third, the Act includes a variety of new standards for lighting and for residential and commercial appliance equipment. The equipment includes residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, and commercial walk-in coolers and freezers.²⁵

Greenhouse Gas Reporting Program (GHGRP)

The EPA adopted the GHGRP (40 CFR Part 98), a mandatory GHG reporting rule in September 2009. The rule requires suppliers of fossil fuels or entities that emit industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to the EPA beginning in 2011 (covering the 2010 calendar year emission). Vehicle

²³ U.S. Environmental Protection Agency. 11 August 2014. *Nonroad Diesel Engines*. Available at: <http://www.epa.gov/otaq/nonroad-diesel.htm>

²⁴ Natekar, Aniruddha, and Matthew Menzel. Accessed 8 September 2015. *The Impact of Tier 4 Emission Regulations on the Power Generation Industry*. Available at: <https://www.cumminspower.com/www/literature/technicalpapers/PT-9010-Tier4EmissionRegImpact.pdf>

²⁵ U.S. Environmental Protection Agency. Accessed 14 October 2015. *Summary of the Energy Independence and Security Act*. Available at: <http://www2.epa.gov/laws-regulations/summary-energy-independence-and-security-act>

and engine manufacturers were required to begin reporting GHG emissions for model year 2011. In January 2012, EPA made the first year of GHGRP reporting data available to the public through its interactive Data Publication Tool, called Facility Level Information on Greenhouse gases Tool (FLIGHT), EPA will continue to update the tool and release additional data each reporting year.²⁶

National Program to Improve Fuel Economy and Reduce GHGs

On September 15, 2009, the National Highway Traffic Safety Administration (NHTSA) and EPA announced a proposed joint rule that would explicitly tie fuel economy to GHG emissions reductions requirements. The proposed new CAFE Standards would cover automobiles for model years 2012 through 2016, and would require passenger cars and light trucks to meet a combined, per mile, carbon dioxide emissions level. It is estimated that by 2016, this GHG emissions limit could equate to an overall light-duty vehicle fleet average fuel economy of as much as 35.5 miles per gallon. The proposed standards would require model year 2016 vehicles to meet an estimated combined average emission level of 250 grams of carbon dioxide per mile under EPA's GHG program. On November 16, 2011, EPA and NHTSA issued a joint proposal to extend the national program of harmonized GHG and fuel economy standards to model year 2017 through 2025 passenger vehicles. In August 2012, President Obama finalized standards that will increase fuel economy to the equivalent of 54.5 mpg for cars and light-duty trucks by Model Year 2025.

Heavy-Duty National Program

The Heavy-Duty National Program was adopted on August 9, 2011, to establish the first fuel efficiency requirements for medium- and heavy-duty vehicles beginning with the model year 2014.

Proposed Rulemaking: Phase 2 Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles

As of June 2015, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) are jointly proposing a national program that would establish the next phase of GHG emissions and fuel efficiency standards for medium- and heavy-duty vehicles. The Phase 2 program significantly reduces carbon emissions and improves the fuel efficiency of heavy-duty vehicles, helping to address the challenges of global climate change and energy security. Phase 2 would save the heavy duty vehicle industry billions of dollars' worth of fuel, reduce the cost of transporting goods, cut fuel consumption, and reduce GHG emissions by 1 billion metric tons. Fuel consumption of tractor trailers alone could decrease by 24 percent. The proposed Phase 2 standards, which begin in the model year 2021 (model year 2018 for trailers and 2021 for NHTSA's trailer standards) and culminate in standards for model year 2027, are the product of a comprehensive assessment of existing and advanced technologies and extensive stakeholder outreach.²⁷

²⁶ U.S. Environmental Protection Agency. Accessed 14 October 2015. *Greenhouse Gas Reporting Program*. Available at: <http://www2.epa.gov/ghgreporting>

²⁷ U.S. Environmental Protection Agency. June 2015. *Cutting Carbon Pollution, Improving Fuel Efficiency, Saving Money, and Supporting Innovation for Trucks*. Available at: <http://www3.epa.gov/otaq/climate/documents/420f15900.pdf>

President Obama's Climate Action Plan

On June 25, 2013, President Obama issued a Climate Action Plan. The three main goals are to cut carbon pollution, prepare the U.S. for the impacts of climate change, and lead international efforts to combat global climate change and prepare for its impacts. President Obama plans to cut carbon pollution by directing the EPA to complete carbon pollution standards in the power sector. This will reduce emissions from power plants and encourage renewable energy development. Other strategies to combat climate change are increasing energy efficiency, stricter vehicle and fuel standards, preserving forests as climate sinks, reducing energy waste, combating short-lived climate pollutants, mobilizing climate finance, and leading international negotiations on climate change.²⁸

Federal Highway Administration's Climate Change and Extreme Weather Vulnerability Assessment Framework

Published in December 2012, the Climate Change and Extreme Weather Vulnerability Assessment Framework is a guidance document for transportation agencies to assess their vulnerability to climate change and extreme weather events. Objectives for a vulnerability assessment may include siting new assets in areas less vulnerable to climate change, educating staff regarding overall climate risks to the agency's transportation system, or informing the development of adaptation strategies. Based on these objectives, an agency can then select and characterize relevant assets and identify climate variables for study. The vulnerability assessment is an iterative process; information gathered on assets may inform climate information needs and vice versa.²⁹

Executive Order 13693, Planning for Federal Sustainability in the Next Decade

Published June 10, 2015, EO 13693, *Planning for Federal Sustainability in the Next Decade*, revokes multiple prior EOs and memorandum including EO 13423 and EO 13514. The new EO outlines forward-looking goals for federal agencies in the area of energy, climate change, water use, vehicle fleets, construction, and acquisition. The goal is to maintain federal leadership in sustainability and GHG emission reductions. Federal agencies shall, where life-cycle cost-effective, beginning in FY 2016.³⁰

- Reduce agency building energy intensity as measured in Btu/ft² by 2.5 percent annually through FY 2025.
- Improve data center energy efficiency at agency buildings.
- Ensure a minimum percentage of total building electric and thermal energy shall be from clean energy sources.

²⁸ The White House. June 2013. *The President's Climate Action Plan*. Available at: <https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>

²⁹ Federal Highway Administration. December 2012. *Climate Change and Extreme Weather Vulnerability Assessment Framework*. Available at: http://www.fhwa.dot.gov/environment/climate_change/adaptation/publications_and_tools/vulnerability_assessment_framework/fhwahep13005.pdf

³⁰ Fed Center. 10 July 2015. *EO 13693*. Available at: <https://www.fedcenter.gov/programs/eo13693/>

- Improve agency water use efficiency and management (including stormwater management).
- Improve agency fleet and vehicle efficiency and management by achieving minimum percentage GHG emission reductions.

State

California Clean Air Act of 1988

The California CAA of 1988 (Chapter 1568, Statutes of 1988) requires all air pollution control districts in the state to aim to achieve and maintain state ambient air quality standards for ozone, carbon monoxide, and nitrogen dioxide by the earliest practicable date and to develop plans and regulations specifying how the districts will meet this goal. There are no planning requirements for the state PM₁₀ standard. The CARB, which became part of the California Environmental Protection Agency (Cal/EPA) in 1991, is responsible for meeting state requirements of the federal CAA, administrating the California CAA, and establishing the California Ambient Air Quality Standards (CAAQS). The California CAA, amended in 1992, requires all AQMDs in the state to achieve and maintain the CAAQS. The CAAQS are generally stricter than national standards for the same pollutants, but there is no penalty for nonattainment. California has also established state standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles, for which there are no national standards.

California Ambient Air Quality Standards (CAAQS)

The federal CAA permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants, such as particulate matter and ozone, which are more protective of public health than respective federal standards (**Table 4-2, *California Ambient Air Quality Standards***). California has also set standards for some pollutants that are not addressed by federal standards.

**TABLE 4-2
CALIFORNIA AMBIENT AIR QUALITY STANDARDS**

Pollutant		Averaging Time	Level
Carbon monoxide		8 hours	9 ppm
		1 hour	20 ppm
Lead		30-day average	1.5 µg/m ³
Nitrogen dioxide		1 hour	0.18 ppm
		Annual	0.03 ppm
Ozone		8 hours	0.07 ppm
		1 hour	0.09 ppm
Particulate matter	PM _{2.5}	Annual	12 µg/m ³
	PM ₁₀	24 hours	50 µg/m ³
		Annual	20 µg/m ³
Sulfur dioxide		1 hour	0.25 ppm
		24 hours	0.04 ppm
Sulfates		24 hours	25 µg/m ³
Hydrogen sulfide		1 hour	0.03 ppm
Vinyl chloride		24 hours	0.01 ppm
Visibility Reducing Particles		Extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more due to particles when relative humidity is less than 70 percent ³¹	

NOTE:ppm = parts per million; µg/m³ = micrograms per cubic meter.**SOURCE:**California Air Resources Board. 4 June 2013. *Ambient Air Quality Standards*. Available at: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>

Toxic Air Contaminant Identification and Control Act

The Toxic Air Contaminant Identification and Control Act (AB 1807, Chapter 1047, Statutes of 1983) created the California Air Toxics Program in 1983. It established a two-step process of risk identification and risk management to address potential health effects associated with public exposure to toxic substances in the air. In the risk identification step, CARB and the OEHHA determine if a substance should be formally identified, or “listed,” as a TAC in California. Since inception of the program, a number of such substances have been identified and listed. In 1993, legislative amendments were enacted for the program to identify the 189 federal hazardous air pollutants (HAPs) as TACs.

³¹ South Coast Air Quality Management District. February 2013. *Final 2012 AQMP*. Available at: <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan>

In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce the risk. Based on results of that review, CARB has promulgated a number of airborne toxic control measures (ATCMs), both for mobile and stationary sources. In 2004, CARB adopted an ATCM to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time. These diesel-related measures are critical in reducing the statewide cancer risk and creating healthier communities.

CARB Air Toxics “Hot Spots” Information and Assessment Act of 1987

The California Air Toxics Program is supplemented by the Air Toxics “Hot Spots” program, which became law (AB 2588, Statutes of 1987) in 1987. In 1992, the AB 2588 program was amended by SB 1731 to require facilities that pose a significant health risk to the community to perform a risk reduction audit and reduce their emissions through implementation of a risk management plan. Under this program, which is required under the Air Toxics “Hot Spots” Information and Assessment Act (Section 44363 of the California Health and Safety Code), facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks when present. In March 2015, the OEHHA adopted “The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments” in accordance with the Health and Safety Code, Section 44300. The Final Guidance Manual incorporates the scientific basis from three earlier developed Technical Support Documents to assess risk from exposure to facility emissions. The 2015 OEHHA Final Guidance has key changes including greater age sensitivity in particular for children, decreased exposure durations, and higher breathing rate profiles. Because cancer risk could be up to three times greater using this new guidance, it may result in greater mitigation requirements, more agency backlog, and increased difficulty in getting air permits. Regardless of the change in calculation methodology, actual emissions and cancer risk within SCAB has declined by more than 50 percent since 2005.

The CARB provides a computer program, the Hot Spots Analysis and Reporting Program (HARP), to assist in a coherent and consistent preparation of a Health Risk Assessment (HRA). HARP2, an update to HARP, was released in March 2015. HARP2 has a more refined risk characterization in HRA and CEQA documents and incorporates the 2015 OEHHA Final Guidance. As of June 2015, HARP2 is not required by OEHHA on the state level, but it is required by SCAQMD.³²

Multiple Air Toxics Exposure Study (MATES-IV)

To date, the most comprehensive study of air toxics in the South Coast Air Basin (SCAB) is the Multiple Air Toxics Exposure Study (MATES-IV), conducted by Southern California Air Quality Management District (SCAQMD) in 2015. MATES combines monitoring of ambient air toxics, emissions inventories, and computer modeling to estimate the cancer risk from air pollution. The monitoring program measured over 30 air pollutants, including both gases and particulates. SCAQMD’s MATES IV found that the average cancer risk from air pollution across the region declined from 1,194 in 1 million during MATES III in 2005 to 418 in 1 million in 2012–2013 using similar methods of analysis. The risk reduction

³² South Coast Air Quality Management District. 5 June 2015. *Risk Assessment Procedures for Rules 1401, 1401.1 and 212*. Available at: <http://www.aqmd.gov/docs/default-source/planning/risk-assessment/riskassprocjune15.pdf?sfvrsn=2>

follows a trend of declining toxic emissions in the region since the first MATES study was conducted in 1987. MATES IV found that mobile sources are responsible for 90 percent of the risk.

Clean Car Standards (Assembly Bill 1493)

On September 24, 2009, CARB adopted AB 1493, which makes amendments to the Clean Car Standards (Chapter 200, Statutes of 2002), also known as the “Pavley” regulations that require reductions in GHG emissions in new passenger vehicles from 2009 through 2016. These amendments are part of California’s commitment toward a nation-wide program to reduce new passenger vehicle GHGs from 2012 through 2016. The Clean Car Standards required CARB to develop and adopt standards for vehicle manufacturers to reduce GHG emissions coming from passenger vehicles and light-duty trucks at a “maximum feasible and cost effective reduction” by January 1, 2005. Pavley I took effect for model years starting in 2009 to 2016; and Pavley II, which is now referred to as “LEV (Low Emission Vehicle) III GHG,” will cover 2017 to 2025. Fleet average emission standards would reach 22 percent reduction by 2012 and 30 percent by 2016.³³

As of January 2012, CARB adopted the Advanced Clean Cars program to extend AB 1493 through model years 2017 to 2025. This program will promote all types of clean fuel technologies such as plug-in hybrids, battery electric vehicles, CNG vehicles, and hydrogen powered vehicles while reducing smog and saving consumers’ money in fuel costs. Fuel savings may be as up to 25 percent by 2025.³⁴

Global Warming Solutions Act of 2006 (Núñez)

In September 2006, Governor Arnold Schwarzenegger signed the California Global Warming Solutions Act of 2006, also known as AB 32 (Núñez, Chapter 488, Statutes of 2006), into law. AB 32 focuses on reducing GHG emissions in California and requires the CARB to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. To achieve this goal, AB 32 mandates that the CARB establish a quantified emissions cap; institute a schedule to meet the cap; implement regulations to reduce statewide GHG emissions from stationary sources; and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. Because the intent of AB 32 is to limit 2020 emissions to the equivalent of 1990, it is expected that the regulations would affect many existing sources of GHG emissions and not just new general development projects. SB 1368, a companion bill to AB 32, requires the California Public Utilities Commission and the California Energy Commission to establish GHG emission performance standards for the generation of electricity. These standards will also apply to power that is generated outside of California and imported into the state.

AB 32 charges CARB with the responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. On June 1, 2007, CARB adopted three discrete early action measures to reduce GHG emissions. These measures involved complying with a low carbon fuel standard, reducing refrigerant loss from motor vehicle air conditioning maintenance, and increasing methane capture from landfills.³⁵ On October 25, 2007, CARB tripled the set of previously approved early action measures. The

³³ California Air Resources Board. 6 May 2013. *Clean Car Standards – Pavley, Assembly Bill 1493*. Available at: <http://www.arb.ca.gov/cc/ccms/ccms.htm>

³⁴ California Air Resources Board. Accessed 19 July 2015. *California’s Advanced Clean Car Program*. Available at: http://www.arb.ca.gov/msprog/consumer_info/advanced_clean_cars/consumer_acc.htm

³⁵ California Air Resources Board. 20 April 2007. *Proposed Early Action Measures to Mitigate Climate Change in California*.

approved measures include improving truck efficiency (i.e., reducing aerodynamic drag), electrifying port equipment, reducing PFCs from the semiconductor industry, reducing propellants in consumer products, promoting proper tire inflation in vehicles, and reducing sulfur hexafluoride emission from the non-electricity sector. CARB has determined that the total statewide aggregated GHG 1990 emissions level and 2020 emissions limit is 427 MMTCO_{2e}. The 2020 target reductions are currently estimated to be 174 MMTCO_{2e}.

The CARB AB 32 Scoping Plan contains the main strategies to achieve the 2020 emissions cap. The Scoping Plan was developed by the CARB with input from the Climate Action Team (CAT) and proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, and reduce oil dependency. The GHG reduction strategies contained in the Scoping Plan include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. Key approaches for reducing GHG emissions to 1990 levels by 2020 include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable electricity standard of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets; and
- Adopting and implementing measures to reduce transportation sector emissions, including California's.

CARB has also developed the GHG mandatory reporting regulation, which required reporting beginning on January 1, 2008, pursuant to requirements of AB 32. The regulations require reporting for certain types of facilities that make up the bulk of the stationary source emissions in California. The regulation language identifies major facilities as those that generate more than 25,000 MTCO₂ per year. Cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 MTCO₂ per year make up 94 percent of the point source CO₂ emissions in California.

Executive Order S-3-05 GHG Reduction Targets (2005)

Pursuant to AB 32, on June 1, 2005, EO S-3-05 set the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. The EO establishes state GHG emission targets of 1990 levels by 2020 (the same as AB 32) and 80 percent below 1990 levels by 2050.³⁶ It calls for the Secretary of Cal/EPA to be responsible for coordination of state agencies and progress reporting. A recent California Energy Commission report concludes, however, that the primary strategies to achieve this target should be major “decarbonization” of electricity supplies and fuels, and major improvements

³⁶ CEQA review related to the EO is currently being considered before the California Supreme Court in *Cleveland National Forest Association et al v. San Diego Association of Governments*, 231 Cal.App. 4th 1056. Considering this pending litigation, and to fulfill the related CEQA requirements for the PEIR to serve as a full-disclosure document, EO S-03-05 and B-30-15 have been included in this regulatory framework, and the report addresses consistency of the RTP/SCS in relation to the GHG reduction targets set forth under such executive orders.

in energy efficiency.³⁷

In response to the EO, the Secretary of the Cal/EPA created the CAT. California's CAT originated as a coordinating council organized by the Secretary for Environmental Protection. It included the Secretaries of the Natural Resources Agency and the Department of Food and Agriculture and the Chairs of the CARB, California Energy Commission, and Public Utilities Commission. The original council was an informal collaboration between the agencies to develop potential mechanisms for reductions in GHG emissions in the state. The council was given formal recognition in EO S-3-05 and became the CAT.

The original mandate for the CAT was to develop proposed measures to meet the emission reduction targets set forth in the executive order. The CAT has since expanded and currently has members from 18 state agencies and departments. The CAT also has 10 working groups that coordinate policies among their members. The working groups and their major areas of focus are:

- Agriculture: Focusing on opportunities for agriculture to reduce GHG emissions through efficiency improvements and alternative energy projects, while adapting agricultural systems to climate change.
- Biodiversity: Designing policies to protect species and natural habitats from the effects of climate change.
- Energy: Reducing GHG emissions through extensive energy efficiency policies and renewable energy generation.
- Forestry: Coupling GHG mitigation efforts with climate change adaptation related to forest preservation and resilience, waste to energy programs and forest offset protocols.
- Land Use and Infrastructure: Linking land use and infrastructure planning to efforts to reduce GHG from vehicles and adaptation to changing climatic conditions.
- Oceans and Coastal: Evaluating the effects sea level rise and changes in coastal storm patterns on human and natural systems in California.
- Public Health: Evaluating the effects of GHG mitigation policies on public health and adapting public health systems to cope with changing climatic conditions.
- Research: Coordinating research concerning impacts of and responses to climate change in California.
- State Government: Evaluating and implementing strategies to reduce GHG emissions resulting from state government operations.
- Water: Reducing GHG impacts associated with the state's water systems and exploring strategies to protect water distribution and flood protection infrastructure.

The CAT is responsible for preparing reports that summarize the state's progress in reducing GHG emissions. The most recent CAT Report was published in December 2010. The CAT Report discusses mitigation and adaptation strategies, state research programs, policy development, and future efforts.

³⁷ California Energy Commission. May 2011. *California's Energy Future – The View to 2050*.

First Update to the Climate Change Scoping Plan (May 2014)

This First Update to California's Climate Change Scoping Plan (Update) was developed by the CARB in collaboration with the Climate Action Team and reflects the input and expertise of a range of state and local government agencies. The Update reflects public input and recommendations from business, environmental, environmental justice, and community-based organizations provided in response to the release of prior drafts of the Update, a Discussion Draft in October 2013 and a draft Proposed Update in February 2014.

This report highlights California's success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050. The First Update includes recommendations for establishing a mid-term emissions limit that aligns with the State's long-term goal of an emissions limit 80 percent below 1990 levels by 2050 and sector-specific discussions covering issues, technologies, needs, and ongoing State activities to significantly reduce emissions throughout California's economy through 2050. The focus areas include energy, transportation, agriculture, water, waste management, and natural and working lands.³⁸ With respect to the transportation sector, California has outlined several steps in the State's ZEV Action Plan to further support the market and accelerate its growth. Committed implementation of the actions described in the plan will help meet Governor Brown's 2012 Executive Order (EO) B-16-2012, which—in addition to establishing a more specific 2050 GHG target for the transportation sector of 80 percent from 1990 levels—called for 1.5 million ZEVs on California's roadways by 2025.

Achieving such an aggressive 2050 target will require innovation and unprecedented advancements in energy demand and supply.³⁹ Emissions from 2020 to 2050 will have to decline at more than twice the rate of that which is needed to reach the 2020 statewide emissions limit. In addition to our climate objectives, California also must meet federal clean air standards. Emissions of criteria air pollutants, including ozone precursors (primarily oxides of nitrogen, or NOx) and particulate matter, must be reduced by, a currently estimated, 90 percent by 2032 to comply with federal air quality standards. The scope and scale of emission reductions necessary to improve air quality is similar to that needed to meet long-term climate targets. Achieving both objectives will align programs and investments to leverage limited resources for maximum benefit.

CEQA: Greenhouse Gas Emissions (Senate Bill 97, Chapter 185, Statutes of 2007, Section 21083.05 of the PRC)

On August 24, 2007, the governor approved SB 97 required the Office of Planning and Research (OPR) to develop, and the Natural Resources Agency to adopt, amendments to the CEQA Guidelines addressing the analysis and mitigation of greenhouse gas emissions. Those CEQA Guidelines amendments clarified several points, including the following:

³⁸ California Air Resources Board. May 2014. *First Update to the Climate Change Scoping Plan*. Available at: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf

³⁹ California Air Resources Board. May 2014. *First Update to the Climate Change Scoping Plan*. Available at: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf

- Lead agencies must analyze the greenhouse gas emissions of proposed projects, and must reach a conclusion regarding the significance of those emissions (see CEQA Guidelines § 15064.4).
- When a project's greenhouse gas emissions may be significant, lead agencies must consider a range of potential mitigation measures to reduce those emissions (see CEQA Guidelines § 15126.4(c)).
- Lead agencies must analyze potentially significant impacts associated with placing projects in hazardous locations, including locations potentially affected by climate change (see CEQA Guidelines § 15126.2(a)).
- Lead agencies may significantly streamline the analysis of greenhouse gases on a project level by using a programmatic greenhouse gas emissions reduction plan meeting certain criteria (see CEQA Guidelines § 15183.5(b)).
- CEQA mandates analysis of a proposed project's potential energy use (including transportation-related energy), sources of energy supply, and ways to reduce energy demand, including through the use of efficient transportation alternatives (see CEQA Guidelines, Appendix F).

As part of the administrative rulemaking process, the Natural Resources Agency developed a Final Statement of Reasons explaining the legal and factual bases, intent, and purpose of the CEQA Guidelines amendments. Other rulemaking documents can be accessed on the Natural Resources Agency's rulemaking website. The amendments to the CEQA Guidelines implementing SB 97 became effective on March 18, 2010.⁴⁰

Sustainable Communities and Climate Protection Act of 2008 (SB 375, Chapter 728, Statutes of 2008)

The Sustainable Communities and Climate Protection Act of 2008 (SB 375, Chapter 728, Statutes of 2008), adopted September 30, 2008, provides an additional means for achieving AB 32 GHG emissions reduction goals. Building on AB 32, SB 375 seeks to coordinate land use decisions made at the local (city and county) level with regional transportation planning. By coordinating these efforts, it is envisioned that vehicle congestion and travel can be reduced resulting in a corresponding reduction in emissions. SB 375 directed CARB to set regional targets to reduce emissions; regional plans are required to identify how they will meet these targets.

SB 375 has three major components:

- Using the regional transportation planning process to achieve reductions in emissions consistent with AB 32's goals;
- Offering CEQA incentives to encourage projects that are consistent with a regional plan that achieves emissions reductions; and
- Coordinating the Regional Housing Needs Allocation Assessment (RHNA) process with the regional transportation process while maintaining local authority over land use decisions.

⁴⁰ Governor's Office of Planning and Research. 2011. *CEQA and Climate Change*. Available at: http://www.opr.ca.gov/s_ceqaandclimatechange.php

An SCS is a required component of the RTP. The SCS is an emissions reduction strategy for the region which, in combination with transportation policies and programs, strives to reduce emissions and, if feasible, helps meet CARB's targets for the region. An alternative planning strategy (APS) must be prepared if the SCS is unable to reduce emissions and achieve the emissions reduction targets established by CARB. EO B-16-2012, described further below, can help achieve these emissions reduction targets by encouraging zero emission vehicles (ZEVs) and related infrastructure.

Certain transportation planning and programming activities must be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plan) are not required to be consistent with either the RTP or SCS. CARB set the following reduction targets for SCAG: reduce per capita emissions 8 percent below 2005 levels by 2020 and 13 percent below 2005 levels by 2035.

Contractual Assessments: Energy Efficient Improvements

Contractual Assessments: Energy Efficient Improvements (AB 811, Chapter 159, Statutes of 2008) authorizes California cities and counties to designate districts within which willing property owners may enter into contractual assessments to finance the installation of renewable energy generation and energy efficiency improvements that are permanently fixed to the property.

Renewable Energy: California Renewables Portfolio Standard Program

Established in 2002 under SB 1078, accelerated in 2006 under SB 107, and expanded in 2011 under SB 2, California's Renewables Portfolios Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities (IOUs), electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020. On September 12, 2002, then-Governor Gray Davis signed SB 1078. SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

In November 2008, Governor Arnold Schwarzenegger signed EO S-14-08, which expands the state's RPS to 33 percent renewable power by 2020. In September 2009, Governor Schwarzenegger continued California's commitment to the RPS by signing EO S-21-09, which directs the CARB under its AB 32 authority to enact regulations to help the state meet its RPS goal of 33 percent renewable energy by 2020.

The 33 percent by 2020 goal was codified in April 2011 with SB X1-2, which was signed by Governor Edmund G. Brown, Jr. This new RPS preempts the CARB 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state, including publicly owned utilities (POUs), IOUs, electricity service providers, and community choice aggregators. All of these entities must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013 and 25 percent by the end of 2016, with the 33 percent requirement being met by the end of 2020.

Clean Energy and Pollution Reduction Act of 2015

The Clean Energy and Pollution Reduction Act of 2015 (SB 350, Chapter 547, Statutes of 2015) was approved by Governor Brown on October 7, 2015. SB 350 will (1) increase the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030; (2) require the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; (3) provide for the evolution of the Independent System Operator (ISO) into a regional organization; and (4) require the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. Among other objectives, the Legislature intends to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

Greenhouse Gases: Emissions Reduction

In June 2014, SB 862 (Chapter 36, Statutes of 2014) established long-term funding programs from the Cap and Trade program for transit, sustainable communities and affordable housing, and high speed rail. SB 862 allocates 60 percent of ongoing Cap and Trade revenues, beginning in 2015–2016, to these programs. The remaining 40 percent is to be determined by future legislatures.⁴¹ A minimum of 25 percent of Cap and Trade dollars must go to projects that provide benefits to disadvantaged communities, and a minimum of 10 percent must go to projects located within those disadvantaged communities. In addition, this bill established the CalRecycle Greenhouse Gas Reduction Revolving Loan Program and Fund.

Tire Pressure Regulation of 2010 (17 CCR Section 95550)

CARB promulgated this regulation to reduce GHG emissions from vehicles operating with under inflated tires by inflating them to the recommended tire pressure rating. Automotive service providers must meet the following requirements by September 1, 2010: check and inflate each vehicle's tires to the recommended tire pressure rating, indicate on the vehicle service invoice that a tire inflation service was completed and the tire pressure measurements after the services were performed, and perform the tire pressure service using a tire pressure gauge with a total permissible error no greater than ± 2 pounds per square inch (psi). Vehicle service invoices must be kept for a minimum of three years.⁴²

California Cap and Trade Program

Authorized by the California Global Warming Solutions Act of 2006 (AB 32), the cap-and-trade program is one of several strategies that California uses to reduce greenhouse gas emissions. CARB adopted the California Cap and Trade Program final regulations on October 20, 2011, and adopted amended

⁴¹ California Transit Association. 17 June 2014. *Overview of 2014 Cap and Trade Legislation and Opportunities for Public Transit: Implementing 2014-15 Appropriations and a Long-Term Cap And Trade Funding Program*. Available at: <http://www.calcog.org/DocumentCenter/View/313>

⁴² California Air Resources Board. Accessed 19 July 2015. *Regulation to Reduce Greenhouse Gas Emissions from Vehicles Operating With Under Inflated Tires*. Available at: <http://www.arb.ca.gov/regact/2009/tirepres09/tirefinalreg.pdf>

regulations on September 12, 2012, with the first auction for GHG allowances on November 14, 2012.⁴³ Funds received from the program are deposited into the Greenhouse Gas Reduction Fund and appropriated by the Legislature. Greenhouse Gas Reduction Funds are administered by state and local agencies for a variety of greenhouse-gas cutting programs, including energy efficiency, public transit, low-carbon transportation and affordable housing.⁴⁴ On June 20, 2014, Governor Brown signed the FY 2014–2015 California State Budget, which included a cap and trade expenditure plan for cap-and-trade revenues in the Greenhouse Gas Reduction Fund. The Cap and Trade Program is a market-based mechanism to reduce GHG emissions in a cost-effective and economically efficient manner. California is the first multisector cap and trade program in North America following the northeast Regional Greenhouse Gas Initiative (RGGI) and the European Union Emission Trading Scheme (EU-ETS). It sets a GHG emissions limit that will decrease by 2 percent each year until 2015, and then 3 percent from 2015 to 2020 to achieve the goals in AB 32. The program initially applies to large electric power plants and large industrial plants, but will include fuel distributors by 2015. By 2015, these rules will encompass 85 percent of all of California’s GHG emissions.

California Air Resources Board Mobile Source Programs

Emission Reduction Plan for Ports and Goods Movement

The CARB approved the 2006 Emission Reduction Plan for Ports and Goods Movement in California. The Plan is an essential component of California's effort to reduce community exposure to air pollution and to meet new federal air quality standards for ozone and fine particulate matter (PM_{2.5}). The plan goals are to:⁴⁵

- (1) Reduce total statewide international and domestic goods movement emissions to the greatest extent possible and at least back to 2001 levels by year 2010.
- (2) Reduce the statewide diesel PM health risk from international and domestic goods movement 85 percent by year 2020.
- (3) Reduce NO_x emissions from international goods movement in the South Coast 30 percent from projected year 2015 levels, and 50 percent from projected year 2020 levels based on preliminary targets for attaining federal air quality standards.
- (4) Apply the emission reduction strategies for ports and goods movement statewide to aid all regions in attaining air quality standards.
- (5) Make every feasible effort to reduce localized risk in communities adjacent to goods movement facilities as expeditiously as possible.

⁴³ California Air Resources Board. Accessed 15 October 2015. *Cap and Trade Program*. Available at: <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>

⁴⁴ California Environmental Protection Agency (Cal/EPA). Accessed 9 February 2015. *Greenhouse Gas-Reduction Investments to Benefit Disadvantaged Communities*. Available at: <http://www.calepa.ca.gov/EnvJustice/GHGInvest/>

⁴⁵ California Air Resources Board. 20 April 2006. *Emission Reduction Plan for Ports Goods Movement in California*. Available at: http://www.arb.ca.gov/planning/gmerp/plan/final_plan.pdf

CARB Small Offroad Engine (SORE) Exhaust Emission Standards

SORE engines include off-road spark-ignition engines that produce 19 kW gross power or less (less than 25 horsepower), including lawn and garden, industrial, logging, airport ground support, and commercial utility equipment; golf carts; and specialty vehicles. These emission standards apply to HC, NO_x, CO, and PM emissions with increasingly stricter standards from 1995 to 2013.⁴⁶

CARB Offroad Compression-Ignition Diesel Engine Exhaust Emission Standards

These engines include new compression-ignition engines (aka diesel engines) that are found in a wide variety of off-road applications such as farming, construction, and industrial. Some familiar examples include tractors, excavators, dozers, scrapers, portable generators, transport refrigeration units (TRUs), irrigation pumps, welders, compressors, scrubbers, and sweepers. This category, however, does not include locomotives, commercial marine vessels, marine engines over 37 kW, or recreational vehicles. These standards adhere to the tier system as set by the EPA.⁴⁷

CARB On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

This regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet PM filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. The regulation applies to nearly all privately and federally owned diesel fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. Amendments were approved in April 2014.⁴⁸

CARB Smartway/Phase I Heavy Duty Vehicle Greenhouse Gas Regulation

This regulation applies to GHG emissions from heavy-duty trucks and engines sold in California. It establishes GHG emissions limits on truck and engine manufacturers and harmonizes with the recently adopted EPA rule for new trucks and engines nationally. Existing heavy-duty vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation.⁴⁹

⁴⁶ California Air Resources Board. Accessed 28 August 2015. *Small Off-Road Engine Exhaust Emission Standards*. Available at: <http://www.arb.ca.gov/msprog/offroad/sore.pdf>

⁴⁷ California Air Resources Board. 30 November 2012. *New Off-Road Compression-Ignition (Diesel) Engines and Equipment*. Available at: <http://www.arb.ca.gov/msprog/offroad/orcomp/orcomp.htm>

⁴⁸ California Air Resources Board. 11 May 2015. *Truck and Bus Regulation*. Available at: <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>

⁴⁹ California Air Resources Board. 9 December 2014. *Phase 1 GHG*. Available at: <http://www.arb.ca.gov/msprog/onroad/phase1ghg/phase1ghg.htm>

Safeguarding California Plan

Published in July 2014, the Safeguarding California Plan is a comprehensive strategy to protect the state's environment, economy, and people from climate threats. It addresses nine broad categories where California is particularly at risk: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, and transportation. The Plan identifies sector specific actions for California's climate adaptation initiatives to be implemented by state agencies.⁵⁰

Smartway/Phase I Heavy-Duty Vehicle Greenhouse Gas Regulation

Pursuant to the California Clean Air Act, this regulation applies to GHG emissions from heavy-duty trucks and engines sold in California effective March 21, 2011. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the recently adopted EPA rule for new trucks and engines nationally. Existing heavy-duty vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation.⁵¹

Executive Order S-20-06

On October 17, 2006, Governor Arnold Schwarzenegger signed EO S-20-06, which calls for continued efforts and coordination among state agencies to implement GHG emission reduction policies, AB 32, and the Health and Safety Code (Division 25.5) through a market-based compliance program. In addition, EO S-20-06 requires the development of GHG reporting and reduction protocols and a multistate registry through joint efforts among CARB, California Environmental Protection Agency (Cal/EPA), and the California Climate Action Registry (CCAR). EO S-20-06 directs the Secretary for Environmental Protection to coordinate with the CAT to plan incentives for market-based mechanisms that have the potential of reducing GHG emissions.

Executive Order S-01-07 Low Carbon Fuel Standard

On January 18, 2007, EO S-1-07 was issued, requiring a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. Regulatory proceedings and implementation of the Low Carbon Fuel Standard have been directed to the CARB. The Low Carbon Fuel Standard has been identified by CARB as a discrete early action item in the Adopted Climate Change Scoping Plan. CARB expects the Low Carbon Fuel Standard to achieve the minimum 10 percent reduction goal; however, many of the early action items outlined in the Climate Change Scoping Plan work in tandem with one another. To avoid the potential for double-counting emission reductions associated with AB 1493, the Climate Change Scoping Plan has modified the aggregate reduction expected from the Low Carbon Fuel Standard to 9.1 percent.

⁵⁰ California Air Resources Board. 2015. *FAQ about EO B-30-15: 2030 Carbon Target and Adaptation*. Available at: http://www.arb.ca.gov/newsrel/2030_carbon_target_adaptation_faq.pdf

⁵¹ California Air Resources Board. 9 December 2014. *Phase 1 GHG*. Available at: <http://www.arb.ca.gov/msprog/onroad/phaselghg/phaselghg.htm>

Executive Order S-13-08

EO S-13-08, signed on November 14, 2008, directs California to develop methods for adapting to climate change impacts through preparation of a statewide plan. In response to this order, the California Natural Resources Agency coordinated with 10 state agencies, multiple scientists, a consulting team, and stakeholders to develop the first statewide, multisector adaptation strategy in the country. The resulting report, 2009 California Climate Adaptation Strategy, summarizes the best-known science to assess the vulnerability of the state to climate change impacts, and outlines possible solutions that can be implemented within and across state agencies to promote resiliency. This strategy is the first step in an evolving process to reduce California's vulnerability to climate change impacts.

Adaptation refers to efforts that prepare the state to respond to the impacts of climate change: adjustments in natural or human systems to actual or expected climate changes to minimize harm or take advantage of beneficial opportunities. California's ability to manage its climate risks through adaptation depends on a number of critical factors. These include its baseline and projected economic resources, technology, infrastructure, institutional support and effective governance, public awareness, access to the best available scientific information, sustainably managed natural resources, and equity in access to these resources.

Executive Order B-16-2012

In March 23, 2012, Governor Brown issued EO B-16-2012 to encourage ZEVs and related infrastructure. It orders the CARB, the California Energy Commission, the Public Utilities Commission and other relevant agencies work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks in regard to ZEVs. By 2020, the state's ZEV infrastructure should support up to one million vehicles. By 2025, EO B-16-2012 aims to put over 1.5 million ZEVs on California roads and displace at least 1.5 billion gallons of petroleum. The EO also directs state government to begin purchasing ZEVs. In 2015, 10 percent of state departments' light-duty fleet purchases must be ZEVs, climbing to 25 percent of light duty purchases by 2020. EO B-16-2012 sets a target for 2050 to reduce GHG emissions in the transportation sector by 80 percent below 1990 levels.⁵²

Zero Emission Vehicle Action Plan

Pursuant to EO B-16-2012, in February 2013, the Governor's Interagency Working Group on Zero Emission Vehicles published an Action Plan.⁵³ In compliance with B-16-2012, the ZEV Action Plan lays out specific strategies and actions to meet the milestones of the executive order. The four main goals of the state government to advance ZEVs are (1) complete needed infrastructure and planning, (2) expand consumer awareness and demand, (3) transform fleets, and (4) grow jobs and investment in the private sector.

⁵² Office of Governor Edmund G. Brown Jr. 23 March 2012. *Executive Order B-16-2012*. Available at: <http://gov.ca.gov/news.php?id=17472>

⁵³ Governor's Interagency Working Group on Zero-Emission Vehicles. February 2013. *ZEV Action Plan*. Available at: [http://opr.ca.gov/docs/Governor's_Office_ZEV_Action_Plan_\(02-13\).pdf](http://opr.ca.gov/docs/Governor's_Office_ZEV_Action_Plan_(02-13).pdf)

Executive Order B-30-15

On April 29, 2015, Governor Brown issued EO B-30-15, stating a new statewide policy goal to reduce GHG emissions 40 percent below their 1990 levels by 2030. The EO establishes GHG emissions reduction targets to reduce emissions to 80 percent below 1990 levels by 2050 and sets an interim target of emissions reductions for 2030 as being necessary to guide regulatory policy and investments in California and put California on the most cost-effective path for long-term emissions reductions. The EO orders “all State agencies with jurisdiction over sources of [GHG] emissions [to] ... implement measures, pursuant to statutory authority, to achieve reductions of [GHG] emissions to meet the 2030 and 2050 [GHG] emissions reductions targets.” It directs CARB to “update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.” It directs the Natural Resources Agency to update “Safeguarding California” (the state’s climate adaptation strategy) every three years, as specified; directs state agencies to “take climate change into account in their planning and investment decisions, and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives”; and orders the “state’s Five-Year Infrastructure Plan [to] take current and future climate change impacts into account in all infrastructure projects.” Among its other directives, the EO provides that “State agencies’ planning and investment shall be guided by the ... principle that priority should be given to actions that both build climate preparedness and reduce GHG emissions.”

Proposed California Global Warming Solutions Act of 2006: Emission Limit (Senate Bill 32)

Pursuant to EO B-30-15, if approved, this bill would require the state board to approve a statewide GHG emissions limit that is equivalent to limits that are the equivalent to 40 percent below the 1990 level to be achieved by 2030 and 80 percent below the 1990 level to be achieved by 2050, as specified. The bill would authorize the state board to adopt an interim GHG emissions level target to be achieved by 2030 and 2040. The bill also would state the intent of the Legislature for the Legislature and appropriate agencies to adopt complementary policies that ensure the long-term emissions reductions advance specified criteria. The bill would make conforming changes.

The California Global Warming Solutions Act of 2006 designates the CARB as the state agency charged with monitoring and regulating sources of emissions of GHGs. The state board is required to adopt a statewide GHG emissions limit equivalent to the statewide GHG emissions level in 1990 to be achieved by 2020 and to adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG emissions reductions.

As of September 11, 2015, SB 32 did not pass the 2015–2016 regular state legislative session. SB 32 passed in the State Senate and initially failed in the Assembly on September 4, 2015, and September 8, 2015, respectively. However, it received sufficient votes for reconsideration on September 9, 2015, and was amended and referred to the Committee on Natural Resources one day later on September 10, 2015. As a two-year bill, SB 32 could be considered again in the 2016 regular session. SB 32, as amended on September 10, 2015, would require the state board to approve a statewide GHG emissions limit that is equivalent to 40 percent below the 1990 level to be achieved by 2030. The bill also would state the intent of the Legislature and appropriate agencies to adopt complementary policies that ensure the long-term emissions reductions advance specified criteria.

Executive Order B-32-15, Sustainable Freight Transport Initiative

On July 17, 2015, Governor Brown issued Executive Order B-32-15, which directs the Secretary of the California State Transportation Agency, the Secretary of Cal/EPA, and the Secretary of the Natural Resources Agency to lead other relevant state departments including the CARB, the California Department of Transportation, the California Energy Commission, and the Governor's Office of Business and Economic Development to improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California's freight system. These state agencies will develop an integrated freight action plan by July 2016.⁵⁴

California Climate Action Registry (2001)

Established in 2001, the CCAR is a private nonprofit organization originally formed by the State of California.⁵⁵ CCAR serves as a voluntary GHG registry and led efforts to develop credible, accurate, and consistent GHG reporting standards and tools for businesses, government agencies, and nonprofit organizations to measure, monitor, and reduce GHG emissions. For instance, the CCAR General Reporting Protocol, Version 3.1, dated January 2009, provides the principles, approach, methodology, and procedures required for voluntary GHG emissions reporting by businesses, government agencies, and nonprofit organizations.

California Climate Adaptation Planning Guide

On July 2012, the California Emergency Management Agency and California Natural Resources Agency published the California Adaptation Planning Guide (APG). The APG is a set of four complementary documents.

- APG: Planning for Adaptive Communities—Presents the basis for climate change adaptation planning and introduces a step-by-step process for local and regional climate vulnerability assessment and adaptation strategy development. All communities should start with this document.
- APG: Defining Local and Regional Impacts—This supplemental document provides a more in-depth understanding of how climate change can affect a community. Seven “impact sectors” are included to support communities conducting a climate vulnerability assessment.
- APG: Understanding Regional Characteristics—The impact of climate change varies across the state. This supplemental document identifies climate impact regions, including their environmental and socioeconomic characteristics.
- APG: Identifying Adaptation Strategies—This supplemental document explores potential adaptation strategies that communities can use to meet adaptation needs. Adaptation strategies are categorized into the same impact sectors used in the APG: Defining Local and Regional Impacts document.

⁵⁴ California Air Resources Board. 10 August 2015. *Sustainable Freight Transport*. Available at: <http://www.arb.ca.gov/gmp/sfti/sfti.htm>

⁵⁵ The Climate Registry. Accessed 15 October 2015. *About Us*. Available at: <http://www.theclimateregistry.org/who-we-are/about-us/>

The APG provides guidance to support communities in addressing the unavoidable consequences of climate change. The APG introduces the basis for climate change adaptation planning and details a step-by-step process for local and regional climate vulnerability assessment and adaptation strategy development. The guide was developed to allow flexibility in the commitment of time, money, and scope.⁵⁶

California's Flood Future Report

In November 2013, the California Department of Water Resources and the U.S. Army Corps of Engineers developed *California's Flood Future: Recommendations for Managing the State's Flood Risk*. This document identifies the statewide exposure to flood risk and presents seven key recommendations to improve flood management. Consistent with the Integrated Water Management (IWM) approach, the recommendations include:⁵⁷

- Tools
 - Risk Assessments: Conduct regional flood risk assessments to understand statewide flood risk.
 - Flood Risk Awareness: Increase public and policymaker awareness about flood risks to facilitate informed decisions.
 - Flood Readiness: Increase support for flood emergency preparedness, response, and recovery programs to reduce flood impacts.
- Plans
 - Land Use Planning: Encourage land use planning practices that reduce the consequences of flooding.
 - Regional, Systemwide, and Statewide Planning: Implement flood management from regional, systemwide, and statewide perspectives to provide multiple resources.
- Actions
 - Increase Agency Collaboration: Increase collaboration among public agencies to improve flood management planning, policies, and investments. Actions also include the infrastructure improvements and other innovations conducted flood and water management agencies.
 - Establish Financial Investment Priorities: Public agencies at every level should prioritize short- and long-term flood management efforts, in accordance with a sound investment strategy based on sustainable funding sources.

California Coastal Commission Sea Level Rise Policy Guidance

On August 12, 2015, the California Coastal Commission adopted the Recommended Final Draft of the Sea Level Rise Policy Guidance as interpretive guidance to guide people on how to comply with PRC 30620 that specifies development guidelines within the coastal zone. It provides a planning process

⁵⁶ California Emergency Management Agency and California Natural Resources Agency. Accessed 9 September 2015. *California Adaptation Planning Guide*. Available at: http://resources.ca.gov/docs/climate/01APG_Planning_for_Adaptive_Communities.pdf

⁵⁷ California Department of Water Resources. 31 December 2014. *California's Flood Future Report*. Available at: <http://www.water.ca.gov/sfmp/flood-future-report.cfm>

framework for addressing sea level rise and adaptation planning in Local Coastal Programs and Coastal Development Permits. Decisions are rooted in the best available science with the goal of minimizing coastal hazards and protecting public access, recreation and sensitive coastal resources. This Guidance is part of a larger statewide climate strategy alongside the 2014 Safeguarding California Plan, EO B-30-15, EO S-13-08, State Hazard Mitigation Plan, and other climate work done by research organizations and state agencies.

California Wellness Plan (2014)

The California Department of Public Health published a statewide Wellness Plan in 2014. The Plan acknowledges that many factors contribute to an individual's health. These factors include the physical environment (housing, neighborhood, healthy food access and environment), educational attainment and employment, economic status, social support, social norms and attitudes, culture, literacy, race/ethnicity. The physical environment is also an indicator of exposure to toxins and transportation where individuals are affected on a daily basis by the air quality of their surroundings.⁵⁸

CARB Air Quality and Land Use Handbook

In April 2005, CARB published the Air Quality and Land Use Handbook as a informational and advisory guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. Studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. Reducing diesel particulate emissions is one of CARB's highest public health priorities and the focus of a comprehensive statewide control program that is reducing diesel PM emissions each year. This document highlights the potential health impacts associated with proximity to air pollution sources so planners explicitly consider this issue in planning processes.⁵⁹

Regional

The SCAG region comprises four air basins and five air districts. The four air basins are South Coast Air Basin (SCAB), Mojave Desert Air Basin (MDAB), Salton Sea Air Basin (SSAB), and the Ventura County portion of South Central Coast Air Basin (SCCAB). The five air districts are MDAQMD, AVAQMD, VCAPCD, SCAQMD, and ICAPCD.

MDAQMD Federal 8-hour Ozone Attainment Plan (2008)

The EPA designated the Western Mojave Desert non-attainment area as non-attainment for the 8-hour ozone NAAQS pursuant to the provisions of the CAA. A portion of the MDAQMD is included in the Western Mojave Desert non-attainment area. The MDAQMD has adopted state and federal attainment

⁵⁸ California Department of Public Health. 2014. *Wellness Plan*. Available at: [http://www.cdph.ca.gov/programs/cdcb/Documents/CDPH-CAWellnessPlan2014%20\(Agency%20Approved\).FINAL.2-27-14\(Protected\).pdf](http://www.cdph.ca.gov/programs/cdcb/Documents/CDPH-CAWellnessPlan2014%20(Agency%20Approved).FINAL.2-27-14(Protected).pdf)

⁵⁹ California Air Resources Board. April 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. Available at: <http://www.arb.ca.gov/ch/handbook.pdf>

plans for the region within its jurisdiction. The portion of the MDAQMD designated as a federal 8-hour ozone non-attainment area will be in attainment of the 8-hour NAAQS for ozone by 2021.⁶⁰

AVAQMD Federal 8-hour Ozone Attainment Plan (2008)

The AVAQMD has adopted a single attainment plan for ozone. The AVAQMD Federal 8-hour Ozone Attainment Plan, adopted in May 2008, demonstrates that the AVAQMD will meet the primary required federal ozone planning milestones by June 2021, presents the progress the AVAQMD will make towards meeting all required ozone planning milestones, and discusses the newest 0.075 part per million 8-hour ozone NAAQS.⁶¹

VCAPCD Air Quality Management Plan (2008)

This plan presents a strategy for attaining the federal 8-hour ozone standard of 0.08 parts per million. It contains control measures to reduce emissions and bring the County into attainment of the standard. The County is designated as an ozone nonattainment area for both the state and federal standards. New plans are updated and written as required by federal law.⁶²

SCAQMD 2012 Air Quality Management Plan

The most recent update to the AQMP was adopted in 2012 by the SCAQMD Board and the CARB.⁶³ The AQMP demonstrates attainment of the federal 24-hour PM_{2.5} standard by 2014 in the SCAB through adoption of all feasible measures. The current AQMP also updates the EPA-approved 8-hour ozone control plan with new measures designed to reduce reliance on the CAA Section 182(e)(5) long-term measures for NO_x and VOC reductions. In addition, the AQMP addresses several state and federal planning requirements, incorporating new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and new meteorological air quality models.

SCAQMD is in the development process for the 2016 AQMP, which will be a comprehensive and integrated plan primarily focused on addressing the ozone standards. The Plan will be a regional and multiagency effort (SCAQMD, CARB, SCAG, and EPA). State and federal planning requirements include developing control strategies, attainment demonstrations, reasonable further progress, and maintenance plans. The 2016 AQMP will incorporate the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, transportation control measures and strategies, and updated emission inventory methodologies for various source categories.⁶⁴

⁶⁰ Mojave Desert Air Quality Management District. 2008. *MDAQMD Federal 8-hour Ozone Attainment Plan*. Available at: <http://www.mdaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=40>

⁶¹ Antelope Valley Air Quality Management District. 20 May 2008. *AVAQMD Federal 8-hour Ozone Attainment Plan*.

⁶² Ventura County Air Pollution Control District. Accessed 8 September 2015. *Destination Clean Air*. Available at: <http://www.vcapcd.org/pubs/PublicInformation/DestinationCleanAir.pdf>

⁶³ South Coast Air Quality Management District. 2014. *Air Quality Management Plan (AQMP)*. Available at: <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan>

⁶⁴ South Coast Air Quality Management District. 2014. *Air Quality Management Plan (AQMP)*. Available at: <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan>

ICAPCD Air Plans

At a public meeting held on December 18, 2014, CARB approved the Imperial County 2013 SIP for the 2006 24-hour PM_{2.5} Moderate Nonattainment Area. At a public meeting held on November 18, 2010, CARB approved the 2009 Imperial County 1997 8-Hour Ozone Modified Air Quality Management Plan and 2009 Reasonably Available Control Technology SIP. In 2009, the EPA determined that the County attained the 1997 8-hour ozone standard.⁶⁵

Fugitive Dust Regulations: SCAQMD, AVAQMD, and MDAQMD Rule 403; VCAPCD Rule 55, Fugitive Dust; ICAPCD Rule 800, ICAPCD Rule 801

The SCAQMD, AVAQMD, and MDAQMD have adopted Rule 403, *Fugitive Dust*, which requires the implementation of best available fugitive dust control measures during construction and operational activities capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and mobile equipment traveling on paved and unpaved roads. Similarly, VCAPCD has adopted Rule 55, *Fugitive Dust*, and ICAPCD has adopted Rule 800, *General Requirements for Control of Fine Particulate Matter (PM10)*, and Rule 801, *Construction and Earthmoving Activities*, to reduce fugitive dust.

SCAQMD, AVAQMD Rule 1401; MDAQMD Rule 1320; VCAPCD Rule 36; ICAPCD Rule 207 and SCAQMD, AVAQMD Rule 1402; MDAQMD Rule 1520; VCAPCD Rule 73; ICAPCD Rule 403

The SCAQMD has adopted two rules for TACs to limit cancer and non-cancer health risks from facilities located within its jurisdiction. Rule 1401, New Source Review of Toxic Air Contaminants, regulates new or modified facilities; and Rule 1402, Control of Toxic Air Contaminants from Existing Sources, regulates facilities that are already in operation. Rule 1402 incorporates requirements of the AB 2588 program, including implementation of risk reduction plans for significant risk facilities. In 2015, SCAQMD revised Rule 1401 and 1402 to include more equipment types and industry categories. Under the revised Rule 1401, no permit would be issued for new and modified equipment unless the cancer risk is less than ten in a million using Toxics Best Available Control Technology (TBACT) or less than one in a million without TBACT or if near a school. For Rule 1402, existing facilities under AB 2588 must reduce facility-wide risk if maximum individual cancer risk is greater than 25 in a million. AVAQMD, MDAQMD, VCAPCD, and ICAPCD have adopted similar rules to limit health risks from toxic air contaminants from new, modified, and existing sources.

SCAG Sustainability Planning Grant Program

Formerly known as the Compass Blueprint Grant Program, SCAG's Sustainability Program works actively with Southern California communities and stakeholders to create a dynamic regional growth vision based on the principles of mobility, livability, prosperity, and sustainability. The program's work focuses on implementing the region's Sustainable Communities Strategy, the state-mandated plan for reducing

⁶⁵ California Air Resources Board. 21 April 2015. *Imperial County Air Quality Management Plans*. Available at: <http://www.arb.ca.gov/planning/sip/planarea/imperial/imperialsip.htm>

GHG emissions from cars and light trucks through integrated transportation, land use, housing and environmental planning.⁶⁶

SCAQMD Policies and Guidance

Policy on Global Warming and Stratospheric Ozone Depletion

SCAQMD adopted a “Policy on Global Warming and Stratospheric Ozone Depletion” on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy.⁶⁷

Draft Guidance Regarding Interim CEQA GHG Significance Thresholds

SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds. In its October 2008 document, the SCAQMD proposed the use of a percent emission reduction target (e.g., 30 percent) to determine significance for commercial/residential projects that emit greater than 3,000 metric tons per year. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for stationary source/industrial projects where the SCAQMD is lead agency. However, SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects) and has formed a GHG Significance Threshold Working Group to further evaluate potential GHG significance thresholds.⁶⁸

SCAQMD has convened a GHG CEQA Significance Threshold Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that will provide input to the SCAQMD staff on developing CEQA GHG significance thresholds. The working group is currently discussing multiple methodologies for determining project significance. These methodologies include categorical exemptions, consistency with regional GHG budgets in approved plans, a numerical threshold, performance standards, and emissions offsets.

Counties

Los Angeles County

The Los Angeles County Office of Sustainability was created within the Internal Services Department by the Board of Supervisors in October 2009 to respond to legislation, regulation, and policy related to Climate Change and serve as a central hub to coordinate Energy Efficiency, Conservation and Sustainability Programs within the County, its facilities, and the region. The County Office of

⁶⁶ Southern California Association of Governments. Accessed 1 September 2015. *Sustainability*. Available at: <http://www.scag.ca.gov/programs/Pages/Programs/Sustainability.aspx>

⁶⁷ South Coast Air Quality Management District. November 2010. *Draft Environmental Assessment*. Available at: <http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2010/final-environmental-assessment-for-proposed-amended-rule-1415-and-proposed-rule-1415-1.pdf?sfvrsn=4>

⁶⁸ South Coast Air Quality Management District. Accessed August 2011. *Greenhouse Gases (GHG) CEQA Significance Thresholds*. Available at: <http://www.aqmd.gov/ceqa/handbook/GHG/GHG.html>

Sustainability develops and implements programs that impact and benefit the constituents of Los Angeles County, such as the Energy Upgrade California in Los Angeles County energy efficiency home improvement and rebate program, countywide Environmental Service Centers, the SolarMap LACounty.gov and Green.LACounty.gov websites, and the Los Angeles Regional Collaborative for Climate Action and Sustainability. In addition, the County Office of Sustainability is the lead in coordinating and implementing Energy and Environmental policy programs and activities by all County departments.

As of March 2015, Los Angeles County Board of Supervisors approved the first CCAP. The CCAP will be a roadmap to reduce GHGs in Los Angeles County by 11 percent by 2020. This target can be achieved through cool roofs, solar, tree canopies, and more active transportation and public transit use. The County of Los Angeles Department of Regional Planning will implement the CCAP and work to develop climate adaptation strategies beyond 2020.⁶⁹

Orange County

In early 2010, a joint committee with equal representation from the Orange County Council of Governments (COG) and the Orange County Transportation Authority (OCTA) was formed to develop the Orange County SCS. The Orange County COG/OCTA SCS Joint Working Committee led overall efforts to develop a subregional Orange County SCS to meet the requirements of SB 375 and the mutual agreements with SCAG with a plan that all local jurisdictions in Orange County could support. As a result of this collaborative effort, the Orange County SCS was adopted unanimously by the OCTA and Orange County COG Boards of Directors in June of 2011. Orange County SCS utilizes the transportation system along with land use and Best Management Practices strategies to help the County to achieve the state-mandated emissions reduction targets.

Riverside County

Riverside County has created a Green Action Plan to establish a clear path to sustainability and GHG reduction. The Green Action Plan focuses on seven key areas: energy, GHG emissions, waste, urban design, urban nature, transportation, and water. The Energy section of the guidebook includes a goal to increase the use of non-GHG-emitting energy to 70 percent with at least 50 percent coming from renewable sources by 2020. The Plan has established a target to reduce GHG emissions by 7 percent below 1990 baseline and 15 percent below the baseline by 2020. The County aims to reduce waste by 75 percent by 2020 based on the 2007 per capita baseline. The Plan also provides incentives to increase green development and encourage the planting of at least 3,000 shade trees on private property and 1,000 trees in parks annually. For transportation, the Plan envisions a 15 percent decrease in vehicle miles traveled by 2015 based on the 2009 baseline. The waters section specifies a 20 percent water usage reduction by 2020 while increasing the use of recycled water by 30 percent by 2020 based on the 2008 baseline.⁷⁰

In September 2014, Western Riverside Council of Governments (WRCOG) published the Subregional Climate Action Plan. The major goals of the Climate Action Plan are to create local jobs, promote healthier communities, achieve energy self-sufficiency, enhance social equity, reduce emissions,

⁶⁹ Climate Resolve. 26 March 2015. *Approved: LA County's Community Climate Action Plan*. Available at: <http://climateresolve.org/countyclimateactionplan/>

⁷⁰ Green Riverside. Accessed August 2011. *Green Action Plan*. Available at: <http://www.greenriverside.com/About-Green-Riverside-4/Green-Action-Plan-190>

improve air quality, protect natural systems, and save money. WRCOG aims to reduce GHG emissions to 15 percent below 2010 levels by 2020, and 49 percent below 2010 levels by 2035.⁷¹

San Bernardino County

Santa Bernardino County launched *Green County San Bernardino* in August 2007 to promote the use of environmentally friendly technologies and practices among business owners, developers, and residents in the County. All San Bernardino County cities are encouraged to join the Green Valley Initiatives to pledge to address five or more policy areas that aim to reduce GHG emissions. The policy areas to select from are Green Building Program, Buy Green/Buy Local, Green Business Programs, Conservation and Recycling, Solar and Alternative Energy, Encourage Green Economic Development, Green Valley Land Use, and Green Valley Coordinators.⁷²

In March 2014, San Bernardino County released the final version of the San Bernardino County Greenhouse Gas Reduction Plan and Final EIR to be certified by the SANBAG Board of Directors. The plan is in accordance with AB 32 and other regional and general plans.⁷³

Ventura County

In April 2010, the County of Ventura General Services Agency (GSA) released an Energy Action Plan to minimize energy intensities in GSA-maintained buildings, improve operational energy and water efficiencies, reduce energy and water use, pursue LEED and Energy Star certifications, and educate GSA employees. As of April 2012, the County of Ventura released a Climate Protection Plan to reduce GHG emissions by 15 percent by 2020. The six action areas include climate protection leadership, countywide responsibility, facilities, vehicle (fleet) operations, employee commute, and expanded sustainability goals.⁷⁴

Cities

Many cities in the SCAG region have incorporated climate change and GHG policies into their planning and permitting programs. Many cities in the SCAG region have developed or are developing city-level Climate Action Plans, climate milestones, GHG reduction plans, and/or GHG inventories. Please refer to the Governor's Office of Planning and Research for a full list of California cities/counties that have taken climate change actions.⁷⁵

⁷¹ Western Riverside Council of Governments. Accessed 25 August 2015. *Subregional Climate Action Plan*. Available at: http://www.wrcog.cog.ca.us/uploads/media_items/wrcog-climate-action-plan-final-draft-april-2014.original.pdf

⁷² San Bernardino County. Accessed August 2011. *Green Valley Initiative Cities*. Available at: http://www.sbcounty.gov/greencountysb/green_valley_initiative_cities.aspx

⁷³ San Bernardino Associated Governments. Accessed 19 July 2015. *Regional Greenhouse Gas Reduction Plan*. Available at: http://www.sanbag.ca.gov/planning2/plan_greenhouse.html

⁷⁴ Ventura County. Accessed 19 July 2015. *Working & Living Sustainably*. Available at: <http://www.ventura.org/sustain/for-community/climate-protection/>

⁷⁵ California Governor's Office of Planning and Research. Updated 17 June 2014. *California Jurisdictions Addressing Climate Change*. Available at: http://www.opr.ca.gov/docs/California_Jurisdictions_Addressing_Climate_Change_PDF.pdf

5.0 EXISTING CONDITIONS

Air quality in the SCAG region is a function of the topography, climate, population, and land use. While improved from the 1970s, Southern California has some of the worst air quality in the nation. The American Lung Association's *State of the Air Report*, released in 2015, ranks the Los Angeles-Long Beach metropolitan area as fifth worst in the nation for people at risk for 24-hour PM_{2.5}, fifth worst for annual PM_{2.5}, and worst for most ozone-polluted cities.⁷⁶ Both ozone and particulate matter are known to have negative public health impacts especially for sensitive populations, like children, the elderly, and those with respiratory or cardiovascular health problems. Therefore, the potential for the 2016 RTP/SCS to adversely affect public health was evaluated using cancer risk from diesel particulate matter as a corollary for respiratory health. The analysis of cancer risk was evaluated using the Hot Spots Analysis and Reporting Program (HARP) (version 2) or HARP2 model, consistent with the guidance provided by the California Office of Environmental Health Hazard Assessment (OEHHA) for Human Health Risk Assessment.⁷⁷ Low-income and minority populations are more at risk because they are more likely to live near major sources of pollution such as power plants or large freeways. Similarly, the analysis acknowledges applicable California legislation and initiatives to improve public health, particularly respiratory health in light of *Research Results on Land Use, Transportation, and Community Design*.⁷⁸

- Residents in walkable neighborhoods are more likely to meet physical activity guidelines.
- Public transit users are more likely to meet Surgeon General recommendations for physical activity.

Greater health benefits can be achieved by increasing the amount (duration, frequency, or intensity) of physical activity.

Topography, Climate, and Meteorology

The SCAG region has a greatly varied topography from lakes to mountains, valleys, hills, basins, and urban areas. The topography and meteorological conditions define the climate of the region because air quality is a function of the rate and location of pollutant emissions. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, influence the movement and dispersal of pollutants and thereby provide the link between air pollutant emissions and air quality. Southern California has strong temperature inversions in the lower atmosphere that can trap pollutants near the surface. Meteorology affects air quality trends that may mask emission reduction benefits. Meteorology also affects different pollutants differently. Warm and sunny weather, which is typical of Southern California, leads to higher ozone days because sunlight aids the chemical reactions that form ozone. On the other hand, windy weather will spread primary particulate matter from direct emissions leading to high PM concentrations in the air. Secondary PM, including particulate nitrates and sulfates, is more prevalent in the air during cold, calm, and humid weather conditions. Rain

⁷⁶ American Lung Association. 2015. *State of the Air 2015*. Available at: http://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf

⁷⁷ Office of Environmental Health Hazard Assessment. Accessed 19 October 2015. *Air Toxicology and Epidemiology*. Available at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html

⁷⁸ Active Living Research. Accessed 7 September 2015. *Research Results on Land Use, Transportation, and Community Design*. Available at: <http://activelivingresearch.org/land-use-transportation-and-community-design-research-summary-slides>

and wind reduce PM concentration in the air.⁷⁹ The local topography and climate conditions are described in greater detail specific to each air basin as listed below. These air basins are geographically defined because the travel of air pollution can be trapped by natural barriers like mountains unless the prevailing winds are powerful enough to disperse it to other areas.⁸⁰

South Coast Air Basin

The SCAB incorporates approximately 12,000 square miles, consisting of Orange County and the urbanized areas of San Bernardino, Riverside, and Los Angeles Counties. In May 1996, the boundaries of the SCAB were changed by the CARB to include the Beaumont-Banning area. The distinctive climate of the SCAB is determined by its terrain and geographic location. The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around the rest of its perimeter. The general region lies in the semipermanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.⁸¹

The vertical dispersion of air pollutants in the SCAB is hampered by the presence of persistent temperature inversions. High-pressure systems, such as the semipermanent high-pressure zone in which the SCAB is located, are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface, and resulting in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog. The basin-wide occurrence of inversions at 3,500 feet above sea level or less averages 191 days per year.⁸²

The atmospheric pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 miles per hour, smog potential is greatly reduced.⁸³

Mojave Desert Air Basin

The MDAB encompasses approximately 21,480 square miles and includes the desert portions of San Bernardino County, Palo Verde Valley, Palmdale, and Lancaster in the Antelope Valley. The MDAB is bordered by the SCAB and the Riverside County line to the south, Kern County line to the west, the Arizona and Nevada borders to the north and east, and the eastern portion of Riverside County to the southeast. The Kern County portion of MDAB is not in the SCAG region.

⁷⁹ *The California Almanac of Emissions and Air Quality*. 2013. Available at: <http://www.arb.ca.gov/aqd/almanac/almanac13/almanac2013all.pdf>

⁸⁰ South Coast Air Quality Management District. Accessed 24 August 2015. *Southern California Air Basins*. Available at: <http://www.aqmd.gov/docs/default-source/default-document-library/map-of-jurisdiction.pdf>

⁸¹ South Coast Air Quality Management District. April 1993. *CEQA Air Quality Handbook*. P. A8-1.

⁸² South Coast Air Quality Management District. April 1993. *CEQA Air Quality Handbook*. P. A8-2.

⁸³ South Coast Air Quality Management District. April 1993. *CEQA Air Quality Handbook*. P. A8-2.

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes.⁸⁴ Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north; air masses pushed onshore in Southern California by differential heating are channeled through the MDAB. The MDAB is separated from the Southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevadas in the north by the Tehachapi Pass (3,800 feet elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 feet). The Mojave Desert is bordered in the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 feet). A lesser channel lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley).

The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley) whose primary channel is the San Gorgonio Pass (2,300 feet) between the San Bernardino and San Jacinto Mountains.

During the summer, the MDAB is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB averages between 3 and 7 inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least three months have maximum average temperatures over 100.4 degrees Fahrenheit (° F).

Salton Sea Air Basin

The SSAB includes all of Imperial County and the desert portion of Riverside County between the SCAB and the MDAB (known as the Coachella Valley area). Imperial County extends over 4,597 square miles, bordering on Mexico to the south, Riverside County to the north, San Diego County on the west, and the State of Arizona on the east.⁸⁵

The southern portion of the SSAB is a part of the larger physiographic province of the Salton Trough. This province is a very flat basin surrounded by mountains: the Peninsular Ranges to the west and the Chocolate, Orocopia, and Cargo Muchaco Mountains to the east. Most of the trough is below sea level and consists generally of desert, with agricultural land uses located at the north and south of the Salton Sea.

Climatic conditions in the SSAB are governed by the large-scale sinking and warming of air in the semipermanent subtropical high-pressure center of the Pacific Ocean. The high-pressure ridge blocks

⁸⁴ Mojave Desert Air Quality Management District. February 2009. *CEQA and Federal Conformity Guidelines*.

⁸⁵ Imperial County Air Pollution Control District. 13 July 2010. *Final 2009 1997 8-Hour Ozone Modified Air Quality Management Plan*.

out most mid-latitude storms except in the winter when the high is weakest and farthest south. Similarly, the coastal mountains prevent the intrusion of any cool, damp marine air found in California coastal environs. Because of the weakened storms and the orographic barrier, the SSAB experiences clear skies, very low humidity, extremely hot summers, mild winters, and little rainfall. The flat terrain of the valley and the strong temperature differentials created by intense solar heating produce moderate winds and deep thermal convection.

The combination of subsiding air, protective mountains, and distance from the ocean severely limits precipitation. Rainfall is highly variable, with heavy precipitation occurring from single storms followed by periods of dry air. Humidity is typically low throughout the year, ranging from 28 percent in summer to 52 percent in winter.

The SSAB occasionally experiences periods of high winds. Wind speeds exceeding 31 miles per hour (mph) occur most frequently in April and May. On an annual basis, strong winds over 31 mph are observed 0.6 percent of the time, and speeds of less than 6.8 mph account for more than one-half of the observed winds. Wind statistics indicate prevailing winds are from the west-northwest through southwest; a secondary flow maximum from the southeast is also evident. Imperial County, in particular, experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken, allowing pollutants to more easily disperse. Weak surface inversions are caused by cooling of air in contact with the cold surface of the earth at night. In valleys and low-lying areas, this condition is intensified by the addition of cold air flowing downslope from the hills and pooling on the valley floor.

The presence of the Pacific high-pressure cell can cause the air mass aloft to sink. As the air descends, compressional heating warms it to a temperature higher than the air below. This highly stable atmospheric condition, termed a subsidence inversion, can act as a nearly impenetrable lid to the vertical mixing of pollutants. The strength of these inversions makes them difficult to disrupt. Consequently, they can persist for one or more days, causing air stagnation and the buildup of pollutants. Highest or worst-case ozone levels are often associated with the presence of this type of inversion. Subsidence inversions are common from November through June, but appear to be relatively absent July through October.

South Central Coast Air Basin

The SCAG region includes the Ventura County portion of the SCCAB. Ventura County is made up of coastal mountain ranges, the coastal shore, the coastal plain, and several inland valleys.⁸⁶ The northern half of the county (Los Padres National Forest) is extremely mountainous with altitudes up to 8,800 feet. Consequently, the climate in the northern half of the county varies a great deal depending on elevation. Therefore, the climatological and meteorological description presented for Ventura County focuses on the southern half of the county where violations of federal and state ozone standards occur. In the winter, low-pressure systems originating in the northern Pacific Ocean bring clouds, rain, and wind into Ventura County.

The average annual temperature in the coastal and inland valleys of the southern half of Ventura County ranges from the upper 50s at the coast (Point Mugu) to the mid-60s in Simi Valley. The difference

⁸⁶ Ventura County Air Pollution Control District. November 1996. *1994 Air Quality Management Plan*.

between the maximum and minimum temperatures becomes greater as the distance increases from the coast. The average minimum and maximum temperatures at Point Mugu are 50° F and 60° F, respectively, while at the inland location of Simi Valley, the averages are 52° F and 77° F. The smaller range of temperatures at Point Mugu demonstrates the moderating influence of the ocean on air temperature. The ocean's ability to warm and cool the air while its temperature remains relatively unchanged produces the moderating effect. Inland area temperatures are more prone to rapid fluctuations. Almost all rainfall in Ventura County falls during the winter and early spring (November through April). Summer rainfall is normally restricted to scattered thundershowers in lower elevations and somewhat heavier activity in the mountains. Humidity levels vary throughout the County. The range of humidity is primarily influenced by proximity to the ocean. Although the County's climate is semiarid, average humidity levels are relatively high due to the marine influence. Coastal areas are more humid than inland areas during typical fair weather. The reverse is true during stormy periods. The lowest humidity levels are recorded during Santa Ana wind conditions.

Ventura County winds are dominated by a diurnal land-sea breeze cycle. The land-sea breeze regime is broken only by occasional winter storms and infrequent strong northeasterly Santa Ana wind flows. Since the sea breeze is stronger than the land breeze, the net wind flow during the day is from west to east. Under light land-sea breeze regimes, recirculation of pollutants can occur as emissions move westward during morning hours, and eastward during the afternoon. This can cause a buildup of pollutants over several days.

The vertical dispersion of air pollutants in Ventura County is limited by the presence of persistent temperature inversions. Approximately 60 percent of all inversions measured at Point Mugu are surface-based, with most occurring during the morning hours.

Regional Air Quality

In Southern California, the American Lung Association consistently gives counties within the SCAG region failing grades in the amount of ozone and particulate pollution in the air. The American Lung Association has assigned grades to each of the Counties in the SCAG region for 2015 (**Table 5-1, *American Lung Association Report Card for SCAG Region***). Grades were calculated from a weighted average based on the total number of days in each air quality index level. The weighted average was derived by counting the number of days in each unhealthy range in each year (2011–2013), multiplying the total in each range by the assigned standard weights, and calculating the average. All six counties in the SCAG region received a failing grade for ozone, which means there were a significant number of unhealthy air days relative to the ozone standard. For ozone, an "F" grade was set to generally correlate with the number of unhealthy air days that would place a county in nonattainment for the ozone standard. For short-term particle pollution, fewer unhealthy air days are required for an F than for nonattainment under the PM_{2.5} standard. For PM_{2.5}, the national standard allows 2 percent of days in a three-year period to exceed 35 µg/m³, which is roughly 21 unhealthy days in three years, but the American Lung Association uses a more restrictive 1 percent or 99th percentile limit to protect the public from short term spikes in pollution.

**TABLE 5-1
AMERICAN LUNG ASSOCIATION REPORT CARD FOR SCAG REGION**

County	Ozone Grade	Particle Pollution Grade
Imperial	F	D
Los Angeles	F	F
Orange	F	F
Riverside	F	F
San Bernardino	F	D
Ventura	F	B

SOURCE:

American Lung Association. 2015. *State of the Air 2015*. Available at:
http://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf

Particle Pollution

In December 2009, the EPA linked fine particle pollution (PM_{2.5}) to public health impacts. The EPA determined that fine particle pollution could cause early death, cardiovascular harm, respiratory harm, cancer, and reproductive and developmental harm. In the short term, particle pollution reduces lung function and increases lung tissue inflammation in young, healthy adults. Short-term exposure increases emergency room visits for patients with acute respiratory illnesses, increases number of heart attacks, increases school absenteeism, increases hospitalization of children with asthma, and can even result in deaths on days of high levels of particle pollution.⁸⁷ Asthma in the SCAG region ranges from 28 to 74 per 10,000 people (Table 5-2, *Population-Weighted Asthma Rate per 10,000*). Asthma rates are a good indicator of population sensitivity to environmental stressors because asthma is both caused by and exacerbated by pollutants.

**TABLE 5-2
POPULATION WEIGHTED ASTHMA RATE PER 10,000**

County	Asthma Rate per 10,000
Imperial	74
Los Angeles	44
Orange	28
Riverside	40
San Bernardino	57
Ventura	34
SCAG region	42

SOURCE:

CalEnviroScreen - age-adjusted rate of emergency department (ED) visits for asthma per 10,000 (averaged over 2007-2009).

In 2013, the World Health Organization's International Agency for Research on Cancer linked long-term exposure to particle pollution to increased risk of developing lung cancer. Other studies have shown

⁸⁷ American Lung Association. 2015. *State of the Air 2015*. Available at:
http://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf

long-term particle pollution exposure increases hospitalization of children with asthma living near busy roads with heavy truck traffic, reduces lung function in children and teenagers, damages small airways of the lungs, increases risk of death from cardiovascular disease, and increases risk of lower birth weight and infant mortality.⁸⁸

Particle pollution particularly has a detrimental effect on sensitive populations including children, elderly, and those with respiratory or cardiovascular illnesses. In March 2015, OEHHA amended their Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments to consider the impact of age, breathing rates, and exposure levels into their cancer risk calculation methodology.

Figure 5-1, *Annual Average Concentration of PM_{2.5}*, shows the average annual exposure to PM_{2.5} in the SCAG region for years 2009 to 2011. Similar to the 2012 RTP/SCS PEIR, south Los Angeles County, northeast Orange County, southwest San Bernardino County, and northwest Riverside County experienced the highest average annual exposure to PM_{2.5}. The metropolitan area by El Centro and Calexico in Imperial County also show high average annual exposure to PM_{2.5}. Average concentrations in these high exposure areas range from 11.0 to 13.9 micrograms of PM_{2.5} per cubic meter of air. This is below the federal 15 µg/m³ standard, but partially above the state standard of 12 µg/m³, hence resulting in the nonattainment designations in parts of Imperial, Los Angeles, and Riverside Counties and complete nonattainment for PM_{2.5} in Orange and San Bernardino Counties.

Ozone

Ozone is formed when sunlight reacts with NO_x, VOCs, and/or CO. These compounds are typically found in vehicle exhaust, but can also be released into the atmosphere from other sources like chemical solvents, power plants, gas stations, paints, and refineries. In February 2013, the EPA published the “Integrated Science Assessment for Ozone and Related Photochemical Oxidants.” The report concluded that ozone pollution causes respiratory harm, is likely to cause early death and cardiovascular harm, may cause harm to the central nervous system, and may cause reproductive and developmental harm.⁸⁹ High levels of ozone can result in premature death and stroke, acute breathing problems like shortness of breath, wheezing, and coughing, asthma attacks, increase in risk of respiratory infection, increase susceptibility to pulmonary inflammation, and increase in hospitalization and emergency room visits for those with asthma, chronic obstructive pulmonary disease, cardiovascular disease and lung disease. Long term ozone exposure is connected to higher risk of death from respiratory diseases, higher risk of hospitalization for children with asthma especially those that are also low income, higher risk of developing asthma, lower birth weight and decreased lung function in newborns.⁹⁰ Similar to particle pollution, ozone has a detrimental effect on sensitive populations including children, elderly, and those with respiratory or cardiovascular illnesses.

Figure 5-2, *Average Daily Ozone Exposure in Excess of the National 8-hr Standard (0.75 ppm)*, shows the average daily O₃ exposure in the SCAG region that is in excess of the national 8-hour standard (0.075 ppm) in the SCAG region for years 2009 to 2011. Although the region as a whole largely experiences

⁸⁸ American Lung Association. 2015. *State of the Air 2015*. Available at: http://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf

⁸⁹ American Lung Association. 2015. *State of the Air 2015*. Available at: http://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf

⁹⁰ American Lung Association. 2015. *State of the Air 2015*. Available at: http://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf

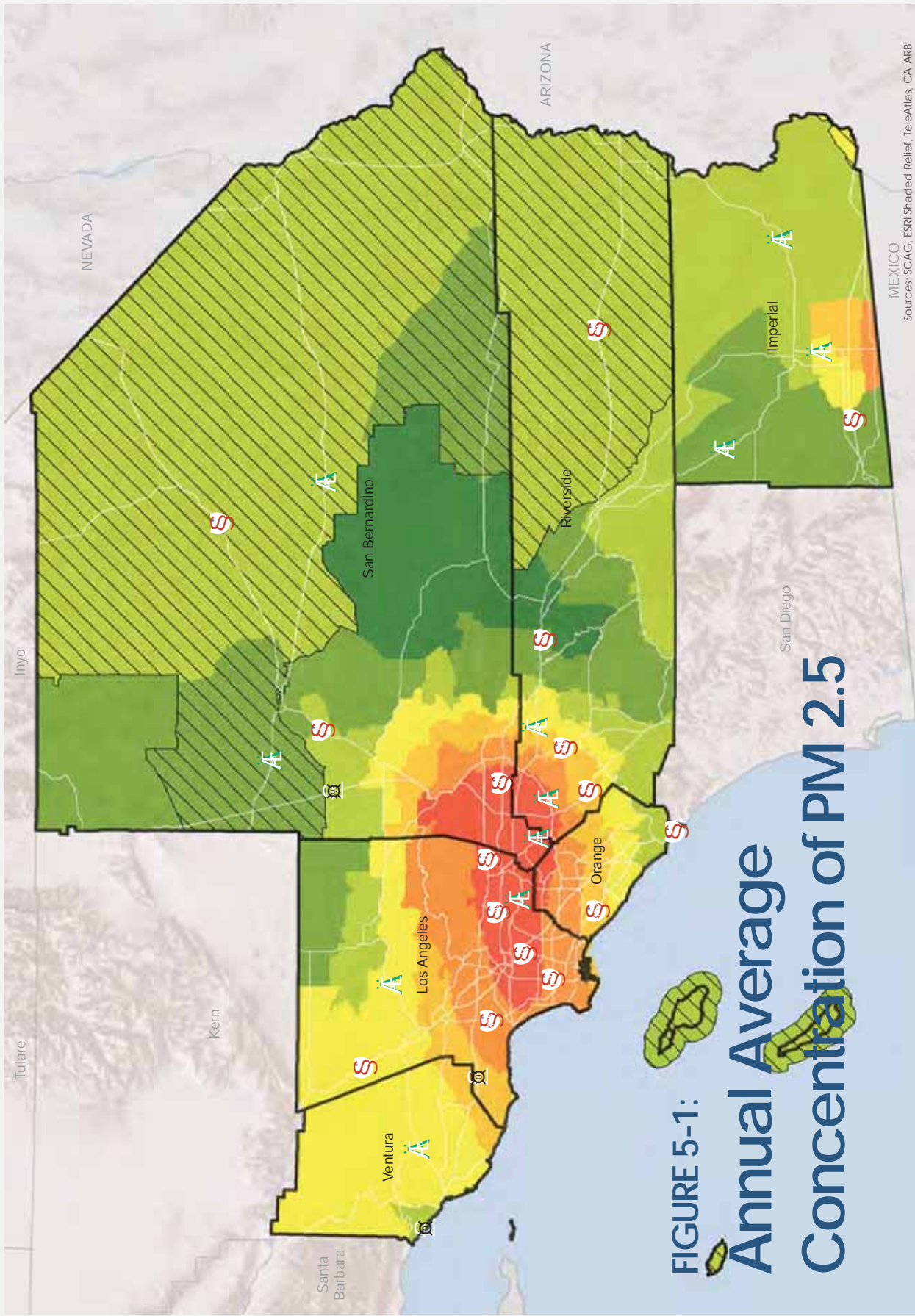


FIGURE 5-1:
Annual Average Concentration of PM 2.5

- Areas Greater than 50 km from Nearest Monitoring Station: Values Should be Regarded as Speculative.
- PM 2.5 Exposure (2009-2011) Annual Average Concentration (ug/m3)

3.78 - 5.22	5.23 - 6.67	6.68 - 8.11	8.12 - 9.55	9.56 - 11.00	11.01 - 12.44	12.45 - 13.89
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Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CA ARB

Scale: 0 5 10 20 Miles

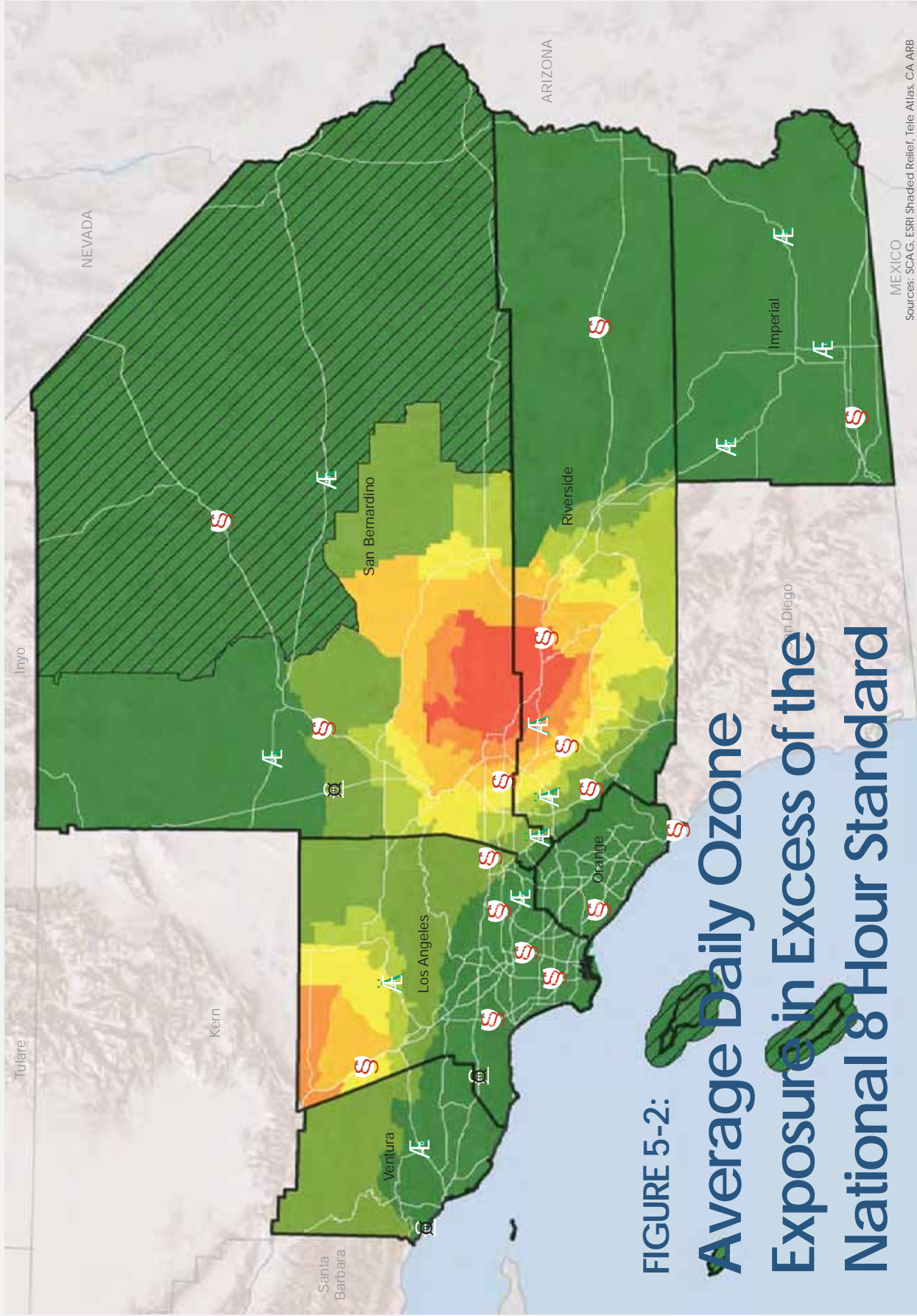


FIGURE 5-2:
Average Daily Ozone Exposure in Excess of the National 8 Hour Standard

- Areas Greater than 50 km from Nearest Monitoring Station: Values Should be Regarded as Speculative.
- | | |
|--|--------------|
| | 0.00 - 0.18 |
| | 0.19 - 0.36 |
| | 0.37 - 0.54 |
| | 0.55 - 0.72 |
| | 0.73 - 0.90 |
| | 0.911 - 1.08 |
| | 1.09 - 1.26 |

Sources: SCAG, ESRI Shaded Relief, Tele Atlas, CA ARB
 MEXICO
 0 5 10 20 Miles

average daily ozone exposure exceeding the federal standard, the highest concentration of ozone exposure can be seen mostly in southwest San Bernardino and northwest Riverside Counties, and also in northwest Los Angeles County.

Sensitive Receptors

There are many sensitive receptors located throughout the SCAG region (Figure 5-3, *Sensitive Receptors*, and Table 5-3, *Sensitive Receptors by County*). Some persons, such as those with respiratory illnesses or impaired lung function due to other illnesses, people with cardiovascular diseases or diabetes, the elderly over 65 years of age, and children under 14 years of age, can be particularly sensitive to emissions of criteria pollutants. These are the populations most at risk to poor air quality. Facilities and structures where sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses identified by SCAQMD in the CEQA Air Quality Handbook to be sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

**TABLE 5-3
SENSITIVE RECEPTORS BY COUNTY**

County	Total Sensitive Receptors Count
Imperial	37,329
Los Angeles	1,749,992
Orange	589,844
Riverside	621,196
San Bernardino	556,706
Ventura	219,644

Attainment Status

NAAQS

The federal CAA sets NAAQS for the main criteria air pollutants: NO_x, VOC, PM_{2.5}, PM₁₀, SO_x, CO, and lead. Attainment and nonattainment of the NAAQS is variable throughout the counties within the SCAG region (Table 5-4, *2015 Nonattainment in Counties in the SCAG Region for All Criteria Pollutants*).

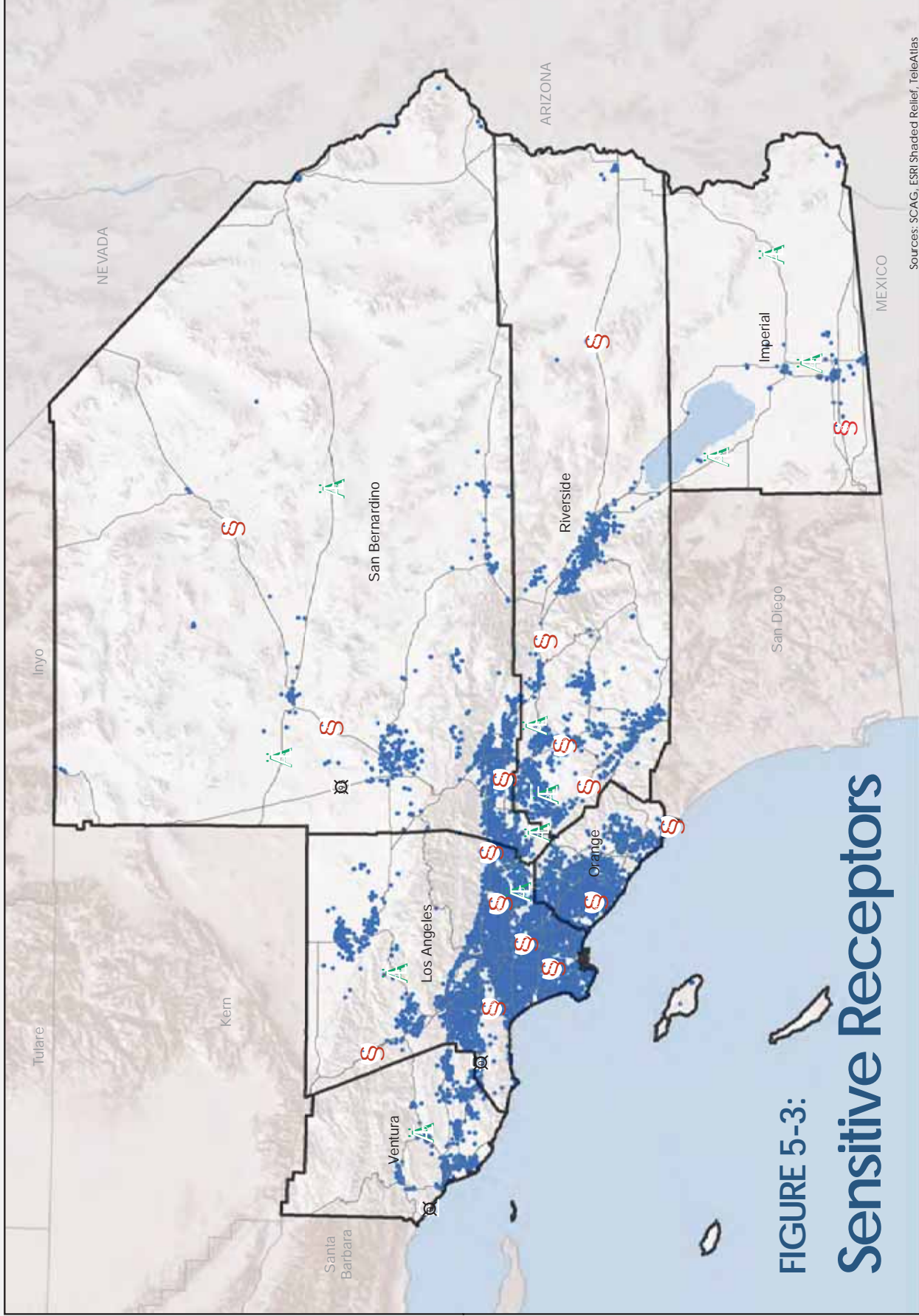
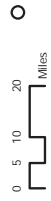


FIGURE 5-3:
Sensitive Receptors

1 Sensitive Receptors



Sources: SCAG, ESRI Shaded Relief, TeleAtlas

TABLE 5-4
2015 NONATTAINMENT AREAS IN THE SCAG REGION FOR ALL CRITERIA POLLUTANTS BY
COUNTY BY NAAQS

Imperial County	
PM-10 (1987)	Imperial Valley, CA - (Serious)
PM-2.5 (2006)	Imperial Co, CA - (Moderate)
PM-2.5 (2012)	Imperial Co, CA - (Moderate)
8-Hr Ozone (2008)	Imperial County, CA - (Marginal) (Proposed by U.S. EPA to be reclassified to Moderate)
Los Angeles County	
Lead (2008)	Los Angeles County-South Coast Air Basin, CA
PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA - (Moderate) (requested by SCAQMD to be reclassified to Serious)
PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA - (Moderate)
8-Hr Ozone (2008)	Los Angeles-San Bernardino Counties (West Mojave Desert), CA - (Severe 15)
8-Hr Ozone (2008)	Los Angeles-South Coast Air Basin, CA - (Extreme)
Orange County	
PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA - (Moderate)
8-Hr Ozone (2008)	Los Angeles-South Coast Air Basin, CA - (Extreme)
Riverside County	
PM-10 (1987)	Coachella Valley, CA - (Serious)
PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA - (Moderate)
8-Hr Ozone (2008)	Los Angeles-South Coast Air Basin, CA - (Extreme)
8-Hr Ozone (2008)	Riverside Co, (Coachella Valley), CA - (Severe 15)
San Bernardino County	
PM-10 (1987)	San Bernardino Co, CA - (Moderate)
PM-10 (1987)	Trona, CA - (Moderate)
PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA - (Moderate)
8-Hr Ozone (2008)	Los Angeles-San Bernardino Counties (West Mojave Desert), CA - (Severe 15)
8-Hr Ozone (2008)	Los Angeles-South Coast Air Basin, CA - (Extreme)
Ventura County	
8-Hr Ozone (2008)	Ventura County, CA - (Serious)

SOURCE:

U.S. Environmental Protection Agency. 30 January 2015. *U.S. EPA Green Book. Current Nonattainment Counties For All Criteria Pollutants*. Available at: <http://www.epa.gov/oaqps001/greenbk/ancl.html>

CAAQS

CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. California has set standards for certain pollutants, such as particulate matter and ozone, which are more protective of public health than respective federal standards. California has also set standards for some pollutants that are not addressed by federal standards such as visibility reducing particles and vinyl chloride (Table 5-5, *CAAQS Area Designations*).

**TABLE 5-5
CAAQS AREA DESIGNATIONS**

County	Ozone	PM _{2.5}	PM ₁₀	CO	NO ₂	SO ₂	Sulfates	HS	Pb	Visibility Reducing Particles
Imperial	N	City of Calexico (N), Remainder of County (A)	N	A	A	A	A	U	A	U
Los Angeles	N	South Coast Air Basin (N), Mojave Desert Air Basin (U)	N	A	A	A	A	U	A	U
Orange	N	N	N	A	A	A	A	U	A	U
Riverside	N	South Coast Air Basin (N), Mojave Desert Air Basin (U), Salton Sea Air Basin (A)	N	A, Mojave Desert Air Basin (U)	A	A	A	U	A	U
San Bernardino	N	N	N	A	A	A	A	U, Searles Valley Planning Area (N)	A	U
Ventura	N	A	N	A	A	A	A	U	A	U

NOTE:

Designation Categories: A = Attainment; N = Nonattainment; T = Nonattainment-Transitional; U = Unclassified.

SOURCE:

California Air Resources Board. 9 January 2015. *Area Designations (Activities and Maps)*. Available at: <http://www.arb.ca.gov/desig/changes.htm#summaries>

Criteria Pollutant Emissions under Existing Conditions

The existing conditions (base year 2012) of the criteria pollutant emissions for the six counties in the SCAG region are shown in Table 5-6, *Criteria Pollutant Emissions by County—Existing Conditions (Base Year 2012)*.

TABLE 5-6
CRITERIA POLLUTANT EMISSIONS BY COUNTY—EXISTING CONDITIONS (BASE YEAR 2012)

County	(Tons/Day)								
	ROG		NOx			CO	PM10	PM2.5	SOx
	Summer	Annual	Summer	Annual	Winter	Winter	Annual	Annual	Annual
Imperial	4	4	10	11	11	28	1	0	0
Los Angeles	103	101	179	194	190	851	17	9	1
Orange	28	28	42	46	45	225	5	2	0
Riverside	26	23	66	70	69	183	5	3	0
San Bernardino	32	28	81	86	84	225	6	3	0
Ventura	9	8	12	14	14	70	1	1	0

The SCAG region is encompassed by the CARB's air quality monitoring program. The air monitoring stations collect ambient level measurements for criteria pollutants. The data generated are used to define the nature and severity of pollution in California; determine which areas of California are in attainment or non-attainment; identify pollution trends in the state; support agricultural burn forecasting; and develop air models and emission inventories.⁹¹ There are 64 active air monitoring stations in the SCAG region: nine in Imperial County, 15 in Los Angeles County, five in Orange County, 15 in Riverside County, 14 in the San Bernardino County, and six in Ventura County. These monitoring stations are shown in Figure 5-4, *Air Quality Basins and Monitoring Stations*.⁹²

Health Risk Assessment

The HRA (**Appendix D** to the PEIR) assesses the potential carcinogenic risk to persons potentially exposed to harmful diesel exhaust emissions near freeways within the SCAG region. Using EMFAC 2014, only exhaust diesel particulate matter (DPM, modeled as PM_{2.5} and PM₁₀) and select toxics (i.e., acetaldehyde, benzene, 1,3-butadiene, and formaldehyde) are modeled because these pollutants have carcinogenic health effects. Cancer risk will be used as a corollary for overall health effects in this assessment. Discussed in more detail in **Appendix D** and **Section 4.0, Alternatives**, of this PEIR, the model simulates five conditions: a base year condition representing Existing Conditions, a future condition with the 2016 RTP/SCS, and three future conditions assuming if the 2016 RTP/SCS were not adopted. Comparison between the existing conditions and Plan is described in **Section 3.3.4, Impact Analysis**, in the PEIR.

⁹¹ California Air Resources Board. 1 July 2015. *Ambient Air Quality Monitoring*. Available at: <http://www.arb.ca.gov/aaqm/aaqm.htm>

⁹² California Air Resources Board. 24 September 2014. *Quality Assurance Air Monitoring Site Information*. Available at: <http://www.arb.ca.gov/qaweb/site.php>

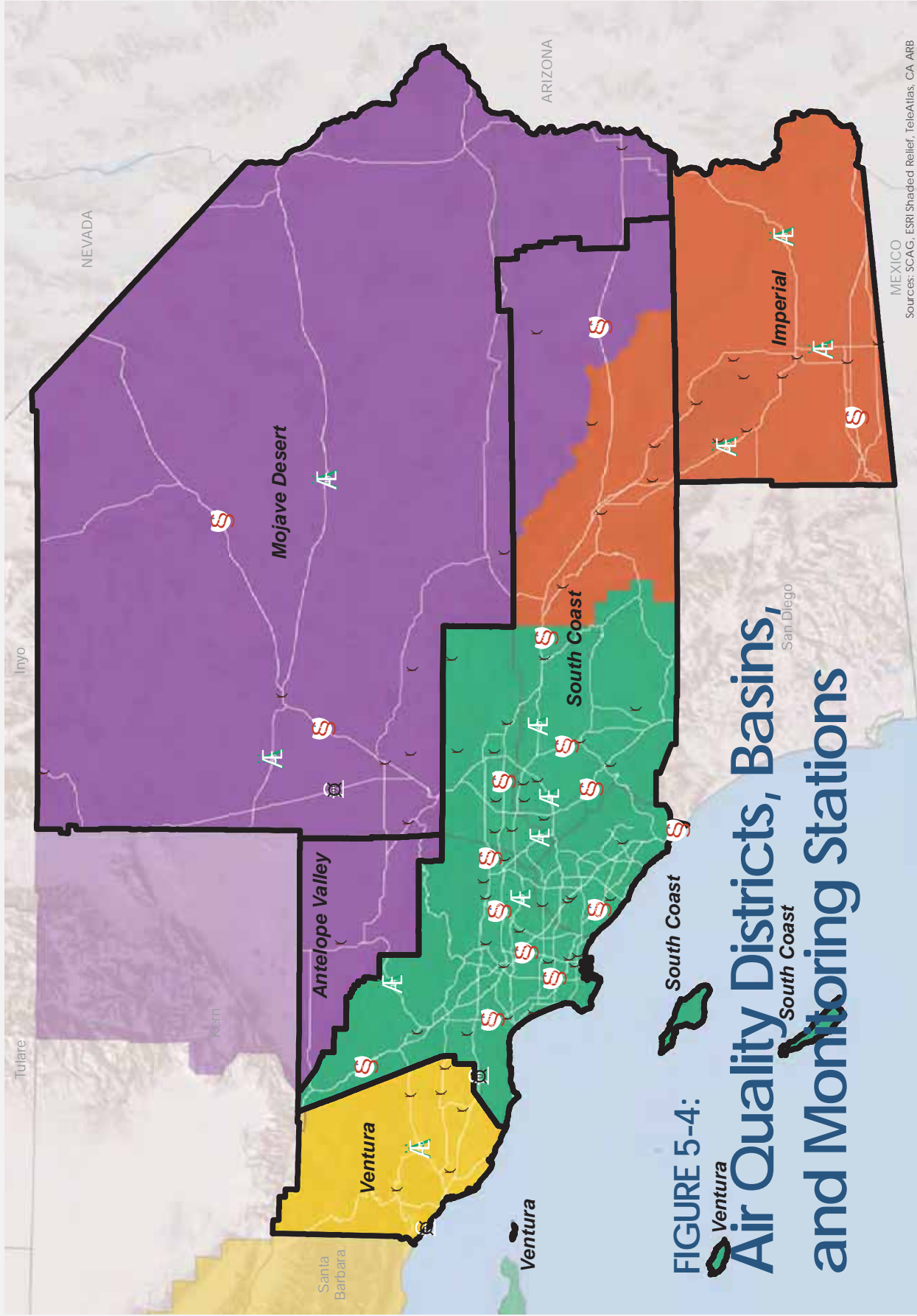


FIGURE 5-4:
Ventura
Air Quality Districts, Basins,
and Monitoring Stations

-  Air Monitoring Stations
-  Air District with Label
-  Mojave Desert Air Basin
-  South Central Coast Air Basin
-  Salton Sea Air Basin
-  South Coast Air Basin

Sources: SCAG, ESRI Shaded Relief, TeleAtlas, CA ARB



The emissions and cancer risk are evaluated along 16 different transportation corridors that were determined according to proximity to sensitive receptors and population, traffic, and vehicle miles traveled (VMT). Heavy duty diesel trucks (HDDT) comprise the majority of DPM emissions. An AERMOD dispersion model was used to project the DPM concentrations at pre-identified receptors out to 1,000 meters away from the freeway. Cancer risk from the DPM was escalated by 5 percent to account for other select toxics. (This percentage was identified as a good approximation in a MOVES2014 analysis.) Risk calculations are included for worker, residential, and sensitive receptors. **Table 1-1, *Summary Maximum Exposed Individual Residential 30-year Exposure Cancer Risk***, in the HRA (**Appendix D**), contains a summary of the cancer risk per million exposed persons for each of the five scenarios and 16 freeway segments.

Ambient Air Quality

The five air districts in the SCAG region each monitor air quality conditions in their region. The characterization of the ambient air quality in relation to criteria pollutants was based on peak readings of criteria pollutants in the SCAG air basins (**Table 5-7, *Peak Criteria Pollutants Readings for the SCAG Region Air Basins***). The data shows that O₃, PM_{2.5}, and PM₁₀ readings consistently exceeded the standards in each of the air basins.

**TABLE 5-7
PEAK CRITERIA POLLUTANTS READINGS FOR THE SCAG REGION AIR BASINS**

Pollutant	Period	Pollutant Standards		2011 Peak		Days in Excess of Standards 2011		2012 Peak		Days in Excess of Standards 2012		2013 Peak		Days in Excess of Standards 2013	
		CA	Federal	Criteria Reading		CA	Federal	Criteria Reading	CA	Federal	Criteria Reading	CA	Federal		
South Coast Air Basin															
Ozone (O ₃)	1-hour	0.09 ppm (180 µg/m ³)	—	0.160	—	90	16	0.147	97	12	0.151	70	5		
	8-hour	0.07 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	0.136	—	125	106	0.112	140	111	0.122	119	88		
Respirable Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	150 µg/m ³	CA 119.7	Federal 152.9	23	0	CA 90.9	Federal 104.8	97	0	CA 199.2	Federal 286	86	2
		—	35 µg/m ³	CA 97.4	Federal 94.6	—	17	CA 182.2	Federal 58.7	—	17	CA 170.8	Federal 60.3	—	13
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	4.67		0	0	3.96		0	0	—		0	0
		0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	CA 109	Federal 109.6	0	1	CA 97	Federal 97.8	0	0	CA 104	Federal 104.6	0	1
Mojave Desert Air Basin															
Ozone (O ₃)	1-hour	0.09 ppm (180 µg/m ³)	—	0.132		57	1	0.119		44	0	0.120		22	0

**TABLE 5-7
PEAK CRITERIA POLLUTANTS READINGS FOR THE SCAG REGION AIR BASINS**

Pollutant	Period	Pollutant Standards		2011 Peak		Days in Excess of Standards 2011		2012 Peak		Days in Excess of Standards 2012		2013 Peak		Days in Excess of Standards 2013	
		CA	Federal	Criteria Reading	Federal	CA	Federal	Criteria Reading	CA	Federal	Criteria Reading	CA	Federal		
		$\mu\text{g}/\text{m}^3$													
	8-hour	0.070 ppm (137 $\mu\text{g}/\text{m}^3$)	0.075 ppm (147 $\mu\text{g}/\text{m}^3$)	CA 0.114	Federal 0.113	138	95	CA 0.108	Federal 0.108	123	81	CA 0.097	Federal 0.097	105	66
Respirable Particulate Matter (PM ₁₀)	24-hour	50 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$	CA 138.7	Federal 143.4	18	0	CA 96.6	Federal 181.6	18	1	CA 173.4	Federal 305.2	26	1
Fine Particulate Matter (PM _{2.5})	24-hour	—	35 $\mu\text{g}/\text{m}^3$	CA 50	Federal 50	—	1	CA 49.5	Federal 67.7	—	2	CA 76.2	Federal 76.2	—	6
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	1.51		0	0	1.83		0	0	—		0	0
Nitrogen Dioxide (NO ₂)	1-hour	0.18 ppm (339 $\mu\text{g}/\text{m}^3$)	100 ppb (188 $\mu\text{g}/\text{m}^3$)	CA 77	Federal 77	0	0	CA 146	Federal 146	0	7	CA 84	Federal 84.9	0	0
Salton Sea Air Basin															
Ozone (O ₃)	1-hour	0.09 ppm (180 $\mu\text{g}/\text{m}^3$)	—	0.124		29	0	0.126		27	1	0.113		20	0

**TABLE 5-7
PEAK CRITERIA POLLUTANTS READINGS FOR THE SCAG REGION AIR BASINS**

Pollutant	Period	Pollutant Standards		2011 Peak Reading		Days in Excess of Standards of 2011		2012 Peak Reading		Days in Excess of Standards of 2012		2013 Peak Reading		Days in Excess of Standards of 2013	
		CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal
Respirable Particulate Matter (PM ₁₀)	8-hour	0.070 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	CA 0.099	Federal 0.098	81	59	CA 0.101	Federal 0.100	93	58	CA 0.104	Federal 0.104	89	53
		50 µg/m ³	150 µg/m ³	CA 324	Federal 396.9	93	2	CA 387.3	Federal 406.2	103	2	CA 385.7	Federal 255.2	144	3
Fine Particulate Matter (PM _{2.5})	24-hour	—	35 µg/m ³	CA 103.5	Federal 80.3	—	3	CA 78.5	Federal 64.7	—	2	CA 70.8	Federal 36.3	—	1
		9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	9.01	9.01	0	0	4.47	4.47	0	0	—	—	0	0
Carbon Monoxide (CO)	8-hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	CA 130	Federal 130	0	2	CA 91	Federal 91	0	0	CA 156	Federal 156.9	0	2
		0.070 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	CA 0.091	Federal 0.090	30	11	CA 0.088	Federal 0.087	52	22	CA 0.089	Federal 0.089	23	7
South Central Coast Air Basin															
Ozone (O ₃)	1-hour	0.09 ppm (180 µg/m ³)	—	0.110	0.110	4	0	0.106	0.106	4	0	0.104	0.104	3	0
		0.070 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	CA 0.091	Federal 0.090	30	11	CA 0.088	Federal 0.087	52	22	CA 0.089	Federal 0.089	23	7

**TABLE 5-7
PEAK CRITERIA POLLUTANTS READINGS FOR THE SCAG REGION AIR BASINS**

Pollutant	Period	Pollutant Standards		2011 Peak Reading		Days in Excess of Standards 2011		2012 Peak Reading		Days in Excess of Standards 2012		2013 Peak Reading		Days in Excess of Standards 2013	
		CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal
Respirable Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	150 µg/m ³	CA 140.4	Federal 134.2	68	0	CA 186.4	Federal 180.9	69	3	CA 595.6	Federal 218.1	95	1
Fine Particulate Matter (PM _{2.5})	24-hour	—	35 µg/m ³	CA 34.6	Federal 34.6	—	0	CA 41.9	Federal 41.9	—	4	CA 39.6	Federal 39.6	—	2
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	1.89		0	0	1.11		0	0	—		0	0
Nitrogen Dioxide (NO ₂)	1-hour	0.18 ppm (338 µg/m ³)	100 ppb (190 µg/m ³)	CA 90	Federal 90	0	0	CA 58	Federal 58	0	0	CA 139	Federal 139	0	1

SOURCE:

California Air Resources Board. Accessed 8 May 2015. Top 4 Summary: Select Pollutant, Years, & Area. Available at: <http://www.arb.ca.gov/adam/topfour/topfour1.php>

6.0 METHODS OF ANALYSIS

The methodology for determining the significance of air quality impacts compares the existing conditions to the future 2016 RTP/SCS, as required in CEQA Section 15126.2(a). Analysis of the potential air quality impacts of the Plan was conducted based on SCAG's Regional Travel Demand Model, evaluation of relevant AQMPs/SIPs, and a Mobile Source Health Risk Assessment (HRA).

The HRA evaluated the emissions and potential health risks associated with vehicle traffic on 16 different freeway segments. Eight of these segments were evaluated in a previous PEIR associated with the 2012-2035 RTP/SCS. Eight additional segments were also selected based on 2012 vehicle miles traveled (VMT) data and sensitive receptor locations. Qualifying freeway segments identified as having at least one sensitive receptor within 500 meters were then ranked based on heavy duty truck (HDT) VMT, considering the amount of truck traffic in both directions. Segments were not considered that were considered distant from populated areas with minimal (i.e., less than two) sensitive receptors (e.g., near the base of the Grapevine on I-5) or where the additional segment was an extension of the one of the original eight segments. In these cases, the next most appropriate segment was chosen following the criteria above and some subjective considerations based on population density, anticipation of future growth in the HRA study area. For each of the 16 freeway segments, five HRA simulations were analyzed:

- Simulation 1: Represents Existing Conditions (or baseline simulation);
- Simulation 2: Represents future (2040) conditions under the No Project Alternative;
- Simulation 3: Represents future (2040) conditions under the 2016 RTP/SCS or the Proposed Project;
- Simulation 4: Represents future (2040) conditions under the 2012 RTP/SCS with Local Input Alternative;
- Simulation 5: Represents future (2040) conditions under the Intensified Land Use Alternative.

The HRA used dispersion modeling from CARB-approved AERMOD dispersion model (Version 15181), meteorology data from South Coast, Imperial, and Ventura Air Districts' monitoring sites, and EMFAC 2014 for the emission factors from 2016 to 2040. The cancer risk was determined by the diesel particulate matter (DPM) emissions from heavy duty trucks (HDT) and was scaled upward by 5 percent to account for other select toxics, as determined by a prior sample calculation. Since only DPM is being evaluated with only the inhalation pathway, risk calculations were prepared in a spreadsheet using the OEHHA Guidance risk calculation procedures and default parameters. This cancer risk analysis is consistent with February 2015 Air Toxic Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments published by the OEHHA.

GHG emissions were analyzed based off of the Scenario Planning Model (SPM) and SCAG's Regional Travel Demand Model, completed in 2015 (see Table 6-1, *Scenario Planning Model Metrics Assumptions*). The SPM includes model run data for energy, water, non-transportation GHG emissions, and public health data. GHG emissions and transportation data were projected to 2040 using SCAG's Regional Travel Demand Model, and ARB's EMFAC2014 emissions model.

**TABLE 6-1
SCENARIO PLANNING MODEL METRICS ASSUMPTIONS**

	Baseline	Adopted		
		2020	2035	2040
TRANSPORTATION				
Vehicle efficiency (mi/gal)	22.0 mpge	28.0 mpge	28.0 mpge	28.0 mpge
Fuel price (\$/gal, 2014 dollars)	\$4.00	\$4.40	\$5.60	\$6.00
Auto ownership and maintenance (\$/mile, 2014 dollars)	\$0.35	\$0.35	\$0.35	\$0.35
Tank-to-Wheels Fuel Emissions (lbs CO ₂ e/gal)	19.62 lbs/gal	17.66 lbs/gal	17.66 lbs/gal	17.66 lbs/gal
BUILDINGS				
Residential & commercial building electricity emissions (lbs CO ₂ e/kWh)	0.74 lbs/kWh	0.58 lbs/kWh	0.58 lbs/kWh	0.58 lbs/kWh
Residential & commercial building natural gas emissions (lbs CO ₂ e/therm)	11.66 lbs/thm	11.66 lbs/thm	11.66 lbs/thm	11.66 lbs/thm
Electricity price (\$/kWh)	\$0.15	\$0.17	\$0.23	\$0.25
Natural gas price (\$/kWh)	\$1.18	\$1.40	\$2.08	\$2.30
Water price (\$/acre foot)	\$1,200	\$1,267	\$1,493	\$1,577
Indoor water energy use (kWh) - Supply, conveyance, treatment, water and wastewater distribution	13,021 kWh/MG	13,021 kWh/MG	13,021 kWh/MG	13,021 kWh/MG
Outdoor water energy use (kWh) - Supply, conveyance, treatment, distribution	11,110 kWh/MG	11,110 kWh/MG	11,110 kWh/MG	11,110 kWh/MG
Effective average residential building energy efficiency (-10/25/30% new, -10/20/25% existing)		-3%	-9%	-13%
Effective average commercial building energy efficiency (-10/25/30% new, -10/20/25% existing)		-3%	-9%	-13%
Effective average residential building water efficiency (-10/25/30% new, -10/20/25% existing)		-3%	-9%	-14%
Effective average commercial building water efficiency (-10/25/30% new, -10/20/25% existing)		-3%	-9%	-14%
PUBLIC HEALTH (Pollution-related)				
GHG (Social Cost of Carbon) 1				\$41
NOx 2				\$1,773
SOx 2				\$0
CO 2				\$0
VOC 2				\$1,773
PM2.5 3, 4				\$813,900
Indirect PM: NOx 3, 4				\$63,313
Indirect PM: SOx 3, 4				\$66,051
Indirect PM: VOC 3, 4				\$8,369
Public health cost inflation factor (2010\$ to 2015\$)				1.08

SOURCE:

SCAG Scenario Planning Model, 2015.

Analysis of the potential GHG impacts of the Plan was conducted based on detailed modeling of on-road and gross estimates of stationary sources. It is anticipated that future conservation (as a result of increased pressure to conserve and increased prices) will result in reduced demand. As energy providers and water suppliers respond to AB 32 and the Scoping Plan emission rates associated with

power and water delivery are anticipated to decrease. However, in order to present a conservative analysis and without specific information on future demand factors, only modest reductions in demand are assumed.

7.0 AIR QUALITY AND GREENHOUSE GAS EMISSIONS ANALYSIS

Air Quality Analysis

The 2016 RTP/SCS would have a significant impact related to air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable NAAQS or CAAQS
- Expose sensitive receptors to substantial pollutant concentrations and harm public health outcomes substantially
- Expose a substantial number of people to objectionable odors

Even though public health is not a CEQA issue area, this impact analysis was conducted from a public health lens as air quality is closely related to public health. The analysis relies primarily on the results of the HRA, as a corollary for public health. EPA has established a cancer risk threshold that has been accepted by the air districts within the SCAG region. Diesel particulate matter has been documented to affect respiratory health especially in the very young and senior populations. OEHHA has established a model for calculating the cancer risk that is primarily driven by diesel particulate matter. Therefore, SCAG prepared an HRA to evaluate the cancer risk associated with the Plan. Particular emphasis was placed on selecting transportation corridors that evaluated impacts to at risk populations. The results of that analysis have been used to characterize the impacts to public health with respect to the changes in air quality.

IMPACT Air-1: Potential to conflict with or obstruct implementation of the applicable air quality plan.

Less than Significant Impact

The 2016 RTP/SCS would result in a less than significant impact to air quality related to the potential to conflict with or obstruct implementation of the adopted SIPs/AQMPs/Attainment Plans in the SCAG region because the projected long-term emissions are in alignment with the local SIPs/AQMPs as demonstrated in the transportation conformity analysis, found in the appendices to the 2016 RTP/SCS. The emissions resulting from the Plan are within the applicable emissions budgets as stated in the SIPs/AQMPs for each nonattainment or maintenance area for all milestone, attainment, and planning horizon years.

As described in the Regulatory Framework, above, when a region is in nonattainment for any of the six criteria air pollutants relative to the NAAQS, the federal CAA requires states to develop SIPs to achieve the federal standard. The AQMPs are required as part of the SIP. Within the SCAG region, the 8-hour federal ozone standard is designated nonattainment for all the six counties. The only other of the six criteria pollutants designated nonattainment are PM_{2.5} and PM₁₀. As a result, all the SIPs in the SCAG region focus on reducing ozone emissions and may also focus on particle pollution. The following air quality plans applicable to the 2016 RTP/SCS are: 2012 SCAQMD Air Quality Management Plans (AQMP),

MDAQMD Federal 8-hour Ozone Attainment Plan (2008), Imperial County 2013 SIP, ICAPCD 1997 8-Hour Ozone Modified Air Quality Management Plan (2009), AVAQMD Federal 8-hour Ozone Attainment Plan (2008), and the VCAPCD Air Quality Management Plan (2008).

The goals of the air quality management plans and attainment plans are to establish a strategy for achieving the standards by a set date by listing all feasible control measures. These control measures help advance the attainment date and are financially, economically, and socially feasible. As standards become more stringent with time, achieving the standards becomes a moving target that the air quality districts and air-related plans must continue to chase. At this current snapshot in time (2015), the Plan would be not in conflict with the existing air-related plans if it was aligned with the feasible control measures. For example, the 2012 SCAQMD AQMP was written in alignment with the 2012 RTP/SCS, incorporating the latest scientific, technological, and regulatory information and planning assumptions as of December 7, 2012.

The 2016 RTP/SCS would result in more aggressive regional transportation and land use strategies than the 2012 RTP/SCS with respect to achieving emission reductions as it has a greater emphasis on more compact development in existing urbanized areas and opportunity areas, higher investments and more integrated strategies for active transportation, higher investments for transit and passenger rail, and a greater emphasis on building a balanced regional blueprint for improving public health and ensuring quality of life (as discussed in **Section 2.0, *Project Description***, of this PEIR). This is evident by the 2016 RTP/SCS transportation project types that allocate funding and planning efforts on trail access, regional greenway network, regional and local bikeway network, and pedestrian improvements by using a “complete street” approach; transit (rail, bus) improvements and new facilities; rideshare/vanpool programs; high-occupancy vehicle (HOV) lanes; traffic calming and signal improvements; and streetscape/landscape projects. The mission and resultant project list from the 2016 RTP/SCS strive to reduce emissions in both mobile and stationary sources by increasing density and reducing VMT. Additionally, land use strategies proposed in the Plan seek to balance the region’s strategic transportation investments and land use choices and are coordinated with the committed and projected transportation investments in the region that emphasize system preservation and enhancement, active transportation, and land use integration. These efforts are in alignment with the attainment plans and air quality management plans’ goals to reduce emissions of pollutants in nonattainment areas. Therefore, the Plan is expected to have a less than significant impact to conflict with or obstruct implementation of the applicable air quality plan, and the consideration of mitigation measures is not warranted.

IMPACT Air-2: Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Significant Impact

The construction and operation of individual transportation projects and anticipated development as result of the proposed transportation and land use strategies in the 2016 RTP/SCS are expected to have the potential to violate air quality standards or contribute substantially to an air quality violation, thus requiring the consideration of mitigation measures.

Long Term. Under the 2016 RTP/SCS, air emissions were estimated in 2040 (with the Plan) and compared to existing conditions (2012 base year). The calculated emissions were compiled for ROG,

NO_x, CO, PM₁₀, PM_{2.5}, and SO_x for each county in the SCAG region. For every criteria pollutant in every county in the SCAG region, there are air pollutant emission reductions or no change between the Plan in 2040 and existing conditions (Table 7-1 *Criteria Pollutant Emissions by County— Plan [2040] vs. Existing Conditions [2015]*). There is a less than significant impact to Impact Air-2 in the long term.

**TABLE 7-1
CRITERIA POLLUTANT EMISSIONS BY COUNTY— PLAN (2040) VS. EXISTING CONDITIONS (2015)**

County		(Tons/Day)								
		ROG		NO _x			CO	PM ₁₀	PM _{2.5}	SO _x
		Summer	Annual	Summer	Annual	Winter	Winter	Annual	Annual	Annual
Imperial	Existing	4	4	10	11	11	28	1	0	0
	Plan	2	2	3	3	3	13	1	0	0
	Difference	-2	-2	-7	-7	-7	-14	0	0	0
Los Angeles	Existing	103	101	179	194	190	851	17	9	1
	Plan	21	21	35	37	36	141	14	6	1
	Difference	-81	-80	-144	-157	-154	-711	-3	-3	0
Orange	Existing	28	28	42	46	45	225	5	2	0
	Plan	7	7	8	8	8	44	5	2	0
	Difference	-21	-21	-35	-38	-37	-181	0	-1	0
Riverside	Existing	26	23	66	70	69	183	5	3	0
	Plan	8	7	14	15	15	42	5	2	0
	Difference	-19	-17	-52	-55	-55	-141	0	-1	0
San Bernardino	Existing	32	28	81	86	84	225	6	3	0
	Plan	8	7	22	22	22	46	6	2	0
	Difference	-24	-21	-59	-64	-63	-179	0	-1	0
Ventura	Existing	9	8	12	14	14	70	1	1	0
	Plan	2	2	2	2	2	11	1	0	0
	Difference	-7	-7	-10	-11	-11	-59	0	0	0

SOURCE:

SCAG Transportation Modeling, 2015.

NOTE: Please note that 2012 base year network includes projects in the 2015 Federal Transportation Improvement Program (FTIP) adopted in September 2014 and projects in the 2012 RTP/SCS as last amended in September 2014.

The analysis of air quality also includes a comparison between the expected future conditions with the Plan and the expected future conditions if no Plan (No Project Alternative) were adopted. This evaluation is not included in the determination of the significance of impacts (which is based on a comparison of future conditions with the Plan to existing conditions); however, it provides a meaningful perspective on the effects of the Plan. **Figure 7-1, PM_{2.5} Emissions Change**, and **Figure 7-2, CO Emissions Change**, compare the Baseline (2040) emissions with the Plan (2040) emissions for PM_{2.5} and CO. The classification in the figures range from ≤2.5 standard deviations (SD), -2.5 to -1.5 SD, -1.5 to -0.5 SD, -0.5 to 0.5 SD, 0.5 to 1.5 SD, 1.5 to 2.5 SD, and >2.5 SD. CO and PM_{2.5} emissions mainly originate from vehicle exhaust, so their emissions are closely tied to transportation patterns and total VMT. In 2040, the Plan has less PM₁₀, PM_{2.5}, and CO emissions relative to Baseline, which could be attributed to policies that increase density in urban areas and active transportation (e.g., walking and

**FIGURE 7-1:
PM_{2.5} Emissions Change**

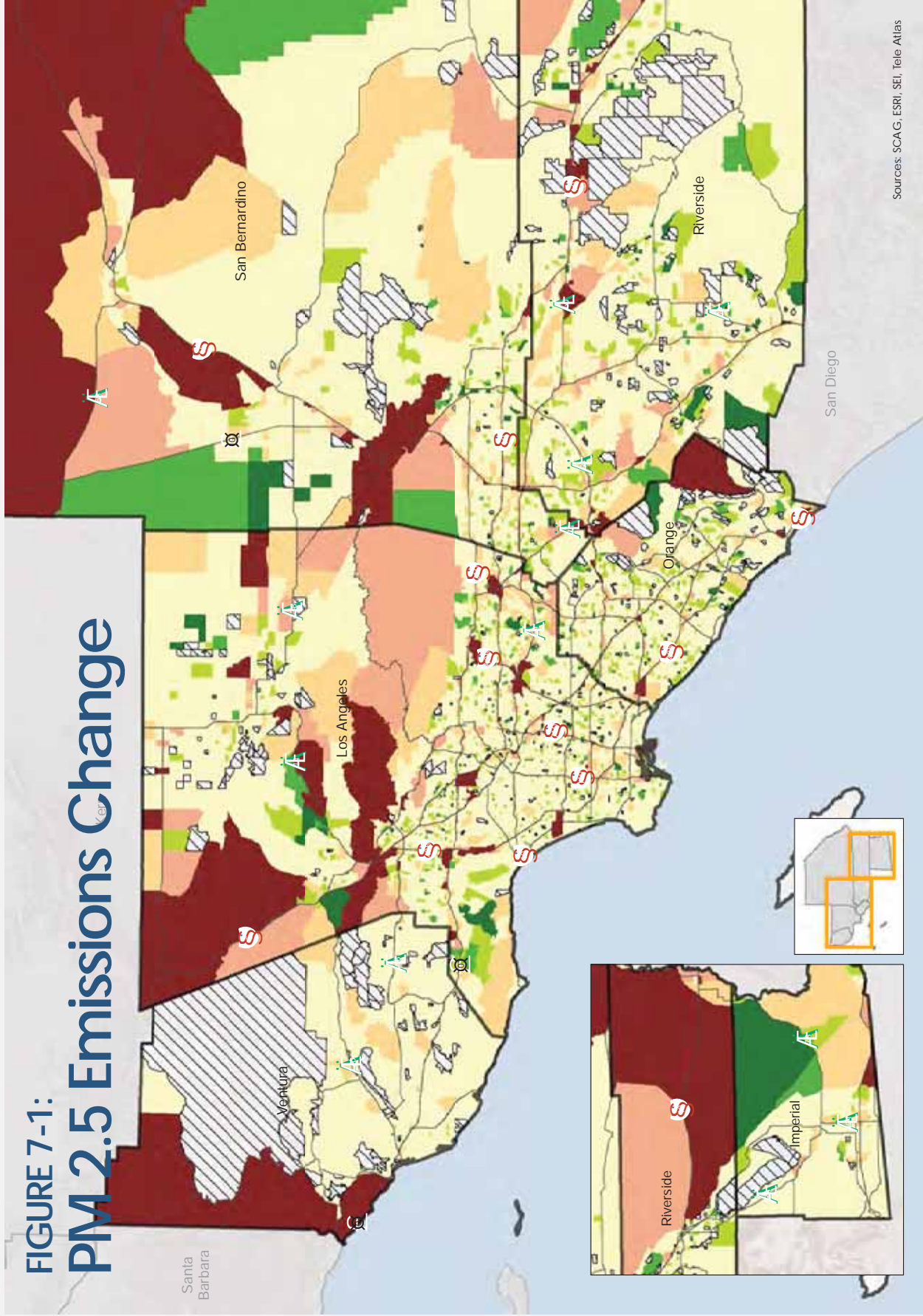
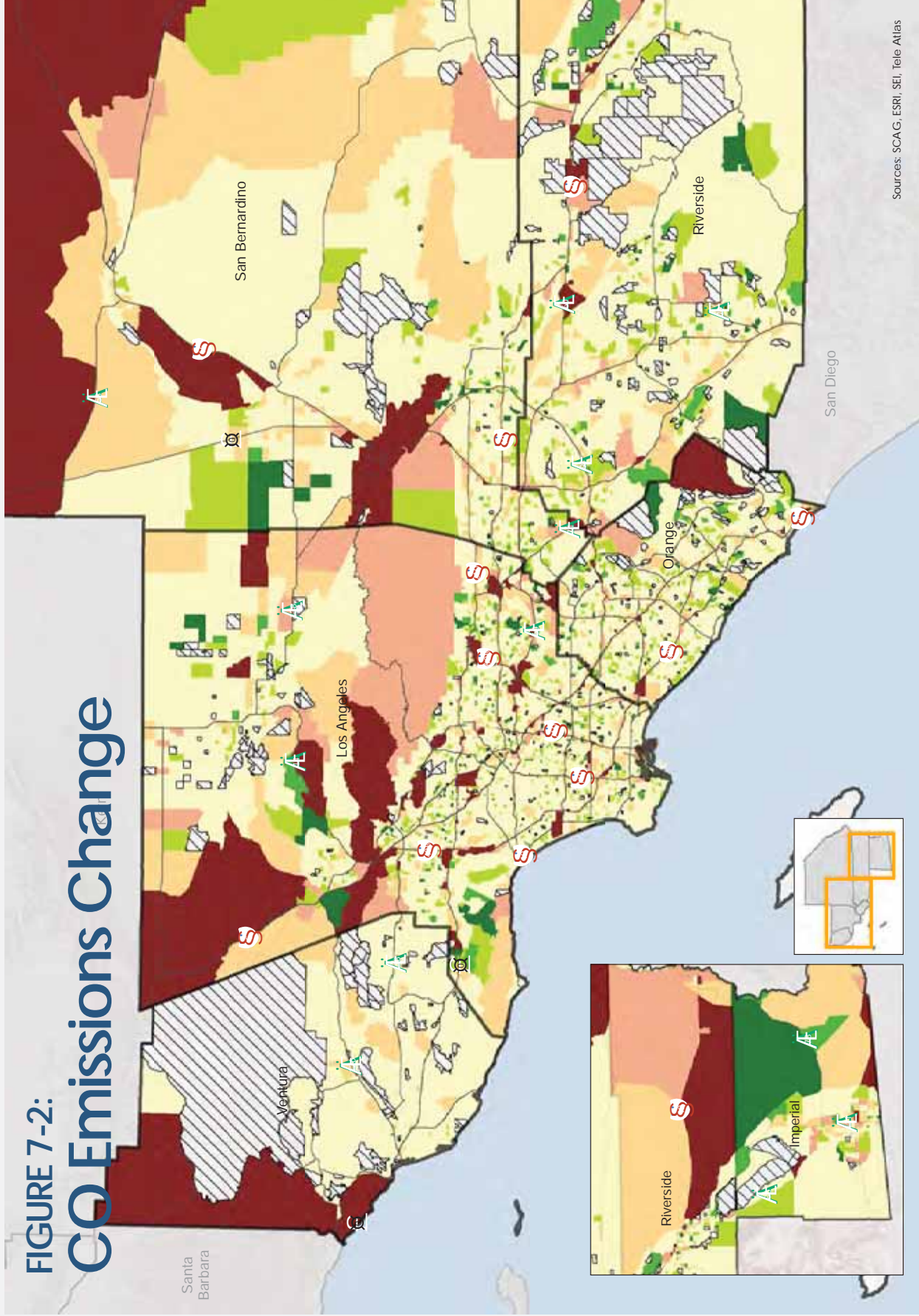


FIGURE 7-2:

CO Emissions Change



biking) in the urban areas. Additionally, heavy duty vehicles which would incorporate emission reducing technology would also result in reduced emissions in nearby sensitive receptors. Since urban areas are responsible for most of the CO and PM_{2.5} emissions, the Plan has less PM_{2.5} and CO emissions relative to the No Project Alternative.

Short Term. The 2016 RTP/SCS would result in construction of transportation projects, buildings, and general development as the region grows. These construction activities would result in short-term emissions of air pollutants including ROG, NO_x, PM₁₀, PM_{2.5} and fugitive dust. The sources associated with these emissions include construction equipment, employee and vendor vehicles, demolition, grading and other ground-disturbing activities, application of paint and other coatings, paving, and others. Typically larger projects are associated with larger emissions during construction.

Since the 2016 RTP/SCS documents transportation projects in the six-county area, it is more than likely that multiple simultaneous construction projects would occur, resulting in greater cumulative emissions. While construction is transient in nature, short-term emissions from construction have the potential to contribute substantially to localized and daily thresholds. The SCAQMD sets mass daily thresholds for both construction and operation for the six main criteria pollutants and lead. All the air districts in the SCAG region also have a relevant fugitive dust rule that applies to construction activities. Therefore, the 2016 RTP/SCS would have the potential to result in a significant impact in the short term.

IMPACT Air 3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable NAAQS or CAAQS.

Less than Significant Impact

The 2016 RTP/SCS would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is designated nonattainment because the projected long-term emissions are in alignment with the local AQMPs/SIPs as demonstrated in the conformity analysis. The criteria pollutants that have a violation under the NAAQS are summarized in Table 5-3. The SCAG region is currently in nonattainment for PM_{2.5}, PM₁₀, and ozone. These pollutants are the same ones that violate the CAAQS as well (Table 5-5). The Plan when compared to existing conditions, would result in either no change or a decrease for PM_{2.5} and PM₁₀ (Table 5-6). Ozone is assessed using the emissions for the ozone precursors which include ROG and NO_x. Since ROG and NO_x emissions show a decrease from the existing conditions to the Plan, they will not contribute to a net increase in ozone.

Pursuant to the U.S. EPA's Transportation Conformity Regulations, the regional emissions tests are met if plan emissions are within the applicable emissions budgets for each nonattainment or maintenance area for all milestone, attainment, and planning horizon years and, if no emissions budgets have been established, the Plan/build emissions are less than the no-build emissions or the base-year emissions. The emissions budgets that were established in the AQMPs/SIPs in the SCAG region and have been approved by the U.S. EPA function as the applicable emission budgets for the conformity analysis for the respective nonattainment and maintenance areas. Federal conformity regulations also require the regional emissions analysis to be based on the Latest Planning Assumptions that include the latest vehicle data (fleet, age, activity) and latest socioeconomic growth forecast. A conformity determination must be made for each nonattainment and maintenance area in the region. In addition to the regional emissions analysis, the Plan is also required to pass (1) the timely implementation of the Transportation

Control Measures (TCM) test, (2) the Financial Constraint test, and (3) the Interagency Consultation and Public Involvement test.

The regional emissions analysis serves as a reasonable analysis of cumulative air quality impacts of the Plan. The 2016 RTP/SCS meets the regional emissions tests for each nonattainment and maintenance area and for all milestone, attainment, and planning horizon years. The Transportation Conformity analysis can be found in the appendices of the 2016 RTP/SCS. The analysis concludes that the Plan meets all federal and state requirements for meeting attainment goals throughout the SCAG region as demonstrated by no net increase in any of the criteria pollutants that are currently in non-attainment according to the Plan (Table 5-6). Therefore, there would be less than significant impact, and the consideration of mitigation measures is not warranted.

IMPACT Air-4: Expose sensitive receptors to substantial pollutant concentrations and harm public health outcomes substantially.

Significant Impact

Despite diesel emission reductions, the cancer risk as measured along the freeways is above the threshold with the 2016 RTP/SCS, a significant impact to sensitive receptors and public health exists, thus requiring the consideration of mitigation measures.

Sensitive Receptors. Substantial concentrations of air pollutants are linked to adverse health effects especially when located in proximity to sensitive receptors. Because certain populations such as children and elderly are more sensitive to air pollution, it is critical to identify the effect of the 2016 RTP/SCS has on these populations. Sensitive receptors are identified as locations where people reside as they spend a significant amount of time in that location as well as schools, medical facilities, senior centers, nursing homes, etc. CARB recommends that local governments avoid locating new sensitive land uses within 500 feet of freeways. Consistent with CARB and public input, the 2016 RTP/SCS limits placing new growth within 500 feet.

As shown in Table 7-2, *Sensitive Receptors by County*, only a small portion of the total number of existing sensitive receptors in the six counties are affected by the transportation projects listed in the 2016 RTP/SCS.

**TABLE 7-2
SENSITIVE RECEPTORS BY COUNTY**

County	Sensitive Receptors Count within 500-Foot Buffer of Projects	Total Sensitive Receptors Count	% Sensitive Receptors within 500-Foot Buffer of Projects
Imperial	829	37,329	2%
Los Angeles	92,491	1,749,992	5%
Orange	31,516	589,844	5%
Riverside	14,311	621,196	2%
San Bernardino	11,910	556,706	2%
Ventura	2,839	219,644	1%

To assess public health risks caused by emissions, a Health Risk Assessment (HRA) was prepared

(Appendix D) for this PEIR. The HRA evaluates potential carcinogenic health risks from emissions of diesel particulate matter (DPM) and other air toxics from motor vehicles on major freeways and transportation corridors. Ambient PM_{10} and $PM_{2.5}$, of which DPM is one component, have been associated with acute (short-term) and chronic (long-term) health effects, such as the worsening of heart and lung diseases. Elevated levels of ambient particulate matter have also been identified as one of many aggravating factors for childhood asthma. PM_{10} and $PM_{2.5}$ are a health concern, particularly at levels above the federal and State ambient air quality standards. $PM_{2.5}$ is thought to have greater effects on health because smaller particles are able to penetrate to the deepest parts of the lungs.

Scientific studies have suggested links between fine particulate matter and numerous health problems, including asthma, bronchitis, and acute and chronic respiratory symptoms such as shortness of breath and painful breathing.⁹³ Children are more susceptible to the health risks of $PM_{2.5}$ because their immune and respiratory systems are still developing. Very small particles of certain substances (e.g., sulfates and nitrates) can also directly cause lung damage or can contain absorbed gases (e.g., chlorides or ammonium) that may be injurious to health.⁹⁴

The HRA quantitatively analyzed the potential to expose people to increased cancer and other health risks, based on using the potential for increased cancer risk from diesel particulate matter from heavy-duty diesel trucks traveling on major freeways. Cancer risk is used as a corollary for general respiratory health. Only motor vehicle emissions on freeways were quantitatively evaluated because emissions from other transportation corridors are much less than emissions on major freeways. The declines in cancer risk across all freeway segments are the result of continued decreases in per-vehicle mile fleet emissions projected to occur due to continued emission control technology improvements in new vehicles.

The HRA evaluated 16 freeway segments (as shown on **Figure 3.3.4-3, Overview Freeway Segments to Be Evaluated**). Emissions of DPM from each segment were calculated using the SCAG Transportation Demand Model VMT data for 2012 base year and projections for 2040 Plan. The potential cancer risk for residences was evaluated for a 30-year exposure, 9-year exposure and 70-year exposure. SCAG VMT data was provided for heavy duty vehicles and light/medium duty vehicles. The most current version of the California Air Resources Board (CARB) mobile source emissions model (EMFAC 2014) was used to obtain emission factors of particulate matter less than 10 microns diameter in diesel-fueled vehicles, which were assumed equal to DPM emission factors.

The potential impacts of emissions from a representative 1-mile long portion of the freeway segment were evaluated with CARB-approved AERMOD dispersion model (Version 15181) and meteorological data obtained from South Coast, Imperial, and Ventura Air District monitoring sites. The calculated DPM concentration was then used to calculate the potential carcinogenic risk using the most current HRA guidelines published by the California Office of Environmental Health Hazard Assessment (OEHHA). The potential cancer risk calculated for DPM was increased by 5 percent to account for the additional organic gases of acetaldehyde, benzene, 1-3-butadiene, and formaldehyde based on observations of past data.

⁹³ *Research Results on Land Use, Transportation, and Community*. November 2011. Available at: <http://activelivingresearch.org/land-use-transportation-and-community-design-research-summary-slides>

⁹⁴ *Id.*

To analyze potential cancer risk with respect to DPM, a baseline threshold of 10 per one million was utilized.⁹⁵ To clarify, the cancer risk in a given area is a measure of any one person's likelihood (chance) of contracting cancer due to exposure from a particular carcinogen; it is not a measure of how many people would actually contract cancer. This threshold is supported by air quality management districts in California, CARB and OEHHA. A 30-year exposure cancer risk was used in this analysis for a highly conservative scenario. This timeframe was selected as the typical resident lives in a home for approximately 30 years. Additionally, the analysis also assumed that the person would stay in the same place for 30 years, 7 days a week, 24 hours a day. As shown on **Table 7-3, Summary Maximum Exposed Individual Residential 30-Year Exposure Cancer Risk** (see also **Appendix D**), the maximum 30-year exposure to residential cancer risk for each transportation segment is significantly reduced when compared to existing conditions. While the VMT would rise under the Plan, the maximum potential cancer risk is on the order of 50 to 90 percent less than existing conditions. This is due to the dramatic reduction in emissions that are expected due to the federal and state regulations that require reduced emissions from on-road heavy-duty diesel trucks (HDDT). It is important to note that despite the reduction in cancer risk compared to existing conditions, the Plan would still result in minor exposure sensitive receptors to substantial pollutant concentrations and would slightly exceed the cancer risk threshold (10 in a million). As shown on **Table 7-3**, 15 of the 16 freeway segments exceeds the 10 in a million threshold, with the exception of Segment 2 (IMP SR-78, Imperial/Westmoreland), which is at 9 in a million. Despite the significant reduction in DPM emissions, impacts are still above the cancer risk threshold and are significant.

⁹⁵ South Coast Air Quality Management District. March 2015. *SCAQMD Air Quality Significance Thresholds*. Available at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>

TABLE 7-3
SUMMARY MAXIMUM EXPOSED INDIVIDUAL RESIDENTIAL 30-YEAR EXPOSURE CANCER RISK

Segment No.	Transportation Segment	County/Region	Existing Conditions	2016 RTP/SCS	Exceed Thresholds?
1	IMP I-8	Imperial / El Centro	125	19	Yes
2	IMP SR-78	Imperial / Westmoreland	82	9	No
3	LA I-110	Los Angeles / Carson	664	46	Yes
4	LA I-710	Los Angeles / Compton	847	55	Yes
5	LA SR-60 DB	Los Angeles / Diamond Bar	1,101	60	Yes
6	LA SR-60 SEM	Los Angeles / South El Monte	763	44	Yes
7	ORA I-5	Orange / Orange	455	33	Yes
8	ORA I-405	Orange / Seal Beach	1,142	78	Yes
9	RIV I-10	Riverside / Banning	152	15	Yes
10	RIV I-15	Riverside / Temecula	366	38	Yes
11	RIV SR-91	Riverside / Corona	937	55	Yes
12	SB I-15 ONT	San Bernardino / Ontario	236	25	Yes
13	SB I-15 VIC	San Bernardino / Victorville	524	64	Yes
14	SB SR-60	San Bernardino / Ontario	810	39	Yes
15	VEN US-101 SB	Ventura / San Buenaventura	165	11	Yes
16	VEN US-101 TO	Ventura / Thousand Oaks	832	48	Yes

SOURCE:

Health Risk Assessment (Appendix D).

NOTE:

Cancer Risk Threshold is 10 per 1 million.

Public Health. In addition to emissions, multiple social, economic, and lifestyle factors could contribute to the detriment to the public health of a region. Built upon the public health emphasis of the 2012 RTP/SCS, the 2016 RTP/SCS places an even greater emphasis on public health. SCAG has evaluated social determinants including the community context, availability of health care, neighborhood and surrounding built environment, education, and economic health to see how these factors shape public health. With nearly half of U.S. adults living with a chronic disease, SCAG recognizes improving public health is vital to the community. The Surgeon General promotes increasing physical activity as one strategy to improve public health. While VMT from heavy duty trucks would increase, SCAG's Plan would decrease personal vehicle usage and increase active transportation. There is a growing support for increasing active transportation throughout the communities in the region. These changes can only be met if there is also a change in the built environment that enables people to walk safely in their communities. Proposed land use strategies and transportation investments such as provision of additional investments in active transportation networks including first/last mile improvements, Safe Routes to School projects, and regional bikeways infrastructures are expected to increase the number of short trips and improve physical activity outcomes. The statewide Affordable Housing and Sustainable Communities (AHSC) program, as noted in the Plan, would help to lower VMT traveled and AQ/GHG emissions by funding housing and transportation improvements. The program focuses on creating HQTAs.

The 2016 SCAG RTP/SCS includes regional strategies that may contribute to improving public health. As discussed in **Section 2.0, Project Description**, of this PEIR, these strategies include, for example, increased transportation investments in active transportation opportunities and facilities, transit and

passenger rail use, and land use strategies that create more opportunities for walking and biking or other physical activities. The RTP/SCS projects that daily VMT will increase in all counties above baseline conditions in the 2040 Plan Year (Table 7-4, *Daily VMT by County*). While per capita VMT is expected to decline, the net increase in population results in net increases in VMT in all counties. These strategies are linked to relevant performance measures in the outcome categories of economic wellbeing, investment effectiveness, environmental quality, location efficiency, mobility and accessibility, safety and health, system sustainability, and environmental justice. Incorporation of active transportation modes such as expanded regional greenway network and local and regional bikeway networks for

**TABLE 7-4
DAILY VMT BY COUNTY**

County	2012 Base Year	2040 Baseline	2040 Plan
Imperial	5,000	9,000	9,000
Los Angeles	226,000	249,000	228,000
Orange	77,000	84,000	79,000
Riverside	58,000	86,000	80,000
San Bernardino	62,000	89,000	86,000
Ventura	20,000	23,000	21,000
SCAG total	448,000	540,000	504,000

biking and walking allow for more physical activities and greater health.

SOURCE:

SCAG GIS modeling and data, 2015.

In addition, SCAG is working on its community outreach and leadership through its Public Health Work Program. This program, expressed in the 2016 SCAG RTP/SCS, relies on leadership and collaboration, policy and analysis, and regional support. SCAG would build partnerships among government agencies, nonprofits, educational institutions, foundations, and other stakeholders to increase regional engagement. Synergies developed among the stakeholders improve data sharing and resource pooling for more comprehensive and integrated regional policy planning. This regional-level cooperation will lead to more standardized metrics and in turn help assist local agencies take advantage of Sustainability Planning Grants and other grant funding to promote public health.

The 2016 RTP/SCS would provide strategies to improve public health and develop walkable and transit friendly communities. The cancer risk would exceed thresholds, though it would be significantly reduced when compared to existing conditions. Impacts would remain significant and unavoidable.

IMPACT Air-5: Expose a substantial number of people to objectionable odors.

Less than Significant Impact

The 2016 RTP/SCS would result in a less than significant impact to air quality in relation to exposing a substantial number of people to objectionable odors. Odor sources within the SCAG region, such as wastewater treatment facilities, landfills, and agricultural operations, are controlled by county and city odor ordinances and air district rules that prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. These ordinances and rules are enforced by the air pollution control districts and local law enforcement. For example, SCAQMD/MDAQMD/AVAQMD Rule 1113, VCAPCD Rule 74.2 and ICAPCD Rule 101, Rule 424, *Architectural Coatings*, limit the amount of volatile

organic compounds from architectural coatings and solvents to further reduce the potential for odiferous emissions. However, transportation improvement projects in 2040 would not be expected to result in substantial odor emissions or affect a substantial number of people when compared to existing conditions. Therefore, the impact would be less than significant, and the consideration of mitigation measures is not warranted.

Construction. In accordance with federal and state regulations, diesel emissions from heavy duty trucks are projected to decrease with the Plan (see the HRA, **Appendix D**), and construction activities associated with the Plan would occur away from sensitive receptors in adherence to CARB's guidelines and response to public input gathered during the public outreach period. Construction of transportation projects listed in the Plan, as well as anticipated growth and development in the SCAG region have the potential to cause an increase in construction activities. From 2015 to 2040, construction would occur from transportation network improvements and land use development projects. Activities associated with the operation of construction equipment, diesel, the application of asphalt, the application of architectural coatings and other interior and exterior finished, and roofing may produce discernible odors typical of most construction sites. SCAQMD/MDAQMD/AVAQMD Rule 1113, VCAPCD Rule 74.2 and ICAPCD Rule 101, Rule 424, *Architectural Coatings*, limit the amount of volatile organic compounds from architectural coatings and solvents to further reduce the potential for odiferous emissions. Similar odor reducing rules apply to the other air quality districts in the SCAG region. Although these odors could be a source of nuisance to adjacent uses, odors from construction are temporary and intermittent in nature. Construction-related emissions also decrease with distance from the project site and quickly dissipate.

Land Use. The regional growth and anticipated land use changes reflected in the RTP/SCS would have the potential to result in nuisance odors. The level of exposure and number of receptors affected can only be determined through project-level analysis once facility designs of individual projects are available. Therefore, odor analyses related to regional growth and land use change in 2020 would be analyzed at the project level. However, projects would be required to comply with applicable odor regulations. Regional growth and land use change projects in 2020 would not be expected to result in substantial odor emissions or affect a substantial number of people when compared to existing conditions. Therefore, the impact would be less than significant, and the consideration of mitigation measures is not warranted.

Transportation Improvements. Transportation projects that involve roadway expansions or realignments could result in the transfer of vehicle emissions and/or could result in odor emissions sources being located closer to receptors. In addition, some projects (e.g., rail stations) could result in localized traffic congestion that generates odor concentrations. The level of exposure and number of receptors affected can only be determined through project-level analysis once facility designs of individual projects are available. Therefore, the odor analyses related to transportation improvements in 2020 for the 2050 RTP/SCS would be completed at the project level. However, projects would be required to comply with applicable odor regulations. Transportation projects in 2040 would not be expected to result in substantial odor emissions or affect a substantial number of people when compared to existing conditions. Therefore, the impact would be less than significant, and the consideration of mitigation measures is not warranted.

Greenhouse Gas Emissions Analysis

The 2016 RTP/SCS would have a significant impact related to GHG emissions if it would:

- Increase GHG emissions compared to existing conditions (2015);
- Conflict with SB 375 GHG emission reduction targets; or
- Conflict with AB 32, or other applicable plan, policy or regulation adopted for the purpose of reducing emissions of GHGs

Impact GHG-1: Potential to directly or indirectly result in an increase in GHG emissions compared to existing conditions (2015).

Less than Significant Impact

The GHG emissions resulting from the Plan would be considered significant if the Plan is to cause an increase over existing (2015) levels. This impact threshold is based on CEQA's requirement that project impacts be compared to existing conditions.

Across the six counties in the SCAG region, the 2016 RTP/SCS would result in an approximately 24 percent decrease in GHG emissions by 2040, with the largest losses occurring in Los Angeles, Orange, and Ventura Counties (Table 7-5, *Greenhouse Gas Emissions from Transportation by County*). Table 7-5 includes CO₂ instead of CO_{2e} because CO₂ is the primary GHG emitted by human activities. Thereby analyzing CO₂ emissions is representative of the GHG emissions.⁹⁶

**TABLE 7-5
GREENHOUSE GAS EMISSIONS FROM TRANSPORTATION BY COUNTY***

County	CO ₂ Emissions (tons/day)				
	2005	2012 Base Year	2020 Plan	2040 Plan	2040 Plan vs. 2012 Base Year
Imperial	3,806.6	3,500.7	3,809.5	4,683.4	34%
Los Angeles	133,629.0	120,929.1	106,253.9	78,830.9	-35%
Orange	40,202.9	38,664.1	34,199.4	24,082.5	-38%
Riverside	32,937.6	33,447.2	33,593.3	32,489.4	-3%
San Bernardino	36,397.3	36,690.1	35,595.0	39,019.9	6%
Ventura	10,416.1	9,920.4	8,813.9	6,413.2	-35%
SCAG total	257,389.5	243,151.7	222,265.0	185,519.2	-24%

NOTE:

*Light and medium duty vehicles and heavy duty truck

SOURCE:

SCAG modeling, 2015.

As part of the transportation strategies, the 2016 RTP/SCS includes transportation investments which promote more active transportation opportunities and facilities. Between 2015 and 2040, the region is anticipated to experience substantial increases in population, households and jobs (see Section 2,

⁹⁶ U.S. EPA. Overview of Greenhouse Gases. Accessed November 12, 2015.
<http://www3.epa.gov/climatechange/ghgemissions/gases/co2.html>

Project Description, and Section 3.14, *Population, Housing, and Employment*). The 2016 RTP/SCS also includes land use strategies that seek to balance the region's land use choices and transportation investments. This means the Plan focuses new growth and development in existing urbanized areas and opportunity areas such as the high quality transit corridors (HQTAs) and incorporates strategies to increase walking, biking or other forms of active transportation. To complement the integrated land use and transportation strategies is the implementation of technology. The integration of technology would include location-based land use strategies, increasing the efficiency to Plug-in Hybrid Electric Vehicles (PHEV) in the region and proposing a regional charging network. Because of the anticipated increase in compact and higher density development, less energy (e.g., multi-family housing units are insulated by each other as compared to single-family units and, therefore, require less heating and cooling) and less water (e.g., multi-family units have less landscaping requiring irrigation as compared to single-family units) is expected to be used and will contribute to the reduction in GHG emissions.

GHG emissions result from direct and indirect sources. Direct emissions derive from fuel combustion in vehicles (i.e., autos, trucks, trains, buses, planes, ships and trains) and natural gas combustion from stationary sources. Indirect sources include off-site emissions occurring as a result of electricity, water consumption and solid waste. County-level GHG emissions from transportation were estimated for the GHG Baseline (2005), Year 2012 (Base Year), Year 2020 with Plan, and Year 2040 with Plan (Table 5-6). The transportation emissions include light and medium duty vehicles and heavy duty trucks. Emissions from other transportation sources such as planes, buses, ships, and trains are not quantified in this analysis.

In the absence of reliable 1990 GHG emissions estimates, ARB's Climate Change Scoping Plan recommends an equivalent metric of 15 percent below 2005 GHG emissions. On-road transportation emissions include fuel consumption from passenger vehicles, heavy-duty trucks, buses, and other motor vehicles. Transportation accounts for the greatest proportion of GHG emissions on a regional and state level. As part of the Plan, transportation network improvements would be included, and more compact, infill, walkable and mixed-use development strategies to accommodate new region's growth would be encouraged to accommodate increases in population, households, employment, and travel demand. Across the six counties in the SCAG region, GHG emissions from transportation are expected to decrease by approximately 24 percent by 2040 compared to existing conditions (2012 Base Year) with the largest losses in Orange, Los Angeles, and Ventura counties (Table 5-6).

In order to determine an increase or decrease in total GHG emissions, emissions from other major sectors including building energy and water-related consumption must be considered. Population and job growth would induce land use change (development projects) and increase VMT, and would result in direct and indirect GHG emissions. The Plan supports sustainable growth through a more compact, infill, and walkable development pattern. As stated previously, the Plan focuses growth in existing urban regions and opportunity areas, where transit and infrastructure are already in place. Locating new growth near bikeways, greenways, and transit would active transportation options and the use of other transit modes (public transit, carpooling), thereby reducing number of vehicle trips and trip lengths and associated emissions. Land use strategies included in the 2016 RTP/SCS encourage higher density development in existing urban cores and opportunity areas which would encourage more multi-family and/or mixed-use projects, via vertical development, instead of the traditional single-family home develop. Compact development and utilization of conservation strategies (i.e. Title 24 building codes, LEED certification), if implemented, would limit energy and water consumption.

Building energy emissions were computed in the SCAG model using a factor of 11.66 pounds (lb)

CO_{2e}/therm for natural gas emissions from 2012 to 2040. Electricity emissions used a baseline (2040 No Project) of 0.74 lb CO_{2e}/kilowatt-hour (kWh) in all future years (2020, 2035 and 2040). Water-related energy assumed a factor of 13,021 kWh/MG for indoor water energy use and 11,110 kWh/MG for outdoor water energy use. As shown in Table 7-6, *Greenhouse Gas Emissions Summary for the SCAG Region*, transportation, building and water-related energy, shows a net decrease by 18 percent with the Plan in 2040 compared to existing conditions (2012 Base Year). These three sectors account for approximately 70 percent of the total GHG emissions in the SCAG region. It is important to note that the Plan is not responsible for addressing sectors beyond transportation, building, and water-related energy consumption. This is due to the fact that the Plan is primarily a transportation plan with land use development strategies. SCAG does not collect information beyond their requirements and cannot assess the GHG impacts to the remaining contributing sectors. Given this limited scope, the Plan would result in a less than significant impact with respect to GHG emissions compared to existing conditions, and mitigation measures would not be required.

**TABLE 7-6
GREENHOUSE GAS EMISSIONS SUMMARY FOR THE SCAG REGION**

Area	CO _{2e} Emissions (MMT CO _{2e} per year)			
	2012 Base Year	2020 Plan	2040 Plan	2040 vs. 2012
Transportation*	88.75	81.62	67.71	-24%
Building energy**	53.68	40.51	49.99	-7%
Water-related energy**	7.41	3.84	4.79	-35%
Total	149.84	125.97	122.49	-18%

NOTE:

* Light and medium duty vehicles and heavy duty trucks.

** Scenario Planning Model is a scenario planning tool used for developing scenarios for the Plan during the scenario planning process to compare relative differences among scenarios.

SOURCE:

SCAG Modeling, 2015.

Impact GHG-2: Potential to conflict with SB 375 GHG Emission Reduction Targets.

Less than Significant Impact

As indicated by CEQA Appendix G, a significant GHG impact is identified if the Plan could conflict with applicable GHG reduction plans, policies, or regulations. As described in the Regulatory Framework, SB 375 requires CARB to develop regional GHG emission reduction targets for cars and light trucks for 2020 and 2035 (compared to 2005 emissions) for each of the State MPOs on a per capita basis. Each MPO is required to prepare an SCS in conjunction to with the RTP in order to meet these GHG emissions reduction targets by aligning transportation, land use, and housing strategies with respect to AB 375. For SCAG, the targets are to reduce per capita GHG emissions by 8 percent below 2005 levels by 2020 and 13 percent below 2005 levels by 2035. Determining the per capita CO₂ emissions requires modeling vehicle miles traveled (VMT) by passenger vehicles and light trucks that emit CO₂ (see Table 7-4) and dividing that number by the total population.

SCAG estimates that the per capita 2005 emissions from cars and light-duty trucks as 23.8 pounds CO₂ per person per day (Table 7-7, SB 375 Analysis).

**TABLE 7-7
SB 375 ANALYSIS**

	2005 (Baseline)	2020 (Plan)	2035 (Plan)	2040 (Plan)
Resident population (per 1,000)	17,161	19,060	21,475	22,116
CO ₂ emissions (per 1,000 tons)	204.0*	203.6**	206.0**	203.0**
Per capita emissions (pounds/day)	23.8	21.4	19.5	18.7
% difference from Plan (2020) to Baseline (2005)				-8%*
% difference from Plan (2035) to Baseline (2005)				-18%***
% difference from Plan (2040) to Baseline (2005)				-22%***

NOTE:

* Based on EMFAC2007

** Based on EMFAC2014

***Included off-model adjustments for 2035 and 2040

SOURCE:

SCAG modeling, 2015

Southern California Association of Governments. 5 November 2015. *Item No. 1 Staff Report: 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) – Proposed Major Components*. Available at: <http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

As shown in Table 7-7, per capita CO₂ emissions from cars and light duty trucks (only) are calculated to be 21.4 pounds per day in 2020 with the Plan. The result of the Plan is an 8 percent decrease in per capita CO₂ emissions from 2005 to 2020. The percent decrease would achieve the 8 percent emissions reduction target by 2020 for the region set by SB 375. By 2035, the 2016 RTP/SCS projects 19.5 pounds per day for per capita CO₂ emissions from cars and light duty trucks (only). This represents an approximately 18 percent decrease in per capita CO₂ emissions from 2005 to 2035. This 18 percent decrease would meet and exceed the 13 percent emissions reduction target set by CARB for 2035. Furthermore, although there is no per capita GHG emission reduction targets for passenger vehicles set by CARB for 2040, the Plan's GHG emission reduction trajectory shows that more robust GHG emission reductions are projected for 2040 (Table 7-7). The Plan would result in an estimated 22 percent decrease in per capita GHG emissions by 2040 (Figure 7-3, SB 375 GHG (per capita) Reduction Trajectory). By meeting and exceeding the SB 375 targets for 2020 and 2035, as well as achieving an approximately 22 percent decrease in per capita GHG emissions by 2040 (an additional 4 percent reduction in the five years between 2035 [18 percent] and 2040 [22 percent]), the Plan is expected to fulfill and exceed its portion of SB 375 compliance with respect to meeting the State's GHG emission reduction goals. As such, the Plan would not conflict with SB 375 GHG emission reduction targets and would result in a less-than-significant impact, and mitigation measures would not be required.

Impact GHG-3: Potential to conflict with AB 32 or any applicable plan, policy or regulation adopted for the purpose of reducing emissions of GHGs.

Less than Significant Impact

AB 32 Discussion. As indicated by CEQA Appendix G, a significant GHG impact is identified if the Plan could conflict with applicable GHG reduction plans, policies, or regulations. AB 32 calls for GHG

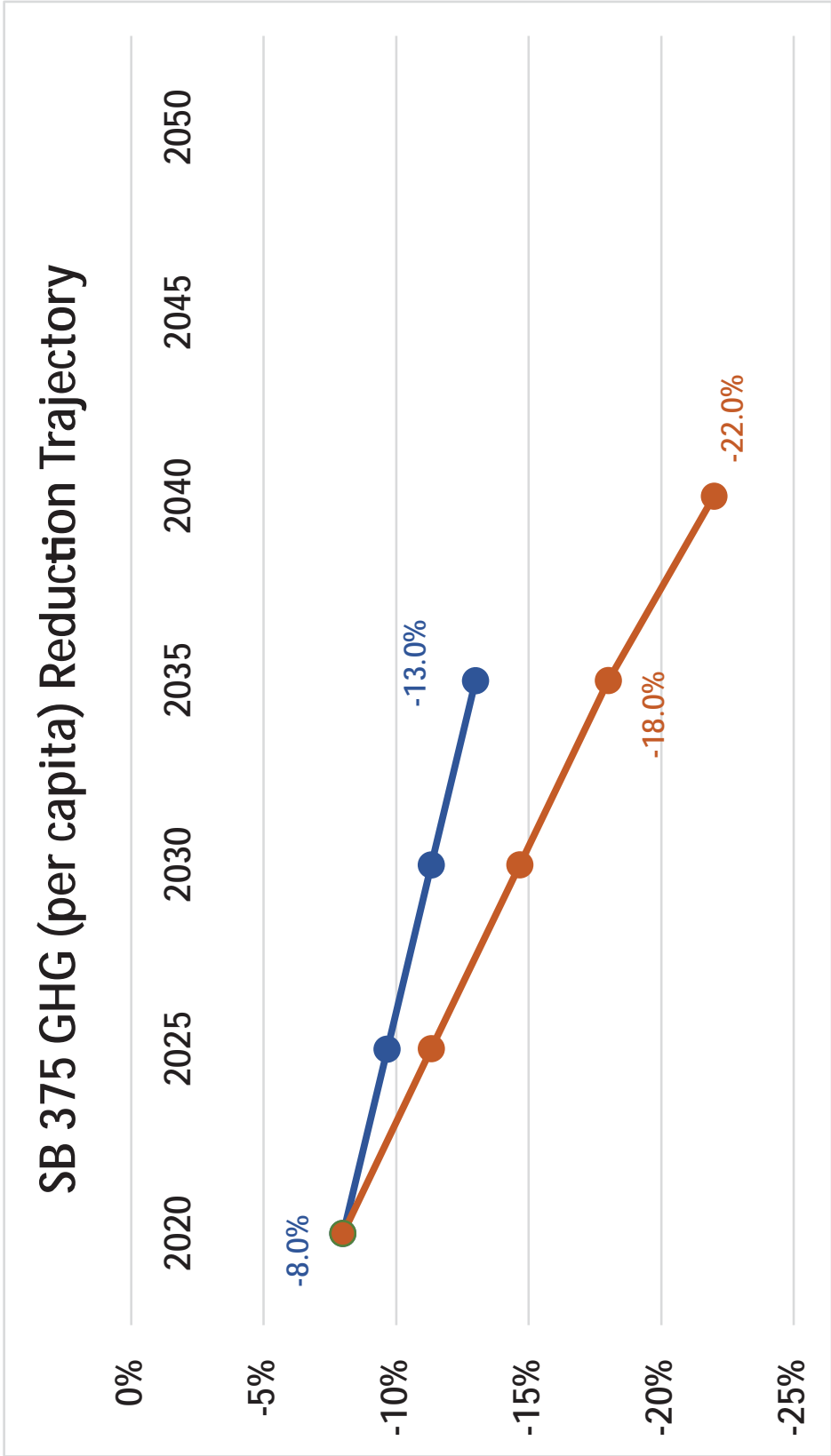


FIGURE 7-3:

SB 375 GHG (per capita) Reduction Trajectory

emissions to be reduced to 1990 levels by 2020. CARB's Scoping Plan functions as a roadmap to achieve AB 32 GHG reductions. Because the Plan focuses on a portion of the transportation sector (i.e., automobiles and light duty trucks pursuant to SB 375) and land use strategies, it does not incorporate implementation of all the AB 32 Scoping Plan strategies that address a broad range of economic sectors. GHG emissions reductions achieved through SCS land use strategies are incorporated into the analysis of the transportation network improvement emissions reductions. The Plan includes proposed transportation improvements to be integrated and coordinated with proposed land use changes that would lead to reduced congestion, reduced VMT, and increased transit, walking, and biking options.

The Plan alone is not intended to meet the AB 32 emissions reduction targets. By meeting the SB 375 targets, the Plan has contributed its share, if not greater, to meeting the AB 32 target. The Plan has demonstrated that it met and exceeded CARB's targets for greenhouse gas emissions from light duty passenger vehicles for 2020 and 2035, respectively. Specifically, as shown in **Figure 7-1**, the Plan is showing a GHG emission reduction trajectory that would meet and exceed SB 375 between 2020 and 2040, and beyond. Given that the primary statutory responsibility of the 2016 RTP/SCS is to achieve SB 375 targets, which it does, and the goals set forth by AB 32 are intended to be achieved by all the responsible sectors, the Plan has successfully contributed its share, if not greater, to meeting the AB 32 target. Additionally, "California is on track to meet the near-term 2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32."⁹⁷ The compact land use patterns of the Plan provide more efficient use of water and energy of building operations, among others. This efficiency leads to GHG emissions reduction beyond SB 375 and ensures the region to be on track with AB 32 goals. The assurance for meeting statewide AB 32 goals as outlined in the Plan as well as in the First Update to the Climate Change Scoping Plan provide a pathway towards meeting the State's long-term GHG emissions reduction goals as set forth in Executive Orders. Therefore, the Plan is not in conflict with AB 32.

In summary, the proposed Plan would not conflict with applicable recommendations in the ARB's Scoping Plan Update for the Transportation focus area. The 2014 Scoping Plan Update identified several recommended actions within the Transportation sector to achieve future GHG reductions, with the recommendations primarily focused on achieving major technological and regulatory changes in order to reduce GHG emissions from all types of vehicles and transportation fuels, including more efficient vehicles, low carbon fuels like electricity and hydrogen, and supporting infrastructure. The Update also identified the following applicable recommendations for transportation:

- - Caltrans and regional transportation agencies will increase investment in expanded transit and rail services, active transportation, and other VMT reduction strategies in their next regional transportation plans.
 - ARB, Caltrans, the Strategic Growth Council, and the Department of Housing and Community

Development, along with other State, local and regional agencies, would coordinate planning and support to ensure that the expected GHG emission reductions from approved SCS are achieved or exceeded. The Plan would not conflict with the recommendation to increase investment in expanded transit and rail services, active transportation, and other VMT reduction strategies in the Scoping Plan Update. From 2016 to 2040, the Plan includes increased investment in transit and rail services, active transportation, and other VMT reduction strategies.

⁹⁷ California Air Resources Board. May 2014. *First Update to the Climate Change Scoping Plan*. Available at: <http://www.ourenergypolicy.org/wp-content/uploads/2014/05/cali-scoping.pdf>

Climate-Related Plans Discussion. The 2016 RTP/SCS is in alignment with the goals and objectives set by the county and city climate-related plans. While the specific targets may vary by city/county, the 2016 RTP/SCS takes a look at the programmatic level to assess consistency with these plans. Both on the regional and local levels, the climate-related plans lay out efforts to increase energy efficiency, promote energy conservation, design green buildings, reduce VMT, encourage transit-oriented developments, and integrate renewable energies. As described in **Section 2.0, Project Description**, of this PEIR, the Plan includes integrated transportation and land use strategies to promote active transportation opportunities, compact development, car sharing and ride sourcing, and technology in zero-emission vehicles and neighborhood electric vehicles. Additionally, the 2016 RTP/SCS includes a regional charging network that will increase the number of Plug-in Hybrid Electric Vehicles (PHEV) miles driven on electric power, thereby resulting in a potential to double the electric range of PHEVs and reducing vehicle miles traveled that produce tail-pipe GHG emissions. With aligned goals, the 2016 RTP/SCS is expected to result in a less than significant impact on city and county climate-related plans.

Executive Orders Discussion. On April 29, 2015, Governor Brown issued Executive Order (EO) B-30-15, which established a new statewide interim GHG emissions reduction target of 40 percent below 1990 GHG emissions levels by 2030. The EO B-30-15 also reiterated the GHG emissions reduction target to reduce emissions to 80 percent below 1990 levels by 2050 set forth by EO S-3-05 in 2005 by Governor Schwarzenegger. Executive Order B-16-2012 also set the same target for 2050 for the transportation sector: 80 percent less than 1990 levels. This 2050 target is also incorporated in the CARB Scoping Plan Update.

The following discussion is for illustrative purposes as the Executive Orders are not plans, policies or regulations adopted for the purpose of reducing GHG emissions. As stated above, the 2016 RTP/SCS alone is not intended to meet the AB 32 target or the targets set by EO B-30-15, EO B-16-2012, and EO S-3-05. By meeting the SB 375 targets (see **Impact GHG-2: Potential to conflict with SB 375 GHG Emission Reduction Targets**), the Plan has successfully contributed its share, if not greater, to meeting the AB 32 target. The 2016 RTP/SCS is currently required to meet the GHG reduction targets set by CARB, i.e., 8% reduction by 2020 and 13% by 2035, both on per capita basis relative to 2005 levels. The GHG reduction trajectory of the 2016 RTP/SCS is consistent with and is more aggressive than the ARB GHG Reduction Target Trajectory for the SCAG region, as the Plan's trajectory shows aggressive GHG reductions between 2020 and 2040 (**Figure 7-1**). It should be noted that CARB has not established a 2030 target or a 2050 target for the transportation sector to meet the targets set by EO B-30-15, EO B-16-2012, and EO S-3-05. However, the new statewide interim 2030 target set forth under EO B-30-15 suggests that an accelerated timeline would be necessary. In order to address this new interim 2030 target, the 2016 RTP/SCS accelerates the reduction of GHG emissions such that by 2030, the Plan is expected to achieve a 14.7% reduction. This reduction would exceed SCAG's current target of 13% by 2035.

In addition, by 2040, the horizon year of the 2016 RTP/SCS, the Plan is expected to achieve a 22% reduction in the GHG emissions of cars and light trucks. As shown on **Figure 7-1**, the 2016 RTP/SCS has met and exceeded the CARB's targets for 2020 and 2035, respectively. The GHG reduction trajectory of the 2016 RTP/SCS is much more aggressive than CARB's targets between 2020 and 2035. Additionally, the GHG reduction trajectory of the 2016 RTP/SCS beyond 2030 is consistent, if not more aggressive, with the accelerated pace established in the recent Executive Order B-30-15. Further, it should be noted that the goals set forth by AB 32 and the Executive Orders are intended to be achieved by all the

responsible sectors. Yet, the 2016 RTP/SCS is demonstrated to contribute the Plan's share, if not more, comparing to the accelerated pace. Therefore, the Plan itself is not in conflict with the State long-term GHG emissions reduction goals as set forth in Executive Orders.

Cumulative Impacts under Air Quality

The 2016 RTP/SCS contains transportation projects and strategies to integrate transportation investments with land use. These transportation projects, provided by county transportation commissions during the bottom-up planning process, are included in SCAG's transportation model. Transportation projects and anticipated development as part of the forecasted regional growth and land use strategies of the Plan have the potential to generate emissions for all six criteria air pollutants during both construction and operation.

The 2016 RTP/SCS includes transportation projects and strategies that are consistent with air-related plans in the region and would not result in a cumulative impact with respect to conflicting with or obstructing implementation of an applicable air quality plan. Air quality plans are written for the applicable air basin(s) it covers. Because air basins are distinct geographical areas, the pollutants emitted beyond those air basins analyzed in this PEIR would not conflict with or obstruct implementation of those air quality management plans or attainment plans in the SCAG region. The cumulative impact would then be less than significant with regard to conflicting with the applicable air quality plans.

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with other development and infrastructure projects within the SCAG region and surrounding areas, would have the potential to result in a significant cumulative impact to violating an air quality standard or contributing substantially to an existing or projected air quality violation in the short-term from construction emissions. Projected long-term emissions are considered to have a less than significant cumulative impact according to the SCAG Transportation Model because the Plan is consistent with the local air quality management plans and state implementation plans. The model is inclusive of all potential air emissions in the SCAG region that could occur as a result of the Plan. Violations to the air quality standard outside of the SCAG region would not affect significance determinations within the SCAG region because the air quality thresholds are bounded within the air districts. Because the construction of development projects, occurring within the same neighborhood, may result in significant air quality emissions in excess of the thresholds, there would be a significant impact and therefore also a significant cumulative impact to the potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation.

The 2016 RTP/SCS would result in a less than significant cumulative impact to increasing any criteria pollutant that is in nonattainment under applicable NAAQS or CAAQS. The region is in nonattainment for PM_{2.5}, PM₁₀, and ozone. The Plan would not contribute to a net increase in these pollutants and is within the emission budgets set by the AQMPs/SIPs in the SCAG region. As a result, the Plan has demonstrated compliance with the transportation conformity regulations set by the U.S. EPA that apply in non-attainment and maintenance areas. Increases in criteria pollutants outside the areas already analyzed in the SCAG region would have no bearing on the Plan's ability to achieve conformity. There would be a less than significant cumulative impact to a net increase of any criteria pollutant designated as non-attainment.

The 2016 RTP/SCS includes transportation projects and strategies to improve public health, but would result in a significant cumulative impact by exposing sensitive receptors to substantial pollutant concentrations that would harm public health outcomes. While the Plan aims to limit growth within the 500-foot buffers of freeways and high volume roadways, it places a small percentage of sensitive receptors within a 500 foot buffer of major transportation projects in HQTAs beyond those provided by local jurisdictions. The Plan also sets forth strategies to increase active transportation and physical activity to improve public health. However, the HRA analysis revealed that despite a 50 to 90 percent reduction in mobile source emissions, the cancer risk threshold as measured at the receptor locations would be exceeded in all but one of sixteen segments. Because the Plan and HRA considered the potential for sensitive receptors in the SCAG region to be affected by substantial pollutant concentrations, the analysis in the Plan and HRA is representative of all the impacts to sensitive receptors in the SCAG region. Impacts to sensitive receptors outside the SCAG region would be less than those already evaluated because the distance to the receptor would be much greater. Because the Plan already results in direct and indirect significant impacts to sensitive receptors, the Plan would result in a significant cumulative impact in exposing sensitive receptors to substantial pollutant concentrations and harming public health.

The 2016 RTP/SCS would not expose a substantial number of people to objectionable odors. Odors from construction are temporary and intermittent in nature. While odors would need to be evaluated on a project by project basis, there is a potential for multiple projects to occur simultaneously within the same neighborhood and in close proximity of each other. However because all projects must comply with odor regulations as prescribed by the applicable air district, the Plan would result in a less than significant cumulative impact to exposing a substantial number of people to objectionable odors.

Cumulative Impacts under Greenhouse Gas Emissions and Climate Change

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with other development and infrastructure projects within the SCAG region and surrounding areas, would result in a 22 percent decline in GHG emissions by 2040 compared to existing conditions. Other GHG-emitting sectors beyond light and medium duty vehicles and heavy duty trucks for transportation, building energy, and water-related energy are not considered as part of the Plan. Given the state and federal leadership as shown in AB 32, EO B-30-15, EO B-16-2012, EO S-3-05, Presidential Executive Order 13154 and Revised Draft Guidance on Consideration of Greenhouse Gas Emissions and Climate Change in NEPA Reviews. As a result, the Plan would result in a less than significant cumulative impact with respect to increasing GHG emissions compared to existing conditions.

The Plan meets and exceeds SB 375 targets for reducing GHG emissions. This demonstrates that the Plan is able to do more than its share to reducing GHG emissions for light and medium duty vehicles and heavy trucks resulting in a less than significant cumulative impact with respect to the SB 375 targets.

While the Plan acknowledges all the responsible sectors are not in conflict with AB 32 and Executive Orders, in the event of a worst case scenario, such as other responsible agency implementation activities do not achieve their respective GHG emission reduction goals to the appropriate level, the environmental analysis results in a determination that there would be a potential for a significant cumulative impact requiring the consideration of mitigation measures.

8.0 MITIGATION MEASURES

Mitigation measures as they pertain to each CEQA question related to air quality and GHG emissions are described below. Mitigation measures are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the 2016 RTP/SCS. Project-level mitigation measures can and should be implemented by Lead Agencies for transportation and development projects, as applicable and feasible.

IMPACT Air-2: Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation.

SCAG Mitigation Measures

MM-Air-2(a)(1): SCAG shall determine as part of its conformity finding pursuant to the federal CAA that the Plan and updates provide for timely implementation of transportation control measures (TCMs), as required in the CAA Section 108(f)(1)(A). TCMs are identified in the Transportation Conformity Appendix to the 2016 RTP/SCS. SCAG has identified 17 measures as illustrative of TCMs based on review information contained in CAA Section 108(f)(1)(A) and information provided by utilities that serve the SCAG region:

- I. Programs for improved use of public transit;
- II. Restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or HOV;
- III. Employer-based transportation management plans, including incentives;
- IV. Trip-reduction ordinances;
- V. Traffic flow improvement programs that achieve emission reductions;
- VI. Fringe and transportation corridor parking facilities, serving multiple occupancy vehicle programs or transit service;
- VII. Programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration, particularly during periods of peak use;
- VIII. Programs for the provision of all forms of high-occupancy, shared-ride services, such as the pooled use of vans;
- IX. Programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;
- X. Programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;
- XI. Programs to control extended idling of vehicles;
- XII. Programs to reduce motor vehicle emissions, consistent with Title II of the CAA, which are caused by extreme cold start conditions;
- XIII. Employer-sponsored programs to permit flexible work schedules;
- XIV. Programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;
- XV. Programs for new construction and major reconstruction of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation, when

- economically feasible and in the public interest;
- XVI. Programs to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks.
 - XVII. Programs to encourage the installation of personal electric vehicle charging stations, and other alternative fuel sources.

MM-Air-2(a)(2): During the 2016 to 2040 Planning Horizon, SCAG shall pursue activities to reduce the impact associated with health risk within 500 feet of freeways and high-traffic volume roadways as follows:

- Participate in ongoing statewide deliberations on health risks near freeways and high-traffic-volume roadways. This involvement includes supporting the statewide process by providing available data and information such as the current and projected locations of sensitive receptors relative to transportation infrastructure.
- Continue to work with air agencies including ARB, SCAQMD, and all air districts in the SCAG region to support their work in monitoring the progress on reducing exposure to emissions of PM₁₀ and PM_{2.5} for sensitive receptors, including schools and residents within 500 feet of high-traffic-volume roadways.
- Work with stakeholders to identify planning and development practices that are effective in reducing health impacts to sensitive receptors.
- Share information on all of the above efforts with stakeholders, member cities, counties, and the public.

Project-Level Mitigation Measures

MM-Air-2(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures that are within the jurisdiction and authority of the CARB, air quality management districts and other regulatory agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider the measures that have been identified by CARB and air district(s) and other agencies as set forth below, or other comparable measures, to facilitate consistency with plans for attainment of the NAAQS and CAAQS, as applicable and feasible.

CARB, South Coast AQMD, Antelope Valley AQMD, Imperial County APCD, Mojave Desert AQMD, Ventura County APCD, and Caltrans have identified project-level feasible measures to reduce construction emissions:

- Minimize land disturbance.
- Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas.
- Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.
- Cover trucks when hauling dirt.
- Stabilize the surface of dirt piles if not removed immediately.
- Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
- Minimize unnecessary vehicular and machinery activities.
- Sweep paved streets at least once per day where there is evidence of dirt that has been

- carried on to the roadway.
- Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.
 - On Caltrans projects, Caltrans Standard Specifications 10-Dust Control, 17-Watering, and 18-Dust Palliative shall be incorporated into project specifications.
 - Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.
 - Ensure that all construction equipment is properly tuned and maintained.
 - Minimize idling time to 5 minutes—saves fuel and reduces emissions.
 - Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
 - Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
 - Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.
 - As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.

IMPACT Air-4: Expose sensitive receptors to substantial pollutant concentrations and harm public health outcomes substantially.

SCAG Mitigation Measures

See MM-Air-2(a)(1) and MM-Air-2(a)(2).

Project-Level Mitigation Measures

MM-Air-4(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures that are within the jurisdiction and authority of the air quality management district(s) where proposed 2016 RTP/SCS projects or development projects resulting from the land use patterns in the 2016 RTP/SCS would be located. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider the measures that have been identified by CARB and air district(s), or other comparable measures, to reduce cancer risk pursuant to the Air Toxics “Hot Spots” Act of 1987 (AB2588), as applicable and feasible. Such

measures include those adopted by CARB designed to reduce substantial pollutant concentrations, specifically diesel, from mobile sources and equipment. CARB's strategy includes the following elements:

- Set technology forcing new engine standards.
- Reduce emissions from the in-use fleet.
- Require clean fuels, and reduce petroleum dependency.
- Work with US EPA to reduce emissions from federal and state sources.
- Pursue long-term advanced technology measures.
- Proposed new transportation-related SIP measures include:

On-Road Sources

- Improvements and Enhancements to California's Smog Check Program
- Expanded Passenger Vehicle Retirement
- Modifications to Reformulated Gasoline Program
- Cleaner In-Use Heavy-Duty Trucks
- Ship Auxiliary Engine Cold Ironing and Other Clean Technology
- Cleaner Ship Main Engines and Fuel
- Port Truck Modernization
- Accelerated Introduction of Cleaner Line-Haul Locomotives
- Clean Up Existing Commercial Harbor Craft
- Limited idling of diesel-powered trucks
- Consolidated truck trips and improve traffic flow
- Late model engines, Low emission diesel products, engine retrofit technology
- Alternative fuels for on-road vehicles

Off-Road Sources

- Cleaner Construction and Other Equipment
- Cleaner In-Use Off-Road Equipment
- Agricultural Equipment Fleet Modernization
- New Emission Standards for Recreational Boats
- Off-Road Recreational Vehicle Expanded Emission Standards

CUMULATIVE IMPACTS UNDER GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE:

Mitigation measures described below are in response to the significant and unavoidable cumulative impact found with respect to the greenhouse gas emissions and climate change.

SCAG Mitigation Measures

MM-GHG-3(a)(1): SCAG shall update any future RTP/SCS to incorporate policies and measures that lead to reduced GHG emissions in accordance with AB 32.

MM-GHG-3(a)(2): SCAG shall coordinate with CARB and air districts in efforts to implement the AB 32 Scoping Plan.

MM-GHG-3(a)(3): SCAG shall continue coordination with other metropolitan planning organizations (MPOs) regarding statewide strategies to reduce GHG emissions and facilitate the implementation of SB 375.

MM-GHG-3(a)(4): SCAG shall work with utilities, sub-regions, and other stakeholders to promote accelerated penetration of zero- (and/or near zero-) emission vehicles in the region, including developing a strategy for the deployment of public charging infrastructure.

MM-GHG-3(a)(5): SCAG shall in its capacity as a Clean Cities Coalition establish coordinated, creative public outreach activities, including publicizing the importance of reducing GHG emissions and steps community members may take to reduce their individual impacts.

MM-GHG-3(a)(6): SCAG shall work with local community groups and business associations to organize and publicize walking tours and bicycle events, and to encourage pedestrian and bicycle modes of transportation such as the “Go Human” Campaign.

MM-GHG-3(a)(7): SCAG shall support and/or sponsor workshops on water conservation activities, such as selecting and planting drought tolerant, native plants in landscaping, and installing advanced irrigation systems.

MM-GHG-3(a)(8): SCAG shall in coordination with local jurisdictions (as practicable) support and/or sponsor a periodic Climate Protection Summits or Fairs, to educate the public on current climate science, projected local impacts, and local efforts and opportunities to reduce GHG emissions, including exhibits of the latest technology and products for conservation and efficiency.

MM-GHG-3(a)(9): Schools Programs: SCAG shall develop and implement a program in coordination with school districts to present information to students about climate change and ways to reduce GHG emissions, and will support school-based programs for GHG reduction, such as school-based trip reduction and the importance of recycling.

MM-GHG-3(a)(10): As outlined in the AHSC Action Plan approved by the Regional Council at the July 2, 2015, meeting, SCAG shall work with the Strategic Growth Council and seek legislative revisions to AHSC programs to revise the AHSC competitive grant program for future rounds.

MM-GHG-3(a)(11): SCAG shall encourage local jurisdictions to support the following transportation-related strategies to reduce emissions:

- Support the planning and development of HQTAs, jobs and housing balance, transit oriented development, and infill development through transportation investments and other funding decisions.
- Offer incentives such as free or low-cost monthly transit passes to employees or free ride areas to residents and customers
- Coordinate the funding of low carbon transportation with smart growth development.
- Promote parking management measures that encourage walking and transit use in smart growth areas.

- Develop comprehensive parking policies that encourages the use of alternative transportation. Incorporate bicycle lanes, routes and facilities into street systems, new subdivisions, and large developments, and create transit, bicycle, and pedestrian connections.
- Require amenities for non-motorized transportation, such as secure and convenient bicycle parking.

MM-GHG-3(a)(12): As part of SCAG's Sustainability Program, SCAG shall assist local jurisdictions in developing Climate Actions Plans (CAPS, also known as Plans for the Reduction of Greenhouse Gas Emissions), as appropriate and feasible.

Project-Level Mitigation Measures

MM-GHG-3(b): Consistent with the provisions of Section 15091 of the State CEQA Guidelines, SCAG has identified mitigation measures capable of avoiding or reducing the potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of greenhouse gases that are within the jurisdiction and authority of California Air Resources Board, local air districts, and/or Lead Agencies. Where the Lead Agency has identified that a project has the potential for significant effects, the Lead Agency can and should consider mitigation measures to mitigate the significant effects of greenhouse gas impacts to ensure compliance with all applicable laws, regulations, governing CAPs, general plans, adopted policies and plans of local agencies, and standards set forth by responsible public agencies for the purpose of reducing emissions of greenhouse gases, as applicable and feasible. Consistent with Section 15126.4(c) of the State CEQA Guidelines, compliance can be achieved through adopting GHG mitigation measures that have been used for projects in the SCAG region as set forth below, or through comparable measures identified by Lead Agency:

- Measures in an adopted plan or mitigation program for the reduction of emissions that are required as part of the Lead Agency's decision.
- Reduction in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines.
- Off-site measures to mitigate a project's emissions.
- Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to:
 - Use energy and fuel efficient vehicles and equipment;
 - Deployment of zero- and/or near zero emission technologies;
 - Use lighting systems that are energy efficient, such as LED technology;
 - Use the minimum feasible amount of GHG-emitting construction materials that is feasible;
 - Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
 - Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;
 - Incorporate design measures to reduce energy consumption and increase use of renewable energy;
 - Incorporate design measures to reduce water consumption;

- Use lighter-colored pavement where feasible;
- Recycle construction debris to maximum extent feasible;
- Plant shade trees in or near construction projects where feasible; and
- Solicit bids that include concepts listed above.
- Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to, transit-active transportation coordinated strategies, increased bicycle carrying capacity on transit and rail vehicles;
- Incorporating bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; providing adequate bicycle parking and planning for and building local bicycle projects that connect with the regional network;
- Improving transit access to rail and bus routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and
- Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs.
- Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
- Land use siting and design measures that reduce GHG emissions, including:
 - Developing on infill and brownfields sites;
 - Building high density and mixed use developments near transit;
 - Retaining on-site mature trees and vegetation, and planting new canopy trees;
 - Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and
 - Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.

See MM-EN-2(b).

9.0 LEVEL OF SIGNIFICANCE AFTER MITIGATION

IMPACT Air-2: Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Given SCAG's limited authority over the local jurisdictions and unforeseeable circumstances at the project level, whereas implementation of MM-Air-2(a)(1), MM-Air-2(a)(2), and MM-Air-2(b) would reduce the impact of short-term emissions, direct, indirect, and cumulative impacts would remain significant and unavoidable.

IMPACT Air-4: Expose sensitive receptors to substantial pollutant concentrations and harm public health outcomes substantially.

Implementation of MM-Air-2(a)(1), MM-Air-2(a)(2), and MM-Air-4(b) would reduce the impacts to sensitive receptors and public health, but direct, indirect, and cumulative impacts would remain significant and unavoidable.

CUMULATIVE IMPACTS UNDER GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE:

While implementation of Mitigation Measures MM-GHG-3(a)(1) through MM-GHG-3(a)(12), MM-GHG-3(b) and MM-EN-2(b) would reduce GHG emissions, the effectiveness of the mitigation measures identified above cannot be reasonably quantified at this time. Although the mitigation measures would encourage reduction in GHG emissions, they would not guarantee GHG emission reductions. Under SCAG's limited authority, these measures are not directly enforceable and the cumulative impacts would remain significant and unavoidable.

10.0 CONCLUSION AND RECOMMENDATIONS

In conclusion, the 2016 RTP/SCS will have a net positive effect on the air quality of the SCAG region. Despite increasing population and economic growth, the 2016 RTP successfully curbs emissions below the 2040 baseline to help achieve air quality goals such as AB 32 and SB 375. GHG emissions will actually decrease from the 2012 existing conditions in the transportation, building energy, and water-energy sectors.

Air quality and GHG impacts are regional and even global in nature. The 2016 RTP/SCS contains projects ranging from large residential developments to large commercial developments. These related projects, as a result of local input, have been included in SCAG's transportation model. Forecasted regional growth, land use change, and transportation network improvements with the Plan would generate emissions of for all six criteria air pollutants during both construction and operations of development projects and the transportation network. The 2016 RTP/SCS is consistent with air-related plans in the region and will not have an overall significant contribution to any pollutant in the long term, but it would have a significant impact on short-term emissions.

The Plan meets and exceeds SB 375 targets for reducing GHG emissions and contributes to reductions in statewide emissions required under AB 32. The SB 375 GHG emission reduction targets contribute to achieving GHG emissions reduction goals set forth in AB 32. By meeting and exceeding SB 375, the 2016 RTP/SCS has shown that they are on pace with accelerating the GHG emission reductions in the later years beyond 2020. These reductions are gained through better fuel efficiencies, and lower carbon intensities in vehicles. Additionally, the GHG reduction trajectory of the 2016 RTP/SCS beyond 2030 is consistent, if not more aggressive, with the accelerated pace established in the Executive Orders including the recent Executive Order B-30-15. Hence, the Plan is not in conflict with AB 32 and Executive Orders. It should be noted that the goals set forth by AB 32 and the Executive Orders are intended to be achieved by all the responsible sectors. In the event that cumulative impacts of GHG emissions cannot be fully addressed to the appropriate level by projects or responsible sectors, cumulative impact under greenhouse gas emissions and climate change would be significant and unavoidable.

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APPENDIX D

HEALTH RISK ASSESSMENT TECHNICAL REPORT

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The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of SCAG or DOT. This report does not constitute a standard, specification or regulation.



**DIESEL EXHAUST HEALTH RISK ASSESSMENT
FOR THE
SOUTHERN CALIFORNIA ASSOCIATION
OF GOVERNMENTS
2016-2040 REGIONAL TRANSPORTATION PLAN/
SUSTAINABLE COMMUNITIES STRATEGY**

KLEINFELDER PROJECT NO. 20154370.001A

NOVEMBER 18, 2015

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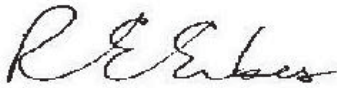
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**DIESEL EXHAUST HEALTH RISK ASSESSMENT
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2016 REGIONAL TRANSPORTATION PLAN/
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EXECUTIVE SUMMARY

The Southern California Association of Governments (SCAG) developed the 2016 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) for the SCAG region with a calendar year 2040 planning horizon. The RTP/SCS is a long-range plan that serves as a blueprint to help strategize for and achieve a coordinated regional transportation system. The SCAG region includes the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The RTP is used to guide the development of the Federal Transportation Improvement Programs as well as other transportation programming documents and plans. The RTP outlines the region's goals and policies for meeting current and future mobility needs, providing a foundation for transportation decisions by local, regional and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. Pursuant to Senate Bill (SB) 32 (2008), the SCS is developed as part of the RTP and outlines land use growth strategies that provide for more integrated land use and transportation planning, and maximize transportation investments. As such, like the 2012 RTP/SCS, the 2016 RTP/SCS contains regional transportation investments and integrated land use strategies over a 20-year period. Built upon the progress made since the 2012 RTP/SCS while recognizing the current conditions of land use and transportation throughout the region, the 2016 RTP/SCS is prepared to respond to a changing region by meeting the challenges and creating conditions and infrastructure that motivate increased mobility and accessibility; expanded transportation options; broader economic growth; equitably distributed benefits; and sustainability

In support of the 2016 RTP/SCS, a Program Environmental Impact Report (PEIR) is being prepared. As part of the PEIR, this health risk assessment (HRA) was prepared to assess the potential carcinogenic health risks from emissions of diesel particulate matter (DPM) and other air toxics from motor vehicles on major freeways and transportation corridors. The HRA quantitatively analyzes only the potential carcinogenic impacts from motor vehicles traveling on major freeways. Non-cancer health risk were not addressed because the risks from air toxics emitted by motor vehicles are dominated by potential cancer risk, and non-cancer health risks from motor vehicles have been shown in other studies to not be of concern. Only motor vehicle emissions on freeways were quantitatively evaluated because emissions from other transportation modes and on other transportation corridors are much less than emissions on major freeways. Thus, this HRA yields a reasonable worst-case impact analysis.

The HRA evaluates 16 freeway segments, including eight freeway segments that were evaluated in the 2012-2035 RTP/SCS PEIR and eight additional segments selected for evaluation. The overview of freeway segments that were evaluated is shown in Figure ES-1 (*Overview Freeway*

Segments to be Evaluated). Emissions of DPM from each segment were calculated using the SCAG Transportation Demand Model VMT data for 2012 base year and projections for 2040. SCAG VMT data are provided for heavy duty vehicles and light/medium duty vehicles. The 2012 base year transportation network included the most recently adopted 2015 Federal Transportation Improvement Plan (FTIP) projects, which was adopted in September 2014 and obtained a federal approval in December 2014. So, the 2012 base year transportation network does capture the recent progress on the transportation projects side per the 2015 FTIP. The most current version of the California Air Resources Board (CARB) mobile source emissions model (EMFAC2014) was used to obtain emission factors of particulate matter less than 10 microns diameter in diesel-fueled vehicles, which were assumed equal to DPM emission factors.

The potential impacts of emissions from a representative 1-mile long portion of the freeway segment were evaluated with the CARB-approved AERMOD dispersion model (Version 15181) and meteorological data obtained from South Coast, Imperial, and Ventura Air Districts' monitoring sites. The calculated DPM concentration was then used to calculate the potential carcinogenic risk using the most current HRA guidelines published by the California Office of Environmental Health Hazard Assessment¹ (2015). The potential cancer risk calculated for DPM was increased by 5 percent to account for the additional organic gases of acetaldehyde, benzene, 1,3-butadiene, and formaldehyde based on observations of past data.

The potential cancer risk for residences was evaluated for a 30-year exposure, 9-year exposure and 70-year exposure. The potential cancer risk at worker receptors and sensitive receptors was also calculated. The sensitive receptors evaluated include senior centers, day care centers and schools, but the risk at those receptors was less than the maximum residential risk due to two primary reasons: (1) the duration of exposure at sensitive receptors is much less than assumed for residential exposure and (2) many of the sensitive receptors are further away from the freeway than the residential receptors (see Appendix C).

The 30-year maximum exposed individual residential (MEIR) cancer risk for each transportation segment evaluated for each of the Simulations 2 through 5, is reduced from the baseline conditions represented by Simulation 1 (Existing Conditions) as shown in Table ES-1 (*Summary Maximum Exposed Individual Residential 30-year Exposure Cancer Risk [cancer risk per million exposed persons]*). The MEIR cancer risk is on the order of 50 to 90 percent less than baseline conditions. This is due to the dramatic reduction in emissions that are expected due to the federal and state regulations that require reduced emissions from on-road heavy-duty diesel trucks

¹ *California Office of Environmental Health Hazard Assessment*

(HDDT). By 2040, emissions per mile from HDDT will be on the order of only 5 percent of the emissions per mile in 2015. Three simulations (Simulation 3, Simulation 4, and Simulation 5) have comparable reductions in exposure to cancer risk, with Simulation 5 (the Intensified Land Use Alternative) achieving the greatest reduction. This is because there is very little difference in HDDT vehicle miles traveled on the transportation segments in 2040 under any of the simulations (differences in HDDT mileage range from less than 1 to about 5 percent among the simulations). The MEIR cancer risk for Simulations 2 through 5 ranges from 93 in a million to 9 in a million cancer risk for 30-year exposure, 66 in a million to 6 in a million cancer risk for 9-year exposure, and 106 in a million to 10 in a million cancer risk for 70-year exposure. The exposed worker risk for Simulations 2 through 5 ranges from 7 in a million to 1 in a million cancer risk. The 70-year MEIR cancer risk for the No Project Alternative from the eight original freeway segments has decreased from the 2012-2035 RTP/SCS PEIR for the following reasons: 1) the emission factors for HDDT projected by the current version of the EMFAC model for 2040 are much less (on the order of 95 percent less) than the emission factors used in the 2012-2035 RTP/SCS PEIR for 2035; and 2) the vehicle mileage projected by the current SCAG transportation demand model is different than what was projected in the 2012-2035 RTP/SCS PEIR because a more updated 2012 Base Year transportation network is being used for this 2016 RTP/SCS. The combined result of these differences show a decrease in the overall risk to residential, worker and sensitive receptors in the current predictions when compared with the previous analyses.

Table ES-1

**Summary Maximum Exposed Individual Residential 30-year Exposure Cancer Risk
(cancer risk per million exposed persons)**

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY / REGION	SIMULATION 1 (EXISTING CONDITIONS)	SIMULATION 2 (NO PROJECT ALTERNATIVE)	SIMULATION 3 (PROPOSED PROJECT)	SIMULATION 4 (2012 RTP/SCS WITH LOCAL INPUT ALTERNATIVE)	SIMULATION 5 (INTENSIFIED LAND USE ALTERNATIVE)
1	IMP I-8	Imperial / El Centro	125	44	19	19	18
2	IMP SR-78	Imperial / Westmoreland	82	64	9	9	9
3	LA I-110	Los Angeles / Carson	664	62	46	45	45
4	LA I-710	Los Angeles / Compton	847	58	55	55	54
5	LA SR-60 DB	Los Angeles / Diamond Bar	1,101	93	60	60	60
6	LA SR-60 SEM	Los Angeles / South El Monte	763	55	44	43	43
7	ORA I-5	Orange / Orange	455	40	33	32	33
8	ORA I-405	Orange / Seal Beach	1,142	81	78	78	78
9	RIV I-10	Riverside / Banning	152	15	15	15	14
10	RIV I-15	Riverside / Temecula	366	27	38	38	38
11	RIV SR-91	Riverside / Corona	937	64	55	56	56
12	SB I-15 ONT	San Bernardino / Ontario	236	46	25	25	25
13	SB I-15 VIC	San Bernardino / Victorville	524	48	64	64	63
14	SB SR-60	San Bernardino / Ontario	810	44	39	39	47
15	VEN US-101 SB	Ventura / San Buenaventura	165	12	11	11	11
16	VEN US-101 TO	Ventura / Thousand Oaks	832	54	48	48	45

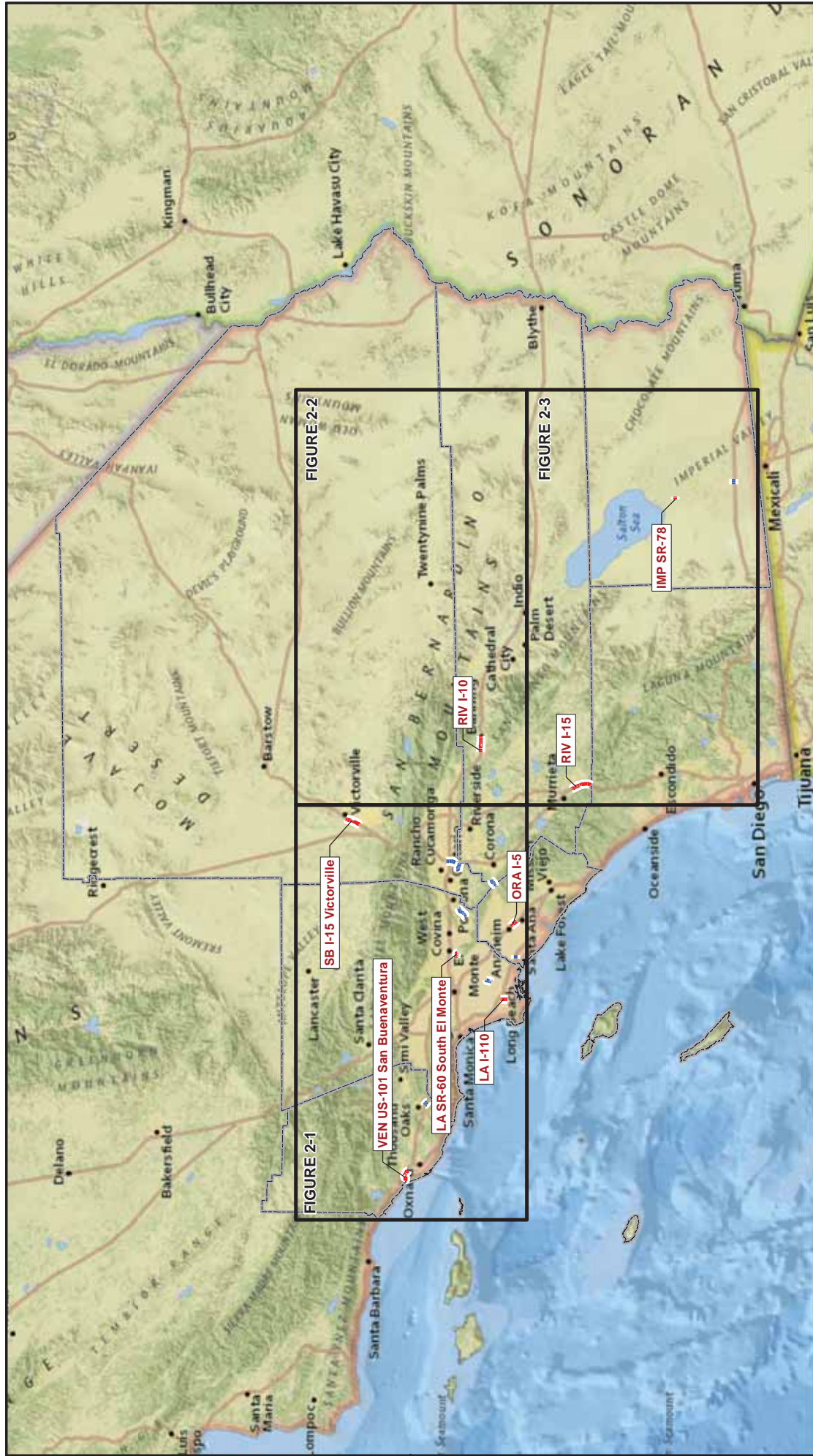
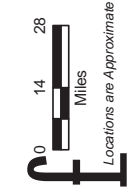


FIGURE 2-2

FIGURE 2-3

FIGURE 2-1



- LEGEND**
- 2016 PEIR Additional Segment
 - Original Segment
 - County Boundary
- Basemap: National Geographic World Map via ESRI Map Service

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OVERVIEW FREEWAY SEGMENTS TO BE EVALUATED

ES-1

Diesel Exhaust Health Risk Assessment
 Southern California Association of Governments
 2016 RTP/SCS PEIR

FIGURE

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1 INTRODUCTION

The Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS, “Plan” or “Project”) is a long-range transportation plan that provides a vision for regional transportation investments that are integrated with land use strategies for a more than 20-year period. SCAG serves as a Metropolitan Planning Organization (MPO), a Council of Governments (COG) and a Multi-County Designated Transportation Planning Agency representing the approximately 18.7 million residents living within approximately 38,000 square miles represented by multiple jurisdictions: six-County area comprised of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties and 191 cities, 16 Federally recognized Tribal Sovereign Nations; and 15 Subregional entities that have been recognized by the Regional Council, SCAG’s governing body, as partners in the regional policy planning process.

SCAG is the lead agency under the California Environmental Quality Act (CEQA) with the responsibility for consideration of the 2016 RTP/SCS for approval. As the lead agency, SCAG has determined to prepare a Program Environmental Impact Report (PEIR) for the 2016 RTP/SCS.

The PEIR is a programmatic document that provides a region-wide assessment of the potential significant environmental effects of the 2016 RTP/SCS. The PEIR provides a regional consideration of direct and indirect effects, growth-inducing impacts, and cumulative effects of the 2016 RTP/SCS at a programmatic level. The PEIR includes a range of reasonable alternatives to the 2016 RTP/SCS, including the No Project alternative and alternatives that are capable of achieving most of the basic objectives of the 2016 RTP/SCS and that may be capable of avoiding or substantially lessening any of the significant environmental effects of the 2016 RTP/SCS. The PEIR includes performance standard-based mitigation measures that are capable of avoiding and reducing the significant effects of the 2016 RTP/SCS to the maximum extent practicable.

In support of the 2016 RTP/SCS, a PEIR is being prepared. As part of the PEIR, this HRA was prepared to assess the potential cancer risks from emissions of diesel particulate matter (DPM) and other air toxics from motor vehicles on major freeways and transportation corridors. Major freeways have the highest potential for DPM risk due to the density of HDT traffic, emission rates from HDT traffic, and proximity/number of residential and sensitive receptors near freeways. The HRA quantitatively analyzes only the potential carcinogenic impacts from motor vehicles traveling on major freeways. Non-cancer health risks were not addressed because the risks from air toxics

emitted by motor vehicles are dominated by potential cancer risk and non-cancer health risks from motor vehicles have been shown in other studies to not be of concern.

2 HEALTH RISK ASSESSMENT METHODOLOGY

The diesel-exhaust health risk assessment was conducted in seven steps:

- 1) Determine which land use development pattern and transportation investment scenarios will be evaluated in the health risk assessment simulations;
- 2) Identify major freeway and transportation corridors of interest within the simulations;
- 3) Select representative transportation segments from the major freeways or transportation corridors that will be used in the detailed analysis to yield a reasonable worst-case assessment of the potential cancer risk associated with the simulations under evaluation;
- 4) For each of the simulations, determine emissions of diesel exhaust from all of the selected representative transportation segments;
- 5) Determine receptors of interest (including hypothetical worst-case receptors) near the selected representative transportation segments at which the potential impact of diesel exhaust will be evaluated;
- 6) Model atmospheric dispersion of the emissions in order to determine the potential impact from emissions at receptors of interest and hypothetical receptors; and
- 7) Evaluate the potential cancer risk at the receptors of interest and hypothetical receptors.

2.1 SCENARIOS TO BE EVALUATED

The scenarios to be evaluated in this HRA were based on those recommended pursuant to the State California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations, Chapter 3. Guidelines for the Implementation of CEQA). The PEIR includes evaluation of the proposed Project (2016 RTP/SCS) and three alternatives. This HRA includes these four scenarios in addition to the existing conditions scenario (baseline scenario), thereby resulting in five HRA simulations:

- Simulation 1: Represents Existing Conditions (or baseline simulation);
- Simulation 2: Represents future (2040) conditions under the No Project Alternative;
- Simulation 3: Represents future (2040) conditions under the 2016 RTP/SCS or the Proposed Project;
- Simulation 4: Represents future (2040) conditions under the 2012 RTP/SCS with Local Input Alternative;

- Simulation 5: Represents future (2040) conditions under the Intensified Land Use Alternative.

2.2 SELECTION OF REPRESENTATIVE TRANSPORTATION SEGMENTS

The SCAG regional transportation system includes approximately 70,904 existing lane miles². Clearly, one cannot assess potential health risks at all of those locations. Thus, a reasonable worst-case representative subset of highways and arterials was selected for analysis. The analysis focused on major freeways and transportation corridors. Passenger rail impacts were not quantitatively assessed because emissions from passenger rail are much less than emissions from major freeways and transportation corridors. For this analysis, 16 representative transportation segments were chosen from major freeway and transportation corridors in the six-county SCAG Region to yield a reasonable worst-case assessment of the potential impact of the five Evaluation Simulations throughout the SCAG Region. The logic for selection of the 16 representative transportation segments is as follows:

- Evaluate the eight transportation segments as used in SCAG's 2012-2035 RTP/SCS PEIR³ for comparison purposes.
- Select an additional eight transportation segments from major freeways and transportation corridors based on 2012 base year⁴ vehicle miles traveled (VMT) data and sensitive receptor locations. Qualifying freeway segments identified as having at least one sensitive receptor within 500 meters were then ranked based on heavy duty (HD) vehicles (primarily trucks) VMT, considering the amount of truck traffic in both directions. Segments were not considered that were considered distant from populated areas with minimal (i.e., less than two) sensitive receptors (e.g., near the base of the Grapevine on I-5) or where the additional segment was an extension of the one of the original 8 segments. In these cases, the next most appropriate segment was chosen following the criteria above.

Selection of the additional eight transportation segments involved consideration of a combination of quantitative and qualitative information. First, VMT data from 2012 base year transportation network, representing the most updated transportation network at the time of the preparation for

² SCAG Transportation Modeling, October 2015.

³ Program Environmental Impact Report, Southern California Association of Governments 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, December 2011, State Clearinghouse # 2011051018. Notice of Determination published April 9, 2012.

⁴ The 2012 base year transportation network that is being used for the 2016 RTP/SCS includes the most updated 2015 Federal Transportation Improvement Program (FTIP) projects as well as the projects included in the 2012 RTP/SCS as last amended in September 2014.

the 2016 RTP/SCS, were obtained from SCAG. These data provide 2012 base year VMT for both HD (both diesel and other fuel) and light/medium duty (LM, both diesel and other fuel) vehicles for all of the major freeways and transportation corridors in the SCAG Region. The VMT data are reported by SCAG from the Transportation Demand Model by geographic locations called links. For the purposes of this HRA, a freeway segment may consist of one or more links as defined later in this section. The lengths of the links vary, but are generally on the order of a mile long. The links were then ranked from highest to lowest average daily HD VMT. Average daily VMT was used instead of AM or PM peak VMT because the potential health risks from diesel exhaust are based on long-term (annual average) exposures for many years. The ranking was based on HD VMT rather than LM alone or HD plus LM VMT because nearly all of the HD vehicles are on-road heavy-duty diesel trucks (HDDT), while most of the LM vehicles are not diesel-fueled. Thus, HD VMT yields the highest potential diesel emissions.

The ranking was based on 2012 base year VMT data because those data were the most recent available at the time of the ranking. The 2012 base year VMT data incorporated the most recent 2015 Federal Transportation Improvement Program (FTIP) projects and the 2012 RTP/SCS projects as amended in September 2014. The 2015 FTIP was adopted in September 2014 and obtained federal approval in December 2014. Since the 2012 base year VMT data includes the 2015 FTIP projects and the 2012 RTP/SCS projects as last amended in September 2014, it is not expected that 2015 VMT data (even if it were available) would change the ranking obtained with the 2012 base year VMT data. Hence, the 2012 base year VMT data used in this HRA represented the most updated transportation network information existing at the time that the Notice of Preparation for this PEIR was issued (March 2015).

Second, the locations of sensitive receptors in the region were obtained from TomTom and TeleAtlas databases. The sensitive receptor locations were then plotted and the HD VMT data evaluated to select links that had the greatest combination of the density of nearby (within 500 meters) sensitive receptors and maximum HD VMT. A distance of 500 meters from the freeway links was used to capture the nearest and most dense areas of sensitive receptors and because previous studies by CARB have demonstrated that the potential health risk decreases dramatically with distance and the maximum impact is within 500 meters. Links that were geographically adjacent were connected as necessary to create a segment of length of from 2 to 6 miles such that a meaningful number of nearby sensitive receptors and nearby residents were present for that segment. Then one of the maximum HD VMT segments in each county was selected considering not only the quantitative information (HD VMT and numbers of sensitive receptors) but also the qualitative information such as evaluation of aerial photos showing

residential and commercial building density. After one worst-case segment was chosen in each of the six SCAG Region counties, additional two segments that had relatively high HD VMT were added (one in Los Angeles County and one in Riverside County).

The magnitude of the length of a segment to be evaluated is not critical because the maximum impact of diesel exhaust emissions occurs very near (less than 500 meters) and perpendicular to the segment. As long as the length of the segment is relatively longer than the distance to the impacted receptor, the potential impact at a receptor will be the same regardless of the length of the segment. A segment at least 1500 meters long (approximately 1 mile) is long enough to represent the impact at a receptor 500 meters away. Note that most of the maximally-affected residences, worker, and sensitive receptors are located less than 500 meters away.

It is recognized that VMT is a function not only of the number of vehicles but also the distance traveled by a vehicle. Therefore, if the number of vehicles is constant, a longer link will have a greater VMT than a shorter link. However, most of the links are of a similar length (on the order of 1 mile), and thus comparing VMT for a link is approximately the same as comparing vehicle counts. VMT is the parameter needed to perform emission and health risk assessment modeling, and thus VMT was used to rank the links. A brief analysis was conducted to confirm that ranking a segment by VMT versus vehicle counts does not change selection of the worst-case segment.

It is also recognized that total emissions for a segment are a function of VMT because, as discussed in Section 2.3, the emissions model yields emission factors in terms of grams per mile. Therefore, a longer segment will have greater emissions (grams per day) than a shorter segment, even if the vehicle counts are the same (because the longer segment will have greater VMT). However, the emissions for the longer segment are “spread out” over a longer distance, so the potential impact is the same. Thus, the ultimate length of a segment is not critical provided that it is long enough to adequately represent maximum impact at a meaningful number of sensitive receptors.

Initially, it was expected that major freeways would have greater HD VMT than major transportation corridors (e.g., bus and light rail), and it was expected that there would be sufficient nearby sensitive receptors to the major freeways such that the major freeways would represent worst-case conditions. This logic was confirmed by evaluating HD VMT for major transportation corridors in the SCAG Region compared to the freeways, and it was found that the HD VMT on the major freeway segments was much greater than for the transportation corridors. It was also found that there were numerous residential, worker, and sensitive receptors nearby the major freeways. Likewise, public transit corridors and airport diesel exhaust emissions are much less

than for the major freeways. Therefore, use of the major freeways for segment selection does represent a reasonable worst-case health impact analysis.

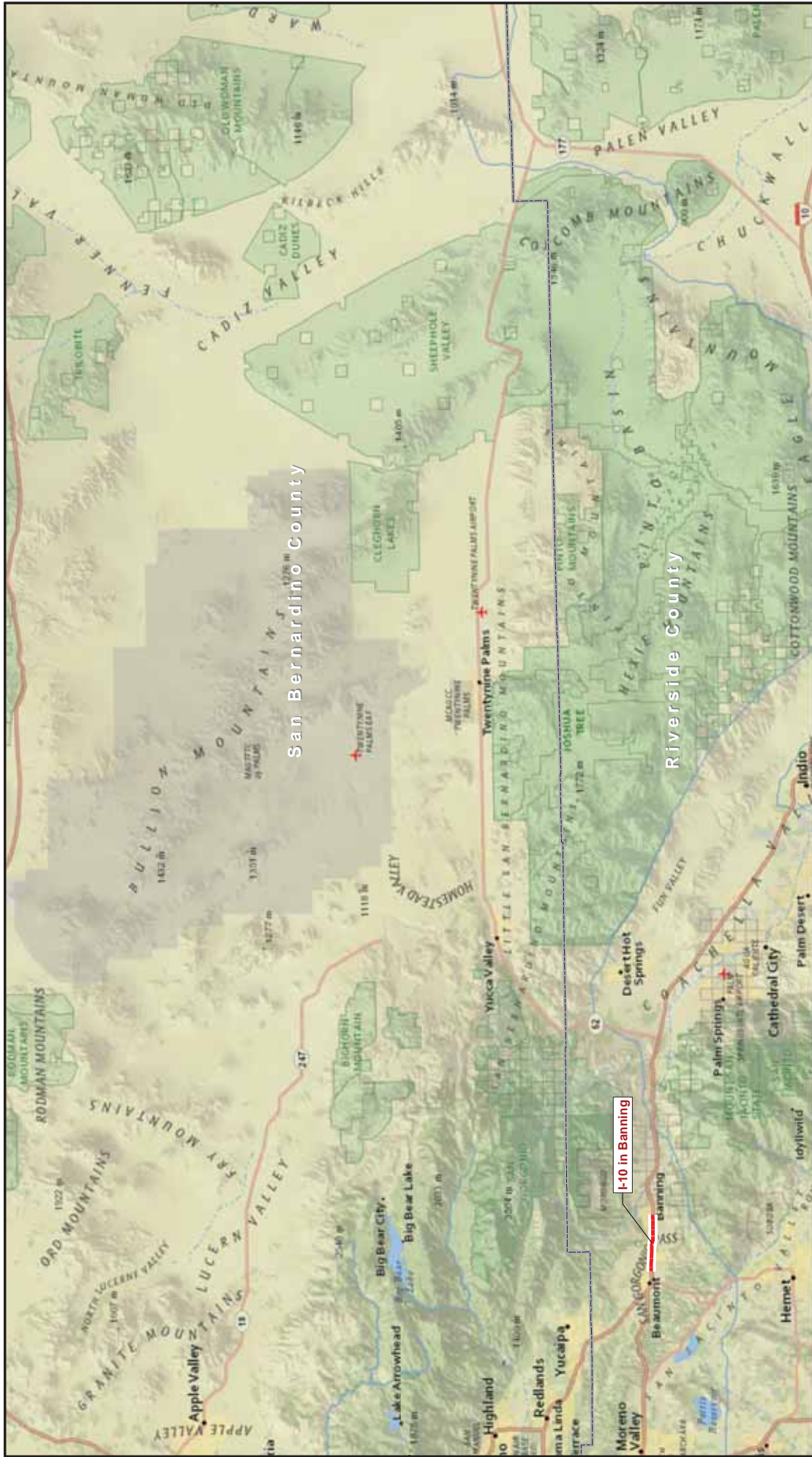
The HRA evaluated a total of 16 segments, including the eight segments evaluated in the 2012 RTP/SCS PEIR and eight additional segments selected for evaluation. These segments are shown in ES-1 (*Overview Freeway Segments to be Evaluated*) and Figures 2-1 through 2-3 (*Detailed Overview of SCAG Regions*), and individual details are located in Appendix A:

1. IMP I-8: Interstate 8 just east of El Centro (Imperial County); a 2012-2035 PEIR Segment. (Figure A-1, *IMP I-8 Segment Detail Map*)
2. IMP SR-78: State Road 78 Freeway in Westmorland (Imperial County); an additional segment. (Figure A-2, *IMP SR-78 Segment Detail Map*)
3. LA I-110: Interstate 110 in Carson (Los Angeles County); an additional segment. (Figure A-3, *LA I-110 Segment Detail Map*)
4. LA I-710: Interstate 710 in Compton, north of the intersection with SR 91 (Los Angeles County); a 2012-2035 PEIR Segment. (Figure A-4, *LA I-710 Segment Detail Map*)
5. LA SR-60 DB: State Road 60 Freeway near Diamond Bar (Los Angeles County); a 2012-2035 PEIR Segment. (Figure A-5, *LA SR-60 DB Segment Detail Map*)
6. LA SR-60 SEM: State Road 60 Freeway near South El Monte at Peck Rd (Los Angeles); an additional segment. (Figure A-6, *LA SR-60 SEM Segment Detail Map*)
7. ORA I-5: Interstate 5 in Orange near intersection of SR 57 and SR 22 (Orange County); an additional segment. (Figure A-7, *ORA I-5 Segment Detail Map*)
8. ORA I-405: Interstate 405 in Seal Beach, east of the I-605 interchange (Orange County); a 2012-2035 PEIR Segment. (Figure A-8, *ORA I-405 Segment Detail Map*)
9. RIV I-10: Interstate 10 in the Banning area (Riverside County); an additional segment. (Figure A-9, *RIV I-10 Segment Detail Map*)
10. RIV I-15: Interstate 15 near Temecula (Riverside County); an additional segment. (Figure A-10, *RIV I-15 Segment Detail Map*)
11. RIV SR-91: State Road 91 Freeway in Corona, east of the intersection with SR 71 (Riverside County); a 2012-2035 PEIR Segment. (Figure A-11, *SR-91 Segment Detail Map*)
12. SB I-15 ONT: in Ontario (San Bernardino County); a 2012-2035 PEIR Segment. (Figure A-12, *SB I-15 ONT Segment Detail Map*)

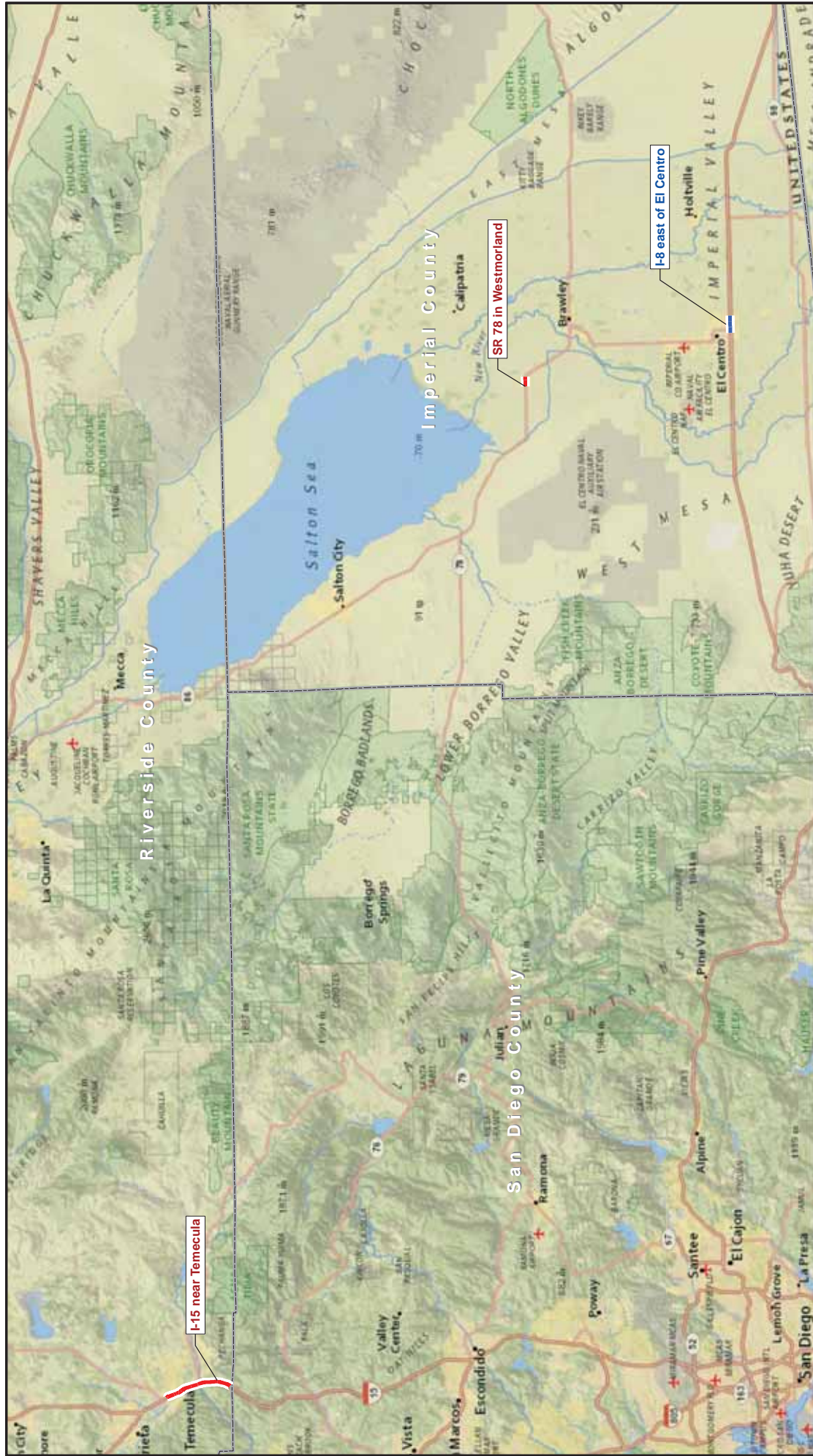
13. SB I-15 VIC: Interstate 15 in the Victorville area (San Bernardino County); an additional segment. (Figure A-13, *SB I-15 VIC Segment Detail Map*)
14. SB SR-60: State Road 60 Freeway in Ontario, west of the I-15 interchange (San Bernardino County); a 2012-2035 PEIR Segment. (Figure A-14, *SB SR-60 Segment Detail Map*)
15. VEN US-101 SB: US 101 Freeway in San Buenaventura near the Ventura Harbor (Ventura County); an additional segment. (Figure A-15, *VEN US-101 SB Segment Detail Map*)
16. VEN US-101 TO: US 101 Freeway in Thousand Oaks, east of SR 23 (Ventura County); a 2012-2035 PEIR Segment. (Figure A-16, *VEN US-101 TO Segment Detail Map*)



	<p>LEGEND</p> <ul style="list-style-type: none"> — 2016 PEIR Additional Segment — Original Segment County Boundary <p>Basemap: National Geographic, World Map, via ESRI Map Service</p>	<p>PROJECT NO.: 20154370 DRAWN: NOV 2015 DRAWN BY: K-HAGAN CHECKED BY: R-ERBES FILE NAME: Overview_Detail.mxd</p>		<p>The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, rights to the use of such information. The document is not intended for use in any legal proceeding or as a basis for any contract or construction design document. The use for purposes of the information contained on the graphic representation is at the sole risk of the user party using or relying on the information.</p>	<p>DETAILED OVERVIEW NORTHWEST SCAG REGION</p> <p>Diesel Exhaust Health Risk Assessment Southern California Association of Governments 2016 RTP/SCS PEIR</p>	<p>FIGURE 2-1</p>
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	<p>LEGEND</p> <ul style="list-style-type: none"> — 2016 PEIR Additional Segment — Original Segment County Boundary <p>Basemap: National Geographic, World Map, via ESRI Map Service</p>	<p>The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, rights to the use of such information. This document is not intended for use in any legal proceeding, contract, or other legal document. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.</p>		<p>PROJECT NO.: 20154370 DRAWN: NOV 2015 DRAWN BY: K-HAGAN CHECKED BY: R-ERBES FILE NAME: Overview_Detail.mxd</p>	<p>DETAILED OVERVIEW NORTHEAST SCAG REGION</p>	<p>FIGURE 2-2</p> <p>Diesel Exhaust Health Risk Assessment Southern California Association of Governments 2016 RTP/SCS PEIR</p>
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<p>0 4 8 Miles Locations are Approximate</p>	<p>LEGEND</p> <ul style="list-style-type: none"> 2016 PEIR Additional Segment Original Segment County Boundary <p>Basemap: National Geographic World Map via ESRI Map Service</p>	<p>The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfielder makes no representations or warranties, rights to the use of such information. This document is not intended for use in any legal proceeding or as a basis for any contract or construction design document. The use or reliance of the information contained on the graphic representation is at the sole risk of the user party using or relying on the information.</p>		<p>PROJECT NO.: 20154370 DRAWN: NOV 2015 DRAWN BY: K-HAGAN CHECKED BY: R-ERBES FILE NAME: Overview_Detail.mxd</p>	<p>DETAILED OVERVIEW SOUTHEAST SCAG REGION</p>	<p>FIGURE 2-3 Diesel Exhaust Health Risk Assessment Southern California Association of Governments 2016 RTP/SCS PEIR</p>
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2.3 POTENTIAL EMISSIONS FROM EACH TRANSPORTATION SEGMENT

Emissions were estimated for each transportation segment and Evaluation Simulations with the latest EMFAC2014 California mobile source emissions model. This emissions model is published by the California Air Resources Board (CARB) for use in California to estimate emissions from mobile sources. The EMFAC2014 model is currently being reviewed by USEPA. The model includes County-specific mobile source profiles, including fleet mix and other parameters that affect emissions. Therefore, EMFAC2014 was run to obtain emission factors (grams per mile) for each of the six counties and for calendar years 2015 and 2040 to account for the Evaluation Simulations and transportation segment locations.

Calendar year 2015 was used to calculate the emission factors for Evaluation Simulation 1, Existing Conditions, as the Notice of Preparation was issued in spring of 2015. The 2015 emission factors were coupled with the 2012 VMT (which reflects the 2015 FTIP and is the best VMT data available for existing conditions) to obtain total emissions per segment. For Evaluation Simulations 2 through 5, calendar year 2040 emission factors were coupled with 2040 VMT estimates. The 2040 emission factors represent the best estimate by CARB as to the future fleet mix composition and emission parameters.

The EMFAC emissions model yields emissions of the criteria pollutants (e.g., nitrogen oxides, particulate matter, etc.), not air toxics (e.g., diesel exhaust, acetaldehyde, etc.). However, diesel exhaust consists of particulate matter of less than 10 micron mean aerodynamic diameter (PM₁₀), and PM₁₀ is one of the criteria pollutants. PM₁₀ from diesel-fueled vehicle exhaust was used to represent diesel exhaust emissions. EMFAC estimates PM₁₀ emissions from other sources as well (e.g., brake/tire wear, gasoline vehicle exhaust, etc.), but those sources within EMFAC were not counted as diesel exhaust. EMFAC does not yield emissions of other air toxics associated with vehicle travel, specifically benzene, acetaldehyde, 1,3-butadiene, and formaldehyde. A methodology to account for the risk contribution of these additional air toxics was developed and is discussed in Section 2.6.

EMFAC provides emission factors individually for each vehicle class and model year, and EMFAC2014 can be run for 13 or 34 different vehicle classes (times 2 for diesel versus gasoline). For this analysis, 13 vehicle classes (times 2 for diesel versus gasoline) were used, as the SCAG VMT data are already lumped into only 2 groups (HD and LM), thus running 34 vehicle classes (times 2 for diesel versus gasoline) causes unnecessary complexity and does not improve accuracy. Furthermore, most of the potential health risk is from HDDT; thus no additional health risk information is gleaned by using 34 vehicle classes. For each county, the HD and LM VMT

was assigned proportionally to each of the vehicle classes and fuel types according to the county-specific fleet mix in EMFAC for calendar year 2015 or 2040. Fleet aggregate emission factors by vehicle class were used based on the county-specific fleet mix of model years for that vehicle class. The EMFAC fleet mix and proportional distribution of 2015 and 2040 VMT are shown in Appendix B by county and calendar year. Appendix B also shows the PM₁₀ emission factors from EMFAC2014 by vehicle class.

The PM₁₀ emission factors from EMFAC by vehicle class for diesel-fueled vehicles (grams per mile) were then multiplied by the average daily VMT for the transportation segment to obtain total emissions (grams per day) of DPM. The VMT data for Simulation 1, Existing Conditions, was prepared by using the 2012 base year, but includes projects in the 2015 FTIP adopted in September 2014, as well as projects in the 2012-2035 RTP/SCS as last amended in September 2014. The VMT data for Simulations 2 through 5 were prepared for calendar year 2040 and were developed with their travel demand modeling system. Table 2-1 (*Average Daily VMT for Selected Transportation Segments and Evaluation Simulations*) shows the average daily VMT by transportation segment, direction, and Evaluation Simulation. The VMT was then multiplied by the EMFAC2014 emission factors to yield the emissions (grams per day) shown in Tables 2-2 through 2-6 (*DPM Emission Estimates for Simulations 1 through 5*). Emissions for each direction of the transportation segment were estimated separately because VMT differs by direction. Additional calculation detail is presented in Appendix B.

The emissions calculated for calendar year 2040 are an over-estimate of what will actually occur, because EMFAC2014 only incorporates “on the books” regulations and emission reduction practices. Emissions from vehicles consistently decrease in the future as new technologies become available and new emission limits are required through regulations not yet enacted. Therefore, emissions in 2040 will be less than calculated herein even if the VMT forecasts are the same as currently estimated.

Table 2-1

Average Daily VMT for Selected Transportation Segments and Evaluation Simulations

SEG. NO.	TRANSPORT. SEGMENT	COUNTY/ REGION	DIRECTION	SIMULATION 1 (EXISTING CONDITIONS)		SIMULATION 2 (NO PROJECT ALTERNATIVE)		SIMULATION 3 (PROPOSED PROJECT)		SIMULATION 4 (2012 RTP/SCS WITH LOCAL INPUT ALTERNATIVE)		SIMULATION 5 (INTENSIFIED LAND USE ALTERNATIVE)	
				LM	HD	LM	HD	LM	HD	LM	HD	LM	HD
1	IMP I-8	Imperial/ El Centro	East	18,222	3,592	191,039	30,683	25,337	11,402	25,684	11,364	25,734	11,339
1	IMP I-8	Imperial/ El Centro	West	21,350	3,740	115,930	14,854	26,101	11,565	26,567	11,519	26,612	11,487
2	IMP SR-78	Imperial/ Westmoreland	East	6,534	1,280	83,147	17,539	13,739	2,337	13,729	2,263	13,731	2,287
2	IMP SR-78	Imperial/ Westmoreland	West	6,425	1,316	83,147	17,539	8,242	2,492	8,221	2,418	8,225	2,427
3	LA I-110	Los Angeles/ Carson	North	164,091	16,205	185,613	41,203	146,588	24,157	138,972	23,539	139,279	23,686
3	LA I-110	Los Angeles/ Carson	South	159,370	14,486	143,830	27,204	144,655	21,464	138,737	20,874	137,658	21,046
4	LA I-710	Los Angeles/ Compton	North	178,750	23,385	172,963	28,986	168,817	24,245	165,574	24,677	167,305	24,030
4	LA I-710	Los Angeles/ Compton	South	133,387	21,271	143,043	23,015	162,915	21,235	158,749	21,609	160,316	21,136
5	LA SR-60 DB	Los Angeles/ Diamond Bar	East	382,009	40,737	443,407	63,590	324,880	38,900	322,875	39,502	320,534	39,881



Table 2-1 (continued)
Average Daily VMT for Selected Transportation Segments and Evaluation Simulations

SEG. NO.	TRANSPORT. SEGMENT	COUNTY/ REGION	DIRECTION	SIMULATION 1 (EXISTING CONDITIONS)		SIMULATION 2 (NO PROJECT ALTERNATIVE)		SIMULATION 3 (PROPOSED PROJECT)		SIMULATION 4 (2012 RTP/S CS WITH LOCAL INPUT ALTERNATIVE)		SIMULATION 5 (INTENSIFIED LAND USE ALTERNATIVE)	
				LM	HD	LM	HD	LM	HD	LM	HD	LM	HD
5	LA SR-60 DB	Los Angeles/ Diamond Bar	West	382,164	40,328	441,273	76,771	365,183	35,510	361,180	36,844	362,669	36,647
6	LA SR-60 SEM	Los Angeles/ South El Monte	East	199,784	14,054	212,331	20,564	184,513	14,118	182,089	14,039	181,977	14,103
6	LA SR-60 SEM	Los Angeles/ South El Monte	West	209,315	15,714	205,494	24,648	198,120	16,318	196,074	16,103	197,128	15,975
7	ORA I-5	Orange/ Orange	North	214,774	10,227	134,257	21,222	197,793	19,225	197,857	19,018	195,497	19,319
7	ORA I-5	Orange/ Orange	South	151,474	6,449	147,059	20,241	120,747	12,079	120,743	12,045	119,133	12,062
8	ORA I-405	Orange/ Seal Beach	North	235,828	20,205	211,720	32,533	221,577	33,797	217,162	33,790	217,036	33,923
8	ORA I-405	Orange/ Seal Beach	South	217,558	18,590	204,150	35,706	203,061	31,231	200,359	31,149	199,867	31,326
9	RIV I-10	Riverside/ Banning	East	320,238	71,178	345,401	142,725	317,387	144,829	309,956	143,499	307,953	141,302
9	RIV I-10	Riverside/ Banning	West	315,658	70,605	439,457	142,301	372,726	143,184	365,219	141,836	362,630	139,692

Table 2-1 (continued)
Average Daily VMT for Selected Transportation Segments and Evaluation Simulations

SEG. NO.	TRANSPORT. SEGMENT	COUNTY/ REGION	DIRECTION	SIMULATION 1 (EXISTING CONDITIONS)		SIMULATION 2 (NO PROJECT ALTERNATIVE)		SIMULATION 3 (PROPOSED PROJECT)		SIMULATION 4 (2012 RTP/SCS WITH LOCAL INPUT ALTERNATIVE)		SIMULATION 5 (INTENSIFIED LAND USE ALTERNATIVE)	
				LM	HD	LM	HD	LM	HD	LM	HD	LM	HD
10	RIV I-15	Riverside/ Temecula	North	291,514	31,564	357,646	52,487	469,031	75,978	467,052	75,882	467,016	75,897
10	RIV I-15	Riverside/ Temecula	South	347,213	37,377	393,680	62,533	555,310	91,002	553,597	90,864	553,334	90,970
11	RIV SR-91	Riverside/ Corona	East	280,666	34,243	166,975	30,609	279,241	42,928	279,032	43,468	276,171	43,193
11	RIV SR-91	Riverside/ Corona	West	262,746	35,070	332,865	72,033	261,128	45,127	261,691	45,686	259,551	45,549
12	SB I-15 ONT	San Bernardino/ Ontario	North	241,942	26,458	233,190	76,099	244,700	56,894	242,855	56,315	237,047	55,236
12	SB I-15 ONT	San Bernardino/ Ontario	South	249,613	26,679	602,894	126,917	227,670	58,753	226,754	58,633	219,210	57,152
13	SB I-15 VIC	San Bernardino/ Victorville	North	170,736	42,857	127,704	46,847	191,852	85,830	191,880	85,605	186,288	83,910
13	SB I-15 VIC	San Bernardino/ Victorville	South	163,348	42,614	250,931	74,054	178,052	88,524	177,731	88,343	171,351	86,521

Table 2-1 (continued)

Average Daily VMT for Selected Transportation Segments and Evaluation Simulations

SEG. NO.	TRANSPORT. SEGMENT	COUNTY/ REGION	DIRECTION	SIMULATION 1 (EXISTING CONDITIONS)		SIMULATION 2 (NO PROJECT ALTERNATIVE)		SIMULATION 3 (PROPOSED PROJECT)		SIMULATION 4 (2012 RTP/SCS WITH LOCAL INPUT ALTERNATIVE)		SIMULATION 5 (INTENSIFIED LAND USE ALTERNATIVE)	
				LM	HD	LM	HD	LM	HD	LM	HD	LM	HD
14	SB SR-60	San Bernardino/ Ontario	East	257,591	44,530	226,731	43,641	243,107	33,829	239,792	34,038	291,240	38,446
14	SB SR-60	San Bernardino/ Ontario	West	248,515	42,065	156,404	34,971	236,083	30,221	232,920	30,838	231,384	31,159
15	VEN US-101 SB	Ventura/ San Buenaventura	North	173,653	14,154	278,353	45,072	163,426	29,060	163,992	28,969	163,132	28,992
15	VEN US-101 SB	Ventura/ San Buenaventura	South	168,566	15,027	105,970	16,030	163,698	30,050	164,327	30,022	163,667	30,100
16	VEN US-101 TO	Ventura/ Thousand Oaks	North	73,667	6,251	59,994	10,385	67,736	10,476	66,450	10,473	66,525	10,447
16	VEN US-101 TO	Ventura/ Thousand Oaks	South	87,449	7,614	121,575	16,092	81,120	12,661	79,638	12,646	79,292	12,626

Table 2-2

DPM Emission Estimates for Simulation 1: Existing Conditions

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY / REGION	SEGMENT LENGTH (miles)	DIRECTION	PM₁₀ EMISSIONS (lbs/day)
1	IMP I-8	Imperial / El Centro	1.51	East	0.85
1	IMP I-8	Imperial / El Centro	1.51	West	0.93
2	IMP SR-78	Imperial / Westmoreland	0.88	East	0.30
2	IMP SR-78	Imperial / Westmoreland	0.88	East	0.31
3	LA I-110	Los Angeles / Carson	1.98	North	5.77
3	LA I-110	Los Angeles / Carson	1.92	South	5.42
4	LA I-710	Los Angeles / Compton	1.34	North	7.10
4	LA I-710	Los Angeles / Compton	1.34	South	5.84
5	LA SR-60 DB	Los Angeles / Diamond Bar	3.14	East	13.85
5	LA SR-60 DB	Los Angeles / Diamond Bar	2.98	West	13.80
6	LA SR-60 SEM	Los Angeles / South El Monte	1.52	East	6.22
6	LA SR-60 SEM	Los Angeles / South El Monte	1.50	West	6.65
7	ORA I-5	Orange / Orange	1.32	North	4.48
7	ORA I-5	Orange / Orange	1.32	South	3.02
8	ORA I-405	Orange / Seal Beach	1.09	North	6.55
8	ORA I-405	Orange / Seal Beach	1.02	South	6.03
9	RIV I-10	Riverside / Banning	5.01	East	16.72
9	RIV I-10	Riverside / Banning	4.98	West	16.55
10	RIV I-15	Riverside / Temecula	4.80	North	9.86
10	RIV I-15	Riverside / Temecula	5.84	South	11.71
11	RIV SR-91	Riverside / Corona	2.01	East	10.11
11	RIV SR-91	Riverside / Corona	1.76	West	9.95
12	SB I-15 ONT	San Bernardino / Ontario	2.95	North	6.29

Table 2-2 (continued)

DPM Emission Estimates for Simulation 1: Existing Conditions

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY / REGION	SEGMENT LENGTH (miles)	DIRECTION	PM₁₀ EMISSIONS (lbs/day)
12	SB I-15 ONT	San Bernardino / Ontario	2.97	South	6.41
13	SB I-15 VIC	San Bernardino / Victorville	4.32	North	7.87
13	SB I-15 VIC	San Bernardino / Victorville	4.39	South	7.76
14	SB SR-60	San Bernardino / Ontario	2.35	East	9.02
14	SB SR-60	San Bernardino / Ontario	2.22	West	8.57
15	VEN US-101 SB	Ventura / San Buenaventura	0.79	North	5.79
15	VEN US-101 SB	Ventura / San Buenaventura	0.94	South	5.92
16	VEN US-101 TO	Ventura / Thousand Oaks	3.21	North	2.51
16	VEN US-101 TO	Ventura / Thousand Oaks	3.26	South	3.03

Table 2-3

DPM Emission Estimates for Simulation 2: No Project Alternative

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY / REGION	SEGMENT LENGTH (miles)	DIRECTION	PM ₁₀ EMISSIONS (lbs/day)
1	IMP I-8	Imperial / El Centro	1.51	East	0.44
1	IMP I-8	Imperial / El Centro	1.51	West	0.23
2	IMP SR-78	Imperial / Westmoreland	0.88	East	0.23
2	IMP SR-78	Imperial / Westmoreland	0.88	East	0.23
3	LA I-110	Los Angeles / Carson	1.98	North	0.63
3	LA I-110	Los Angeles / Carson	1.92	South	0.44
4	LA I-710	Los Angeles / Compton	1.34	North	0.49
4	LA I-710	Los Angeles / Compton	1.34	South	0.39
5	LA SR-60 DB	Los Angeles / Diamond Bar	3.14	East	1.13
5	LA SR-60 DB	Los Angeles / Diamond Bar	3.12	West	1.28
6	LA SR-60 SEM	Los Angeles / South El Monte	1.52	East	0.45
6	LA SR-60 SEM	Los Angeles / South El Monte	1.50	West	0.48
7	ORA I-5	Orange / Orange	1.32	North	0.28
7	ORA I-5	Orange / Orange	0.81	South	0.28
8	ORA I-405	Orange / Seal Beach	1.09	North	0.43
8	ORA I-405	Orange / Seal Beach	1.02	South	0.46
9	RIV I-10	Riverside / Banning	5.01	East	1.60
9	RIV I-10	Riverside / Banning	4.98	West	1.66
10	RIV I-15	Riverside / Temecula	4.81	North	0.73
10	RIV I-15	Riverside / Temecula	5.83	South	0.85
11	RIV SR-91	Riverside / Corona	2.01	East	0.40
11	RIV SR-91	Riverside / Corona	1.76	West	0.90

Table 2-3 (continued)

DPM Emission Estimates for Simulation 2: No Project Alternative

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY / REGION	SEGMENT LENGTH (miles)	DIRECTION	PM₁₀ EMISSIONS (lbs/day)
12	SB I-15 ONT	San Bernardino / Ontario	2.95	North	0.86
12	SB I-15 ONT	San Bernardino / Ontario	2.97	South	1.52
13	SB I-15 VIC	San Bernardino / Victorville	4.32	North	0.52
13	SB I-15 VIC	San Bernardino / Victorville	4.39	South	0.85
14	SB SR-60	San Bernardino / Ontario	2.35	East	0.53
14	SB SR-60	San Bernardino / Ontario	2.22	West	0.42
15	VEN US-101 SB	Ventura / San Buenaventura	3.21	North	0.61
15	VEN US-101 SB	Ventura / San Buenaventura	3.26	South	0.22
16	VEN US-101 TO	Ventura / Thousand Oaks	0.79	North	0.14
16	VEN US-101 TO	Ventura / Thousand Oaks	0.94	South	0.23

Table 2-4

DPM Emission Estimates for Simulation 3: Proposed Project (2016 RTP/SCS)

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY / REGION	SEGMENT LENGTH (miles)	DIRECTION	PM₁₀ EMISSIONS (lbs/day)
1	IMP I-8	Imperial / El Centro	1.51	East	0.13
1	IMP I-8	Imperial / El Centro	1.51	West	0.13
2	IMP SR-78	Imperial / Westmoreland	0.88	East	0.03
2	IMP SR-78	Imperial / Westmoreland	0.88	East	0.03
3	LA I-110	Los Angeles / Carson	1.98	North	0.41
3	LA I-110	Los Angeles / Carson	1.92	South	0.38
4	LA I-710	Los Angeles / Compton	1.34	North	0.44
4	LA I-710	Los Angeles / Compton	1.34	South	0.40
5	LA SR-60 DB	Los Angeles / Diamond Bar	3.14	East	0.76
5	LA SR-60 DB	Los Angeles / Diamond Bar	3.12	West	0.77
6	LA SR-60 SEM	Los Angeles / South El Monte	1.52	East	0.35
6	LA SR-60 SEM	Los Angeles / South El Monte	1.50	West	0.39
7	ORA I-5	Orange / Orange	1.32	North	0.29
7	ORA I-5	Orange / Orange	0.81	South	0.18
8	ORA I-405	Orange / Seal Beach	1.09	North	0.45
8	ORA I-405	Orange / Seal Beach	1.02	South	0.41
9	RIV I-10	Riverside / Banning	5.01	East	1.61
9	RIV I-10	Riverside / Banning	4.98	West	1.62
10	RIV I-15	Riverside / Temecula	4.81	North	1.02
10	RIV I-15	Riverside / Temecula	5.83	South	1.22
11	RIV SR-91	Riverside / Corona	2.01	East	0.59
11	RIV SR-91	Riverside / Corona	1.76	West	0.60
12	SB I-15 ONT	San Bernardino / Ontario	2.95	North	0.67

Table 2-4 (continued)

DPM Emission Estimates for Simulation 3: Proposed Project (2016 RTP/SCS)

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY / REGION	SEGMENT LENGTH (miles)	DIRECTION	PM₁₀ EMISSIONS (lbs/day)
12	SB I-15 ONT	San Bernardino / Ontario	2.97	South	0.68
13	SB I-15 VIC	San Bernardino / Victorville	4.32	North	0.94
13	SB I-15 VIC	San Bernardino / Victorville	4.39	South	0.96
14	SB SR-60	San Bernardino / Ontario	2.35	East	0.44
14	SB SR-60	San Bernardino / Ontario	2.22	West	0.40
15	VEN US-101 SB	Ventura / San Buenaventura	3.21	North	0.39
15	VEN US-101 SB	Ventura / San Buenaventura	3.26	South	0.39
16	VEN US-101 TO	Ventura / Thousand Oaks	0.79	North	0.14
16	VEN US-101 TO	Ventura / Thousand Oaks	0.94	South	0.17

Table 2-5

DPM Emission Estimates for Simulation 4: 2012 RTP/SCS with Local Inputs Alternative

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY / REGION	SEGMENT LENGTH (miles)	DIRECTION	PM ₁₀ EMISSIONS (lbs/day)
1	IMP I-8	Imperial / El Centro	1.51	East	0.13
1	IMP I-8	Imperial / El Centro	1.51	West	0.13
2	IMP SR-78	Imperial / Westmoreland	0.88	East	0.03
2	IMP SR-78	Imperial / Westmoreland	0.88	East	0.03
3	LA I-110	Los Angeles / Carson	1.98	North	0.40
3	LA I-110	Los Angeles / Carson	1.92	South	0.37
4	LA I-710	Los Angeles / Compton	1.34	North	0.44
4	LA I-710	Los Angeles / Compton	1.34	South	0.40
5	LA SR-60 DB	Los Angeles / Diamond Bar	3.14	East	0.76
5	LA SR-60 DB	Los Angeles / Diamond Bar	3.12	West	0.78
6	LA SR-60 SEM	Los Angeles / South El Monte	1.52	East	0.35
6	LA SR-60 SEM	Los Angeles / South El Monte	1.50	West	0.38
7	ORA I-5	Orange / Orange	1.32	North	0.29
7	ORA I-5	Orange / Orange	0.81	South	0.18
8	ORA I-405	Orange / Seal Beach	1.09	North	0.45
8	ORA I-405	Orange / Seal Beach	1.02	South	0.41
9	RIV I-10	Riverside / Banning	5.01	East	1.59
9	RIV I-10	Riverside / Banning	4.98	West	1.61
10	RIV I-15	Riverside / Temecula	4.81	North	1.02
10	RIV I-15	Riverside / Temecula	5.83	South	1.22
11	RIV SR-91	Riverside / Corona	2.01	East	0.59
11	RIV SR-91	Riverside / Corona	1.74	West	0.60
12	SB I-15 ONT	San Bernardino / Ontario	2.95	North	0.67

Table 2-5 (continued)

DPM Emission Estimates for Simulation 4: 2012 RTP/SCS with Local Inputs Alternative

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY / REGION	SEGMENT LENGTH (miles)	DIRECTION	PM ₁₀ EMISSIONS (lbs/day)
12	SB I-15 ONT	San Bernardino / Ontario	2.97	South	0.68
13	SB I-15 VIC	San Bernardino / Victorville	4.32	North	0.94
13	SB I-15 VIC	San Bernardino / Victorville	4.39	South	0.96
14	SB SR-60	San Bernardino / Ontario	2.35	East	0.44
14	SB SR-60	San Bernardino / Ontario	2.22	West	0.41
15	VEN US-101 SB	Ventura / San Buenaventura	3.21	North	0.38
15	VEN US-101 SB	Ventura / San Buenaventura	3.26	South	0.40
16	VEN US-101 TO	Ventura / Thousand Oaks	0.79	North	0.14
16	VEN US-101 TO	Ventura / Thousand Oaks	0.94	South	0.17

Table 2-6

DPM Emission Estimates for Simulation 5: Intensified Land Use Alternative

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY / REGION	SEGMENT LENGTH (miles)	DIRECTION	PM ₁₀ EMISSIONS (lbs/day)
1	IMP I-8	Imperial / El Centro	1.51	East	0.13
1	IMP I-8	Imperial / El Centro	1.51	West	0.13
2	IMP SR-78	Imperial / Westmoreland	0.88	East	0.03
2	IMP SR-78	Imperial / Westmoreland	0.88	East	0.03
3	LA I-110	Los Angeles / Carson	1.98	North	0.59
3	LA I-110	Los Angeles / Carson	1.92	South	0.55
4	LA I-710	Los Angeles / Compton	1.34	North	0.59
4	LA I-710	Los Angeles / Compton	1.34	South	0.55
5	LA SR-60 DB	Los Angeles / Diamond Bar	3.14	East	0.76
5	LA SR-60 DB	Los Angeles / Diamond Bar	3.12	West	0.78
6	LA SR-60 SEM	Los Angeles / South El Monte	1.52	East	0.35
6	LA SR-60 SEM	Los Angeles / South El Monte	1.50	West	0.38
7	ORA I-5	Orange / Orange	1.32	North	0.29
7	ORA I-5	Orange / Orange	0.81	South	0.18
8	ORA I-405	Orange / Seal Beach	0.45	North	1.09
8	ORA I-405	Orange / Seal Beach	0.41	South	1.02
9	RIV I-10	Riverside / Banning	5.01	East	1.57
9	RIV I-10	Riverside / Banning	4.98	West	1.58
10	RIV I-15	Riverside / Temecula	4.81	North	1.02
10	RIV I-15	Riverside / Temecula	5.83	South	1.22
11	RIV SR-91	Riverside / Corona	2.01	East	0.59
11	RIV SR-91	Riverside / Corona	1.76	West	0.60
12	SB I-15 ONT	San Bernardino / Ontario	2.95	North	0.65

Table 2-6 (continued)

DPM Emission Estimates for Simulation 5: Intensified Land Use Alternative

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY / REGION	SEGMENT LENGTH (miles)	DIRECTION	PM₁₀ EMISSIONS (lbs/day)
12	SB I-15 ONT	San Bernardino / Ontario	2.97	South	0.66
13	SB I-15 VIC	San Bernardino / Victorville	4.32	North	0.92
13	SB I-15 VIC	San Bernardino / Victorville	4.39	South	0.94
14	SB SR-60	San Bernardino / Ontario	2.35	East	0.56
14	SB SR-60	San Bernardino / Ontario	2.22	West	0.45
15	VEN US-101 SB	Ventura / San Buenaventura	3.21	North	0.37
15	VEN US-101 SB	Ventura / San Buenaventura	3.26	South	0.38
16	VEN US-101 TO	Ventura / Thousand Oaks	0.79	North	0.14
16	VEN US-101 TO	Ventura / Thousand Oaks	0.94	South	0.16

2.4 RECEPTORS OF INTEREST

Health risk is assessed at locations where persons can be exposed to the emissions. These locations are termed receptors. Receptors are classified according to what persons may be doing at the location. The receptor types are residential, work, or sensitive. Sensitive receptors include day care centers, schools, and senior centers. Residential and worker receptors within 1000 meters of each transportation segment, starting about 100 meters away from the outer edge of the freeway, were determined based on aerial photos of the transportation segment. The 1000 meter criterion was used to sufficiently capture where the health impacts may be expected to occur. Sensitive receptors were identified from the TomTom and TeleAtlas databases, and there are over 100 sensitive receptors in the vicinity of the 16 study segments. All of the receptors are shown on Figures C-1 through C-16 (*Modeled Receptors Segments 1 through 16*) in Appendix C. In areas where there were multiple residences and possible worker locations, receptors were placed in a grid pattern with 100-meter spacing out to 500 meters from the transportation segment and 250-meter spacing out to 1000 meters. The receptors were placed at UTM coordinates at even-100 meter locations (e.g., UTM 330100, 3782400) so that the model results could be input into the HARP 2 risk assessment model if needed (see Section 3.3). Actual physical mean sea level elevation of the receptors was used in the dispersion model, with the elevation data obtained from U.S. Geological Survey (USGS) Digital Elevation Model/Geographic Information System (DEM/GIS) data.

In addition to individual actual receptors, two additional sets of hypothetical receptors were evaluated. Risk calculations were conducted for the maximum impact point based on an assumption that any of the various receptor types (e.g., resident, worker, school, day care center, senior center) could be located at the maximum impact point using Segment 8, ORA I-405 (Interstate 405 in the Seal Beach area). A set of hypothetical receptors was used to show how the potential health risk decreases rapidly with distance away from the transportation segment using Segment 4, LA I-710 in the Compton area and Simulation 1 – Existing Conditions (see Section 3.4). The hypothetical receptor analysis also accounts for the possibility that in some cases there may be actual receptors closer to the freeway than 100 meters.

2.5 ATMOSPHERIC DISPERSION MODELING AND IMPACT ASSESSMENT

The CARB-approved AERMOD dispersion model (Version 15181, as provided by BEE-Line Software, Version 11.01) was used and run with regulatory defaults as required by the Air Districts. The three primary inputs to the AERMOD model are the emissions, receptors, and meteorological data. Worst-case meteorological data provided by the relevant Air Districts (South

Coast, Ventura, Imperial) were used as shown in Table 2-7 (*Meteorological Data Used for Dispersion Modeling*). The meteorological data are selected and provided by the Air Districts to be used in the AERMOD model for all dispersion modeling. The calendar years of meteorological data provided by the Air Districts is not intended to match the calendar years in which a source is or will be emitting, as the Districts select a worst-case set of data to be used for all modeling in the District. The nearest representative meteorological station to each of the transportation segments was used.

Table 2-7

Meteorological Data Used for Dispersion Modeling

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY / REGION	METEOROLOGICAL DATA SITE	YEARS OF METEOROLOGICAL DATA
1	IMP I-8	Imperial / El Centro	Indio	2007, 08, 09, 10, 12
2	IMP SR-78	Imperial / Westmoreland	Indio	2007, 08, 09, 10, 12
3	LA I-110	Los Angeles / Carson	Long Beach	2007, 08, 09, 11, 12
4	LA I-710	Los Angeles / Compton	Lynnwood	2006, 07, 09
5	LA SR-60 DB	Los Angeles / Diamond Bar	Pomona	2008, 09, 10, 11, 12
6	LA SR-60 SEM	Los Angeles / South El Monte	Pico Rivera	2008, 09, 10, 11, 12
7	ORA I-5	Orange / Orange	Anaheim	2006, 07, 08, 09, 12
8	ORA I-405	Orange / Seal Beach	Long Beach	2007, 08, 09, 11, 12
9	RIV I-10	Riverside / Banning	Banning Airport	2008, 09, 10, 11, 12
10	RIV I-15	Riverside / Temecula	Lake Elsinore	2008, 09, 10, 11, 12
11	RIV SR-91	Riverside / Corona	La Habra	2008, 09, 10, 11, 12
12	SB I-15 ONT	San Bernardino / Ontario	Fontana	2008, 09, 10, 11, 12
13	SB I-15 VIC	San Bernardino / Victorville	San Bernardino	2007, 08, 09, 10, 11
14	SB SR-60	San Bernardino / Ontario	Upland	2008, 09, 10, 11, 12
15	VEN US-101 SB	Ventura / San Buenaventura	Reseda	2008, 09, 10, 11, 12
16	VEN US-101 TO	Ventura / Thousand Oaks	Reseda	2008, 09, 10, 11, 12

The transportation segments were modeled as a series of volume sources for each direction of the freeway. The volume sources are square in plan view (i.e., looking from above) with the width equal to the physical transportation segment width for each direction plus 3 meters to account for initial mechanical turbulence. Adding 3 meters to the volume source is standard practice per Caltrans and CARB modeling guidance for roadway dispersion modeling. To be conservative,

only one 3-meter addition was made (i.e., to the outside of the roadway) because in many cases the inside edge of the volume sources are adjacent (i.e., there is no median, only a concrete barrier separating the different directions). The release height for the emissions was also conservatively chosen as 2 meters to represent the average height of HDDT and other diesel-fueled vehicle exhausts. No elevated transportation segments were modeled (i.e., no overpasses or elevated or depressed on or off-ramps). Actual physical mean sea level elevation of the transportation segment volume sources was used, obtained from USGS DEM/GIS data.

In order to reduce computation time, a one-mile portion of the transportation segment was modeled. The modeled mile was chosen to encompass the most sensitive receptors. As discussed previously, a one-mile modeled portion of the transportation segment will yield the same maximum impact concentrations as a longer portion.

For purposes of the dispersion model, unit emission rates (i.e., 1 gram per second [g/sec]) for each direction were entered into the model. Thus, the dispersion model yields “relative impact concentrations” in terms of concentration per unit emission rate (micrograms per cubic meter / gram per second, or $\mu\text{g}/\text{m}^3 / \text{g}/\text{sec}$). The relative concentration ($\mu\text{g}/\text{m}^3 / \text{g}/\text{sec}$) can then be multiplied by the emission rate (g/sec) for the transportation segment to obtain the impact concentration ($\mu\text{g}/\text{m}^3$).

The maximum impact dispersion model results for each of the segments are shown in Appendix D and electronic copies of the model input.

2.6 HEALTH RISK ASSESSMENT

The DPM concentrations determined by the dispersion model at the receptors of interest were used to evaluate the potential carcinogenic risk of the five simulations. Cancer risk was used as a surrogate for all associated health risks since it is known that near major freeways and transportation corridors the greatest potential health effect is from DPM emissions and long term carcinogenesis (see Section 3.5).

As stated previously, only DPM emissions are estimated with the EMFAC emissions model, and there are an additional four major carcinogenic air toxics (i.e., acetaldehyde, benzene, 1,3-butadiene, and formaldehyde) that are emitted by vehicles. Other air toxics can be estimated using a US Environmental Protection Agency (USEPA) emissions model, MOVES2014. The MOVES2014 model replaces the previous USEPA emissions model for mobile sources called

MOBILE6.2a. The 2012-2035 PEIR⁵ demonstrated that 96.3 percent of the total cancer risk was due to DPM, with the additional four air toxics contributing only 3.7 percent. However, the 2012-2035 PEIR used the MOBILE6.2a emissions model. Therefore, an analysis was conducted to determine if the same ratio would result if the current MOVES2014 emissions model were used. The analysis showed that when the MOVES2014 emissions model is used, DPM was responsible for nearly 99 percent of the total risk from heavy duty diesel trucks and from 96.1 to 96.3 percent of the total risk for all vehicle classes⁶. Accordingly for purposes of the health risk assessment, the potential health risk calculated by using only DPM was conservatively increased by 5 percent to account for the additional air toxics of acetaldehyde, benzene, 1,3-butadiene, and formaldehyde (see Appendix E for further details).

2.6.1 Residential Cancer Risk

For a given ambient concentration of DPM, the potential cancer risk is a function of the types of persons exposed (adults, children, pregnant women, etc.) and the duration of exposure. The California Office of Environmental Health and Hazard Assessment (OEHHA) has published guidelines for calculating potential cancer risk. The most recent version of the guidelines, Air Toxic Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments dated February 2015⁷ (Guidance), was used to calculate the DPM cancer risk for each of the segments using the Guidance (see Appendix D). Consistent with the Guidance, potential cancer risk is calculated by first determining the dose of DPM and then multiplying the dose times the exposure duration and cancer potency factor, as shown in the following equation:

⁵ *Program Environmental Impact Report, op cit.* Appendix F.

⁶ Letter from James Dill and Russell Erbes to Mr. Eric Charlton dated February 3, 2015. Available from Mr. Eric Charlton, Sapphos Environmental, Inc.

⁷ *Air Toxic Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, February 2015. California Office of Environmental Health Hazard Assessment. Available at http://oehha.ca.gov/air/hot_spots/hotspots2015.html, last accessed September 2015.

Residential Dose (Guidance Equation 5.4.1):

$$\text{Dose-air} = C_{\text{air}} \times \{\text{BR/BW}\} \times A \times \text{EF} \times 10^{-6}$$

Where,

Dose-air = dose through inhalation, mg/kg/d (only the inhalation pathway is applicable to DPM)

C_{air} = annual average concentration of DPM at the receptor of interest, $\mu\text{g}/\text{m}^3$

{BR/BW} = Daily breathing rate normalized to body weight, L/kg body weight-day

A = Inhalation absorption factor, unitless, assumed equal to 1

EF = Exposure frequency, unitless, calculated from days exposure per 365 days

10^{-6} = conversion factor micrograms to milligrams and liters to cubic meters

The Guidance recommends that for residential exposure the EF is 350/365 and for {BR/BW} that the 95th percentile daily breathing rates should be used (Guidance Table 5.6). The 95th percentile breathing rates are as follows:

Third Trimester = 361 L/kg-day

0 to <2 years = 1090 L/kg-day

2 to <9 years = 861 L/kg-day

2 to <16 years = 745 L/kg-day

16 to <30 years = 335 L/kg-day

16 to <70 years = 290 L/kg-d

Residential Cancer Risk (Guidance Equation 8.2.4A)

$$\text{RISK}_{\text{inh-res}} = \text{Dose-air} \times \text{CPF} \times \text{ASF} \times \text{ED/AT} \times \text{FAH}$$

Where,

CPF = cancer potency factor, which for DPM is $1.1 (\text{mg}/\text{kg}/\text{day})^{-1}$

ASF = Age sensitivity factor, unitless

ED = Exposure Duration, years, for the specified age group

AT = Averaging Time for lifetime cancer risk, which is 70 years

FAH = Fraction of Time at Home, unitless

The Guidance recommends the following Age Sensitivity Factors (Guidance Table 8.3):

3rd Trimester	10
0 to <2 years	10
2 to <9 years	3
9 to <16 years	3
16 to <30 years	1
30 to <70 years	1

The Guidance recommends the following Fraction of Time at Home when there is a school within the 1 in a million cancer risk isopleth of the source, which is nearly always the case for freeways (Guidance Table 8.4):

3rd Trimester	1.0
0 to <2 years	1.0
2 to <9 years	1.0
9 to <16 years	1.0
16 to <30 years	0.73
30 to <70 years	0.73

When one combines the equation for Dose-air and for $RISK_{inh-res}$, the 30-year residential cancer risk is calculated as follows:

Residential 30-Year Exposure DPM Cancer Risk =

$$\begin{aligned}
 & [(C_{air} \times 361 \times 350/365 \times 10^{-6} \times 1.1 \times 10) \times (0.25 \text{ yrs} / 70 \text{ yrs}) \times 1.0]_{\text{third trimester}} + \\
 & [(C_{air} \times 1090 \times 350/365 \times 10^{-6} \times 1.1 \times 10) \times (2 \text{ yrs} / 70 \text{ yrs}) \times 1.0]_{0 \text{ to } <2 \text{ yrs}} + \\
 & [(C_{air} \times 745 \times 350/365 \times 10^{-6} \times 1.1 \times 3) \times (14 \text{ yrs} / 70 \text{ yrs}) \times 1.0]_{2 \text{ to } <16 \text{ yrs}} + \\
 & [(C_{air} \times 335 \times 350/365 \times 10^{-6} \times 1.1 \times 1) \times (14 \text{ yrs} / 70 \text{ yrs}) \times 0.73]_{16 \text{ to } <30 \text{ yrs}}
 \end{aligned}$$

The Guidance recommends that cancer risk be reported assuming 30-year exposure for residential receptors. The 30-year duration is the national 95th percentile of the duration that persons reside at one location. However, as a point of reference, the Guidance suggests that both 9-year exposure duration and 70-year exposure duration should be noted. A 70-year exposure assumes that a person never moves from the location he or she was born. The 9-year exposure represents the national median duration that a person resides in the same location. The 9-year and 70-year cancer risk is calculated as follows:

Residential 9-Year Exposure DPM Cancer Risk =

$$\begin{aligned}
 & [(C_{\text{air}} \times 361 \times 350/365 \times 10^{-6} \times 1.1 \times 10) \times (0.25 \text{ yrs} / 70 \text{ yrs}) \times 1.0]_{\text{third trimester}} + \\
 & [(C_{\text{air}} \times 1090 \times 350/365 \times 10^{-6} \times 1.1 \times 10) \times (2 \text{ yrs} / 70 \text{ yrs}) \times 1.0]_{0 \text{ to } <2 \text{ yrs}} + \\
 & [(C_{\text{air}} \times 861 \times 350/365 \times 10^{-6} \times 1.1 \times 3) \times (7 \text{ yrs} / 70 \text{ yrs}) \times 1.0]_{2 \text{ to } <9 \text{ yrs}}
 \end{aligned}$$

Residential 70-Year Exposure DPM Cancer Risk =

$$\begin{aligned}
 & [(C_{\text{air}} \times 361 \times 350/365 \times 10^{-6} \times 1.1 \times 10) \times (0.25 \text{ yrs} / 70 \text{ yrs}) \times 1.0]_{\text{third trimester}} + \\
 & [(C_{\text{air}} \times 1090 \times 350/365 \times 10^{-6} \times 1.1 \times 10) \times (2 \text{ yrs} / 70 \text{ yrs}) \times 1.0]_{0 \text{ to } <2 \text{ yrs}} + \\
 & [(C_{\text{air}} \times 745 \times 350/365 \times 10^{-6} \times 1.1 \times 3) \times (14 \text{ yrs} / 70 \text{ yrs}) \times 1.0]_{2 \text{ to } <16 \text{ yrs}} + \\
 & [(C_{\text{air}} \times 290 \times 350/365 \times 10^{-6} \times 1.1 \times 1) \times (54 \text{ yrs} / 70 \text{ yrs}) \times 0.73]_{16 \text{ to } <70 \text{ yrs}}
 \end{aligned}$$

To account for the additional air toxics, the DPM cancer risk was multiplied by a factor of 1.05 to arrive at the total risk.

2.6.2 Worker Cancer Risk

The same equations that are used for calculating residential cancer risk are used for calculating worker risk, however some of the parameters change to reflect worker versus residential exposure. For workers, it is assumed that a person works at the same place for 25 years, starting at age 16. It is also assumed the worker could be pregnant while working, so the third trimester exposure is included in the risk calculation. The 95th percentile breathing rates for residents are different than for workers, which for workers are 240 L/kg-day for the third trimester and 230 L/kg-day for age 16 to 70 (Guidance Section 5.4.1.2). No "Fraction of Time at Home" factor is used for workers; but the EF is assumed to be 5 days per week, 50 weeks per year, or 250 days out of 365. Accordingly, the worker cancer risk is calculated as follows:

Worker 25-Year Exposure DPM Cancer Risk =

$$\begin{aligned}
 & [(C_{\text{air}} \times 240 \times 250/365 \times 10^{-6} \times 1.1 \times 10) \times (0.25 \text{ yrs} / 70 \text{ yrs})]_{\text{third trimester}} + \\
 & [(C_{\text{air}} \times 230 \times 250/365 \times 10^{-6} \times 1.1 \times 1) \times (25 \text{ yrs} / 70 \text{ yrs})]_{16 \text{ to } <70 \text{ yrs}}
 \end{aligned}$$

The worker cancer risk formula applies to all types of workers, including workers who may be working at sensitive receptors such as day care centers. To account for the additional air toxics, the DPM cancer risk was multiplied by a factor of 1.05 to arrive at the total risk.

2.6.3 Day Care Center Children Cancer Risk

For children who attend a day care center, cancer risk is calculated similarly to residential with factors in the equations changed to reflect children and day care exposure. The Guidance recommends a breathing rate of 1200 L/kg-day for age 0 to <2 years and 640 L/kg-day for 2 to <9 years (Guidance Section 5.4.1.3) for children at day care centers. The duration is assumed to be 250 days per year for 6 years. The formula for day care center children cancer risk is as follows:

Day Care Center Children 6-year DPM Cancer Risk =

$$[(C_{\text{air}} \times 1200 \times 250/365 \times 10^{-6} \times 1.1 \times 10) \times (2 \text{ yrs} / 70 \text{ yrs})]_{0 \text{ to } <2 \text{ years}} + [(C_{\text{air}} \times 640 \times 250/365 \times 10^{-6} \times 1.1 \times 3) \times (4 \text{ yrs} / 70 \text{ yrs})]_{2 \text{ to } <6 \text{ yrs}}$$

To account for the additional air toxics, the DPM cancer risk was multiplied by a factor of 1.05 to arrive at the total risk.

2.6.4 School Children Cancer Risk

For children who attend elementary, middle or high school, cancer risk is calculated similarly to the day care center children. Elementary school duration is 7 years (kindergarten through sixth grade), middle school is 2 or 3 years (seventh through eighth or ninth grade) and high school is 3 or 4 years (ninth or tenth grade through twelfth grade). The longest duration and the largest Age Sensitivity Factors occur for elementary school, and thus elementary school exposure was used as the worst-case. It was assumed that children attend school 5 days per week for 36 weeks less 3 weeks of vacation, or 165 days per year. The Guidance recommends a school children breathing rate of 520 L/kg-day (Guidance Section 5.4.1.3). A worst case calculation was used for all school children as follows:

School Children 7-year DPM Cancer Risk =

$$[(C_{\text{air}} \times 520 \times 165/365 \times 10^{-6} \times 1.1 \times 3) \times (7 \text{ yrs} / 70 \text{ yrs})]_{2 \text{ to } <16 \text{ years}}$$

To account for the additional air toxics, the DPM cancer risk was multiplied by a factor of 1.05 to arrive at the total risk.

2.6.5 Senior Center Cancer Risk

The cancer risk for senior center residents was calculated similarly to the residential cancer risk, although it was assumed that a senior center resident did not arrive at the center full time until the person was over the age of 30 and that a person would not reside at the same senior center for more than 30 years. It was also conservatively assumed that the person never left the senior center, so the Exposure Frequency was continuous over 365 days and there is no Fraction of Time at Home factor. The risk was calculated as follows:

Senior Center 30-Year Exposure DPM Cancer Risk =

$$[(C_{\text{air}} \times 290 \times 365/365 \times 10^{-6} \times 1.1 \times 1) \times (30 \text{ yrs} / 70 \text{ yrs})]_{30 \text{ to } <70 \text{ yrs}}$$

To account for the additional air toxics, the DPM cancer risk was multiplied by a factor of 1.05 to arrive at the total risk.

2.6.6 Hot Spots Analysis and Reporting Program (HARP)

CARB has published a computer model that can automatically calculate the cancer risk for residential and worker exposures. This program is called the Hot Spots Analysis and Reporting Program Version 2 (HARP 2). The above equations were for the inhalation pathway only, but it is easy to see that calculating cancer risk for chemicals that have multi-pathway exposures can become quite complex. Therefore, HARP 2 automates the calculations using the above equations and additional equations for all chemicals and pathways. Some regulatory agencies require air toxic health risk assessments be conducted with HARP 2. For DPM, HARP 2 will yield the same results (accounting for round-off differences) as the above equations. To confirm that the spreadsheet calculations performed in this health risk assessment match the results that would be obtained with HARP 2, the HARP 2 model was run for one of the transportation segments and the results compared to the spreadsheet calculations as discussed in Section 3.3.

3 HEALTH RISK ASSESSMENT RESULTS

3.1 MAXIMUM RESIDENTIAL AND WORKER RISKS

The maximum exposed individual resident (MEIR) and the maximum exposed individual worker risk results for each of the segments for each of the evaluated simulations are summarized in Tables 3-1 through 3-4 (*Maximum Exposed Individual Residential Cancer Risk for 30-year, 9-year, and 70-year Exposure*, respectively). The calculated results include the 5 percent increase to DPM-only risk to account for additional air toxics, which include acetaldehyde, benzene, 1,3-butadiene, and formaldehyde. The results are expressed as the incremental cancer risk per million exposed persons. The residential risk for Simulations 2 through 5 ranges from 93 in a million to 9 in a million cancer risk for 30-year exposure (Table 3-1), 66 in a million to 6 in a million cancer risk for 9-year exposure (Table 3-2), and 106 in a million to 10 in a million cancer risk for 70-year exposure (Table 3-3). The exposed worker risk for Simulations 2 through 5 ranges from 7 in a million to 1 in a million cancer risk (Table 3-4). Risk calculation details are provided in Appendix D, and output files showing all of the receptor concentrations are contained in Appendix F.

Table 3-1

**Maximum Exposed Individual Residential 30-year Exposure Cancer Risk
(cancer risk per million exposed persons)**

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY/ REGION	SIMULATION 1 (EXISTING CONDITIONS)	SIMULATION 2 (NO PROJECT ALTERNATIVE)	SIMULATION 3 (PROPOSED PROJECT)	SIMULATION 4 (2012 RTP/SCS WITH LOCAL INPUT ALTERNATIVE)	SIMULATION 5 (INTENSIFIED LAND USE ALTERNATIVE)
1	IMP I-8	Imperial / El Centro	125	44	19	19	18
2	IMP SR-78	Imperial / Westmoreland	82	64	9	9	9
3	LA I-110	Los Angeles / Carson	664	62	46	45	45
4	LA I-710	Los Angeles / Compton	847	58	55	55	54
5	LA SR-60 DB	Los Angeles / Diamond Bar	1,101	93	60	60	60
6	LA SR-60 SEM	Los Angeles / South El Monte	763	55	44	43	43
7	ORA I-5	Orange / Orange	455	40	33	32	33
8	ORA I-405	Orange / Seal Beach	1,142	81	78	78	78
9	RIV I-10	Riverside / Banning	152	15	15	15	14
10	RIV I-15	Riverside / Temecula	366	27	38	38	38
11	RIV SR-91	Riverside / Corona	937	64	55	56	56
12	SB I-15 ONT	San Bernardino / Ontario	236	46	25	25	25
13	SB I-15 VIC	San Bernardino / Victorville	524	48	64	64	62
14	SB SR-60	San Bernardino / Ontario	125	44	39	39	47
15	VEN US-101 SB	Ventura / San Buenaventura	82	12	11	11	11
16	VEN US-101 TO	Ventura / Thousand Oaks	664	54	48	48	45

Table 3-2

**Maximum Exposed Individual Residential 9-year Exposure Cancer Risk
(cancer risk per million exposed persons)**

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY/ REGION	SIMULATION 1 (EXISTING CONDITIONS)	SIMULATION 2 (NO PROJECT ALTERNATIVE)	SIMULATION 3 (PROPOSED PROJECT)	SIMULATION 4 (2012 RTP/SCS WITH LOCAL INPUT ALTERNATIVE)	SIMULATION 5 (INTENSIFIED LAND USE ALTERNATIVE)
1	IMP I-8	Imperial / El Centro	89	32	13	13	13
2	IMP SR-78	Imperial / Westmoreland	58	45	6	6	6
3	LA I-110	Los Angeles / Carson	471	44	33	32	32
4	LA I-710	Los Angeles / Compton	602	41	39	39	40
5	LA SR-60 DB	Los Angeles / Diamond Bar	782	66	42	43	43
6	LA SR-60 SEM	Los Angeles / South El Monte	542	39	31	31	31
7	ORA I-5	Orange / Orange	323	28	23	23	23
8	ORA I-405	Orange / Seal Beach	811	58	56	55	56
9	RIV I-10	Riverside / Banning	108	11	11	10	10
10	RIV I-15	Riverside / Temecula	260	19	27	27	27
11	RIV SR-91	Riverside / Corona	665	46	39	40	39
12	SB I-15 ONT	San Bernardino / Ontario	168	32	18	18	17
13	SB I-15 VIC	San Bernardino / Victorville	372	34	46	45	44
14	SB SR-60	San Bernardino / Ontario	576	32	28	28	33
15	VEN US-101 SB	Ventura / San Buenaventura	117	9	8	8	8
16	VEN US-101 TO	Ventura / Thousand Oaks	591	39	34	34	32

Table 3-3

**Maximum Exposed Individual Residential 70-year Exposure Cancer Risk
(cancer risk per million exposed persons)**

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY/ REGION	SIMULATION 1 (EXISTING CONDITIONS)	SIMULATION 2 (NO PROJECT ALTERNATIVE)	SIMULATION 3 (PROPOSED PROJECT)	SIMULATION 4 (2012 RTP/SCS WITH LOCAL INPUT ALTERNATIVE)	SIMULATION 5 (INTENSIFIED LAND USE ALTERNATIVE)
1	IMP I-8	Imperial / El Centro	143	51	21	21	21
2	IMP SR-78	Imperial / Westmoreland	94	73	10	10	10
3	LA I-110	Los Angeles / Carson	756	71	53	52	52
4	LA I-710	Los Angeles / Compton	965	66	63	63	62
5	LA SR-60 DB	Los Angeles / Diamond Bar	1,255	106	68	68	69
6	LA SR-60 SEM	Los Angeles / South El Monte	870	63	50	49	49
7	ORA I-5	Orange / Orange	518	46	37	37	37
8	ORA I-405	Orange / Seal Beach	1,302	93	89	89	89
9	RIV I-10	Riverside / Banning	173	17	17	17	16
10	RIV I-15	Riverside / Temecula	418	31	43	43	43
11	RIV SR-91	Riverside / Corona	1,067	73	63	64	63
12	SB I-15 ONT	San Bernardino / Ontario	269	52	29	29	28
13	SB I-15 VIC	San Bernardino / Victorville	598	55	73	73	71
14	SB SR-60	San Bernardino / Ontario	923	51	44	45	54
15	VEN US-101 SB	Ventura / San Buenaventura	188	14	13	13	12
16	VEN US-101 TO	Ventura / Thousand Oaks	949	62	55	54	51

Table 3-4

**Maximum Exposed Individual Worker Cancer Risk
(cancer risk per million exposed persons)**

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY/ REGION	SIMULATION 1 (EXISTING CONDITIONS)	SIMULATION 2 (NO PROJECT ALTERNATIVE)	SIMULATION 3 (PROPOSED PROJECT)	SIMULATION 4 (2012 RTP/SCS WITH LOCAL INPUT ALTERNATIVE)	SIMULATION 5 (INTENSIFIED LAND USE ALTERNATIVE)
1	IMP I-8	Imperial / El Centro	8	3	1	1	1
2	IMP SR-78	Imperial / Westmoreland	9	7	1	1	1
3	LA I-110	Los Angeles / Carson	52	5	4	4	4
4	LA I-710	Los Angeles / Compton	33	2	2	2	2
5	LA SR-60 DB	Los Angeles / Diamond Bar	62	5	3	3	3
6	LA SR-60 SEM	Los Angeles / South El Monte	56	4	3	3	3
7	ORA I-5	Orange / Orange	22	2	2	2	2
8	ORA I-405	Orange / Seal Beach	47	3	3	3	3
9	RIV I-10	Riverside / Banning	23	2	2	2	2
10	RIV I-15	Riverside / Temecula	48	4	5	5	5
11	RIV SR-91	Riverside / Corona	78	5	5	5	5
12	SB I-15 ONT	San Bernardino / Ontario	19	4	2	2	2
13	SB I-15 VIC	San Bernardino / Victorville	22	2	3	3	3
14	SB SR-60	San Bernardino / Ontario	63	3	3	3	4
15	VEN US-101 SB	Ventura / San Buenaventura	27	2	2	2	2
16	VEN US-101 TO	Ventura / Thousand Oaks	46	3	3	3	3

The 30-year exposure residential cancer risk is greater than the worker cancer risk in all segments and evaluation simulations (Tables 3-2 and 3-4). The largest MEIR cancer risk occurs for Segment 8, ORA I-405. For this transportation segment, Simulation 1 (Existing Conditions) causes the greatest cancer risk, and Simulation 4 (2012 RTP/SCS Update with Local Input Alternative) causes the least cancer risk. For 30-year maximum residential exposure at the ORA I-405 transportation segment, Simulation 4 is about 8 percent of the Simulation 1.

The 9-year exposure cancer risk is about 30 percent less than the 30-year exposure cancer risk (Tables 3-1 and 3-2). The 70-year exposure cancer risk is about 14 percent greater than the 30-year exposure cancer risk (Tables 3-1 and 3-3).

3.2 MAXIMUM SENSITIVE RECEPTOR RISKS

Three types of sensitive receptors were evaluated where the calculation of risk differs from a residential or a worker receptor: day care centers, schools, and senior centers. Other sensitive receptors such as churches and hospitals were represented either by a worker receptor (e.g., the risk to hospital workers or church workers are the same as other workers) or the duration of exposure is much less than at a senior center (e.g., patients at a hospital do not stay in the hospital for 30 years as it was assumed for senior centers and persons attending church spend much less time at church than at home). The risks associated with these receptors is shown in Tables 3-5 through 3-7 (*Maximum Exposed Cancer Risk [cancer risk per million exposed persons] for Day Care Center Children, School Children, and Senior Center, respectively*)

The risk at all other sensitive receptors are the same or less than those shown in the tables. It is important to note that not all segments had all three types of sensitive receptors present within 1000 meters of the transportation segment. In that case, an entry of "NR" (no receptor) was made in the tables.

Table 3-5
Maximum Exposed Day Care Center Children Risk
(cancer risk per million exposed persons)

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY/ REGION	SIMULATION 1 (EXISTING CONDITIONS)	SIMULATION 2 (NO PROJECT ALTERNATIVE)	SIMULATION 3 (PROPOSED PROJECT)	SIMULATION 4 (2012 RTP/SCS WITH LOCAL INPUT ALTERNATIVE)	SIMULATION 5 (INTENSIFIED LAND USE ALTERNATIVE)
1	IMP I-8	Imperial / El Centro	18	6	3	3	3
2	IMP SR-78	Imperial / Westmoreland	20	16	2	2	2
3	LA I-110	Los Angeles / Carson	29	3	2	2	2
4	LA I-710	Los Angeles / Compton	90	6	6	6	6
5	LA SR-60 DB	Los Angeles / Diamond Bar	236	20	13	3	13
6	LA SR-60 SEM	Los Angeles / South El Monte	46	3	3	3	3
7	ORA I-5	Orange / Orange	31	3	2	2	2
8	ORA I-405	Orange / Seal Beach	NR	NR	NR	NR	NR
9	RIV I-10	Riverside / Banning	26	3	3	3	3
10	RIV I-15	Riverside / Temecula	81	6	8	8	8
11	RIV SR-91	Riverside / Corona	NR	NR	NR	NR	NR
12	SB I-15 ONT	San Bernardino / Ontario	NR	NR	NR	NR	NR
13	SB I-15 VIC	San Bernardino / Victorville	51	4	6	6	6
14	SB SR-60	San Bernardino / Ontario	57	3	3	3	3
15	VEN US-101 SB	Ventura / San Buenaventura	13	1	1	1	1
16	VEN US-101 TO	Ventura / Thousand Oaks	132	9	8	8	7

NR = No sensitive receptor of this type located within 1000 meters of the transportation segment.

Table 3-6

**Maximum Exposed School Children Cancer Risk
(cancer risk per million exposed persons)**

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY/ REGION	SIMULATION 1 (EXISTING CONDITIONS)	SIMULATION 2 (NO PROJECT ALTERNATIVE)	SIMULATION 3 (PROPOSED PROJECT)	SIMULATION 4 (2012 RTP/SCS WITH LOCAL INPUT ALTERNATIVE)	SIMULATION 5 (INTENSIFIED LAND USE ALTERNATIVE)
1	IMP I-8	Imperial / El Centro	2	1	0.3	0.3	0.3
2	IMP SR-78	Imperial / Westmoreland	3	2	0.3	0.3	0.3
3	LA I-110	Los Angeles / Carson	34	3	2	2	2
4	LA I-710	Los Angeles / Compton	33	2	2	2	2
5	LA SR-60 DB	Los Angeles / Diamond Bar	20	2	1	1	1
6	LA SR-60 SEM	Los Angeles / South El Monte	18	1	1	1	1
7	ORA I-5	Orange / Orange	3	0.3	0.2	0.2	0.2
8	ORA I-405	Orange / Seal Beach	NR	NR	NR	NR	NR
9	RIV I-10	Riverside / Banning	5	1	1	1	1
10	RIV I-15	Riverside / Temecula	39	3	4	4	4
11	RIV SR-91	Riverside / Corona	NR	NR	NR	NR	NR
12	SB I-15 ONT	San Bernardino / Ontario	NR	NR	NR	NR	NR
13	SB I-15 VIC	San Bernardino / Victorville	18	2	2	2	2
14	SB SR-60	San Bernardino / Ontario	13	1	1	1	1
15	VEN US-101 SB	Ventura / San Buenaventura	9	1	1	1	1
16	VEN US-101 TO	Ventura / Thousand Oaks	40	3	2	2	2

NR = No sensitive receptor of this type located within 1000 meters of the transportation segment.

Table 3-7

**Maximum Exposed Senior Center Cancer Risk
(cancer risk per million exposed persons)**

SEG. NO.	TRANSPORTATION SEGMENT	COUNTY/ REGION	SIMULATION 1 (EXISTING CONDITIONS)	SIMULATION 2 (NO PROJECT ALTERNATIVE)	SIMULATION 3 (PROPOSED PROJECT)	SIMULATION 4 (2012 RTP/SCS WITH LOCAL INPUT ALTERNATIVE)	SIMULATION 5 (INTENSIFIED LAND USE ALTERNATIVE)
1	IMP I-8	Imperial / El Centro	NR	NR	NR	NR	NR
2	IMP SR-78	Imperial / Westmoreland	8	6	1	1	1
3	LAI-110	Los Angeles / Carson	21	2	2	1	1
4	LAI-710	Los Angeles / Compton	10	1	1	1	1
5	LA SR-60 DB	Los Angeles / Diamond Bar	NR	NR	NR	NR	NR
6	LA SR-60 SEM	Los Angeles / South El Monte	12	1	1	1	1
7	ORA I-5	Orange / Orange	18	2	1	1	1
8	ORA I-405	Orange / Seal Beach	NR	NR	NR	NR	NR
9	RIV I-10	Riverside / Banning	36	4	4	3	3
10	RIV I-15	Riverside / Temecula	NR	NR	NR	NR	NR
11	RIV SR-91	Riverside / Corona	NR	NR	NR	NR	NR
12	SB I-15 ONT	San Bernardino / Ontario	NR	NR	NR	NR	NR
13	SB I-15 VIC	San Bernardino / Victorville	NR	NR	NR	NR	NR
14	SB SR-60	San Bernardino / Ontario	NR	NR	NR	NR	NR
15	VEN US-101 SB	Ventura / San Buenaventura	27	2	2	2	2
16	VEN US-101 TO	Ventura / Thousand Oaks	17	1	1	1	1

NR = No sensitive receptor of this type located within 1000 meters of the transportation segment.

Tables 3-5 through 3-7 show that sensitive receptor cancer risk is always less than the MEIR cancer risk shown in Table 3-1 for all segments and evaluation simulations. The largest sensitive receptor cancer risk value occurs for Segment 5, LA SR-60 DB for the day care center type of sensitive receptor. For this receptor, Simulation 1 – Existing Conditions causes the greatest cancer risk and Simulation 4 – 2012 RTP/SCS with Local Input Alternatives, the least risk. The maximum sensitive receptor risk for existing conditions is at a day care center near the LA SR-60 DB, where the risk for Simulation 4 is about 1.3 percent of the risk for Simulation 1.

3.3 HARP 2 MODEL RESULTS

The HARP 2 risk assessment model was used to verify the workbook risk calculations prepared using one segment and simulation for comparison; Segment 8, Interstate 405 in the Seal Beach area (ORA I-405) and Evaluation Simulation 1 – Existing Conditions was randomly chosen. The results for the MEIR compared to the spreadsheet calculation results are shown in Table 3-8 (*Comparison of HARP 2 and Spreadsheet Calculation Results*). The spreadsheet calculation results come from Tables 3-1, 3-2, and 3-3 and the HARP 2 electronic copies of the HARP 2 model results are contained in Appendix F. Table 3-8 demonstrates that the calculation procedures used herein match the HARP 2 model results within round-off differences and the spreadsheet calculations are slightly greater than the HARP 2 results. Both the HARP 2 and spreadsheet calculation risk for DPM shown in Table 3-8 were increased by 5 percent to account for the additional air toxics of acetaldehyde, benzene, 1,3-butadiene, and formaldehyde.

Table 3-8

Comparison of HARP 2 and Spreadsheet Calculation Results

RESIDENTIAL EXPOSURE DURATION	HARP 2 CANCER RISK (per million)	CALCULATION USED HEREIN CANCER RISK (per million)	PERCENT DIFFERENCE OVER HARP 2
30-Year	935	939	+0.4%
9-year	665	667	+0.3%
70-year	1,060	1,070	+0.9%

3.4 MAXIMUM HYPOTHETICAL RECEPTOR RISKS

Two sets of hypothetical receptors were evaluated for two of the Transportation Segments.

The first set of hypothetical receptors was to assume that any receptor type could be located at the maximum impact point for Segment 8, ORA I-405 (Interstate 405 in the Seal Beach area). This maximum impact point was chosen as it was the highest risk receptor from any of the transportation segments. The maximum impact point was actually a residence, but hypothetically, there could be a worker receptor, a day care center, a school, or a senior center at such a receptor. In order to evaluate the range of possible risk, the risk for each of those receptor types was calculated assuming that the concentration was the maximum of any of the modeled receptors. The results are shown in Table 3-9 (Hypothetical Maximum Impact for Any Receptor Type [cancer risk per million exposed persons]).

Table 3-9

**Hypothetical Maximum Impact for Any Receptor Type
(cancer risk per million exposed persons)**

RECEPTOR TYPE	SIMULATION 1 (EXISTING CONDITIONS)	SIMULATION 2 (NO PROJECT ALTERNATIVE)	SIMULATION 3 (PROPOSED PROJECT)	SIMULATION 4 (2012 RTP/SCS WITH LOCAL INPUT ALTERNATIVE)	SIMULATION 5 (INTENSIFIED LAND USE ALTERNATIVE)
30-year Residential	1,142	81	78	78	78
Worker	90	6	6	6	6
Day Care Center Children	450	32	31	31	31
School Children	102	7	7	7	7
Senior Center	180	13	12	12	12

The results in Table 3-9 indicate 1) that the maximum risk for any receptor in the SCAG Region for any of the Simulations 2 through 5, is on the order of less than 10 percent when compared to Simulation 1- Existing Conditions and 2) that residential risk is always greater than the other risk types.

The second set of hypothetical receptors evaluated was to assume that there is a residential receptor every 100 meters away from a transportation segment out to a distance of 1300 meters. The purpose of this analysis is to show how quickly the potential cancer risk decreases with

distance away from the transportation segment. For this analysis, Segment 4, LA I-710 in the Compton area, and Simulation 1 – Existing Conditions, was evaluated assuming that there were residential receptors starting at 25 meters from the freeway edge, 50 meters, 100 meters, and then every 100 meters out to 1300 meters away from the freeway. The results of the analysis are shown in Table 3-10 (*Hypothetical Maximum Impact for 30-year Residential Receptors as a Function of Distance for Existing Conditions and LA I-710 [cancer risk per million exposed persons]*). This analysis assumed residential receptors because for a given impact concentration residential cancer risk is the largest of any receptor type.

Table 3-10

**Hypothetical Maximum Impact for 30-year Residential Receptors
as a Function of Distance for Existing Conditions and LA I-710
(cancer risk per million exposed persons)**

DISTANCE FROM FREEWAY (meters)	MAXIMUM IMPACT CONCENTRATION (ug/m³)	ASSUMED MEIR CANCER RISK HRA SIMULATION 1 (DPM + 5% for other chemicals)	RATIO OF ASSUMED MEIR CANCER RISK TO RISK MODELED AT 100 METERS
25*	2.264	2,058	2.43
50*	1.463	1,330	1.57
100	0.932	847	1.00
200	0.516	469	0.55
300	0.349	317	0.37
400	0.257	234	0.28
500	0.199	181	0.21
600	0.160	145	0.17
700	0.131	119	0.14
800	0.110	100	0.12
900	0.0933	85	0.10
1000	0.0804	73	0.09
1100	0.0701	64	0.08
1200	0.0618	56	0.07
1300	0.0549	50	0.06

*Note that the AERMOD model was run only for 100-meter spacing, so the 25 and 50-meter results were interpolated using the exponential form of dispersion. The interpolation is based on Figure 1-1 of the CARB Air Quality and Land Use Handbook.⁸

Table 3-10 shows that potential cancer risk rapidly decreases with distance away from the freeway. The potential cancer risk to a resident 500 meters away from the freeway is only 21 percent of the risk at 100 meters and less than a tenth the risk at 25 meters. The ratios shown in Table 3-10 can be used to evaluate potential hypothetical receptors for other freeways as well.

⁸ *Air Quality and Land Use Handbook, April 2005. California Air Resources Board.*

This is because dispersion very near (i.e., a few hundred meters or less) an emission source (i.e., the freeway) is nearly independent of meteorological conditions.

3.5 HEALTH RISK COMPARISON TO THE 2012-2035 RTP/SCS PEIR

As stated, eight of the transportation segments evaluated were the same segments that were evaluated in the 2012-2035 RTP/SCS PEIR. Table 3-11 shows the residential health risks presented in the 2012-2035 RTP/SCS PEIR for the 2035 Preferred Plan compared to the No Project Alternative. The cancer risk shown in Table 3-11 (*Health Risk Comparison to the 2012-2035 RTP/SCS PEIR*) is a 70-year residential risk because the 2012-2035 RTP/SCS PEIR risk assessment methodology was based on 70-year exposure. The residential cancer risk for the No Project Alternative has decreased from the 2012-2035 RTP/SCS PEIR.

Table 3-11

Health Risk Comparison to the 2012-2035 RTP/SCS PEIR

SEG NO.	TRANSPORTATION SEGMENT	COUNTY / REGION	2012-2035 RTP/SCS PEIR RESIDENTIAL 70-YEAR CANCER RISK (per million)	NO PROJECT ALTERNATIVE RESIDENTIAL 70-YEAR CANCER RISK (per million)
1	IMP I-8	Imperial / El Centro	399	51
4	LA I-710	Los Angeles / Compton	475	66
5	LA SR-60 DB	Los Angeles / Diamond Bar	536	106
8	ORA I-405	Orange / Seal Beach	462	93
11	RIV SR-91	Riverside / Corona	668	73
12	SB I-15 ONT	San Bernardino / Ontario	354	52
14	SB SR-60	San Bernardino / Ontario	714	51
16	VEN US-101 TO	Ventura / Thousand Oaks	199	72

The differences shown in Table 3-11 are due to two primary reasons. First, the emission factors for HDDT projected by the current version of the EMFAC model for 2040 are much less (on the order of 95 percent less) than the emission factors used in the 2012-2035 RTP/SCS PEIR for 2035. The emission factors from the previous version of EMFAC used for the 2012-2035 PEIR did not account for the dramatic decrease in diesel emissions as a result of the CARB diesel exhaust reduction program and the effectiveness of the new DPM control technologies. Secondly, the vehicle mileage projected by the current SCAG transportation demand model is different than

what was projected in the 2012-2035 RTP/SCS PEIR because a more updated 2012 Base Year transportation network is being used for this 2016 RTP/SCS. As noted above, this 2012 Base Year transportation network includes the transportation projects included in the 2015 FTIP, adopted in September 2014, and transportation projects in the 2012-2035 RTP/SCS as amended in September 2014. For example, the HD VMT for Segment 8, ORA I-405 was projected in the 2012-2035 RTP/SCS PEIR to be about 50,000 miles per day in 2035, while the current model for the No Project Alternative predicts about 68,000 miles per day in 2040 for heavy duty diesel truck traffic. The combined result of these differences show a decrease in the overall risk to residential, worker and sensitive receptors in the current predictions when compared with the previous analysis.

3.6 ADDITIONAL HEALTH RISKS FROM VEHICLE EMISSIONS

For this analysis, cancer risk was used as a surrogate for all of the potential health effects related to vehicle emissions. Vehicles emit many additional pollutants in addition to DPM, including criteria pollutants, the aforementioned key air toxics (i.e., acetaldehyde, benzene, 1,3-butadiene, formaldehyde), and other minor air toxic emissions. These compounds cause not only potential carcinogenic health effects but also non-carcinogenic acute (short-term) and chronic (long-term) health effects to the respiratory system, central nervous system, eyes, and immune system, and others. The non-carcinogenic effects are assessed by comparing the impact concentration to published Reference Exposure Levels (RELs). If the impact concentration is less than the REL, then potential non-carcinogenic health effects are not likely to occur. For vehicle emissions, the potential for carcinogenic effects is much greater than for non-cancer effects. This is most easily illustrated through examination of the REL for diesel exhaust. The REL for diesel exhaust published by CARB⁹ is 5 ug/m³. This is a chronic REL. If a person were exposed to diesel exhaust particulate at a chronic concentration of 5 ug/m³, the residential cancer risk would be 4,000 in a million; a value much greater than the modeled cancer risk due to vehicle traffic on the worst-case transportation segments. Therefore, potential cancer risk is an adequate surrogate for all of the potential health effects due to vehicle emissions.

3.7 OTHER RISK ASSESSMENTS IN THE SOUTH COAST BASIN

The cancer risk calculated for the 16 transportation segments can be compared to other regional estimates of cancer risk. One of the most comprehensive such studies is the Multiple Air Toxics

⁹ OEHHA Toxicity Criteria Database, Diesel Exhaust Particulate as of September 11, 2015. Available at <http://oehha.ca.gov/tcdb/index.asp>.

Exposure Study in the South Coast Air Basin, May 2015 (MATES-IV)¹⁰ The MATES-IV study estimated basin-wide average cancer risk with actual monitored data at 10 sites in calendar year 2012. The basin-wide cancer risk calculated from the 2012 monitoring data and using the current (2015) risk assessment methodology (the same methodology used herein) for 30-year residential exposure was 1,023 in a million¹¹ caused mostly by DPM. The MATES-IV study also showed that cancer risk was greatest near major freeways and transportation corridors¹². Note that the MATES-IV study did not estimate future (2040) risk, but due to the dramatic reduction in DPM emissions from HDDT, the basin-wide cancer risk should be much less than found in 2015.

¹⁰ *Final Report, Multiple Air Toxics Exposure Study in the South Coast Air Basin, MATES-IV, May 2015.* South Coast Air Quality Management District, available at <http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies>, last accessed September 2015.

¹¹ *Ibid.*, Page 4-23.

¹² *Ibid.*, Page 4-24.

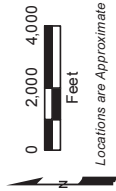
APPENDIX A

Location of Selected Transportation Segments



Interstate 8 just east of El Centro (Imperial County)

Imperial County



LEGEND

- 2040 SC2, SC3, SC3B County Boundary
- 2040 BL
- 2012 BY

Basemap: World Street Map via ESRI Map Service

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SEGMENT DETAIL MAP
 IMP I-8

Diesel Exhaust Health Risk Assessment
 Southern California Association of Governments
 Regional Transportation Plan

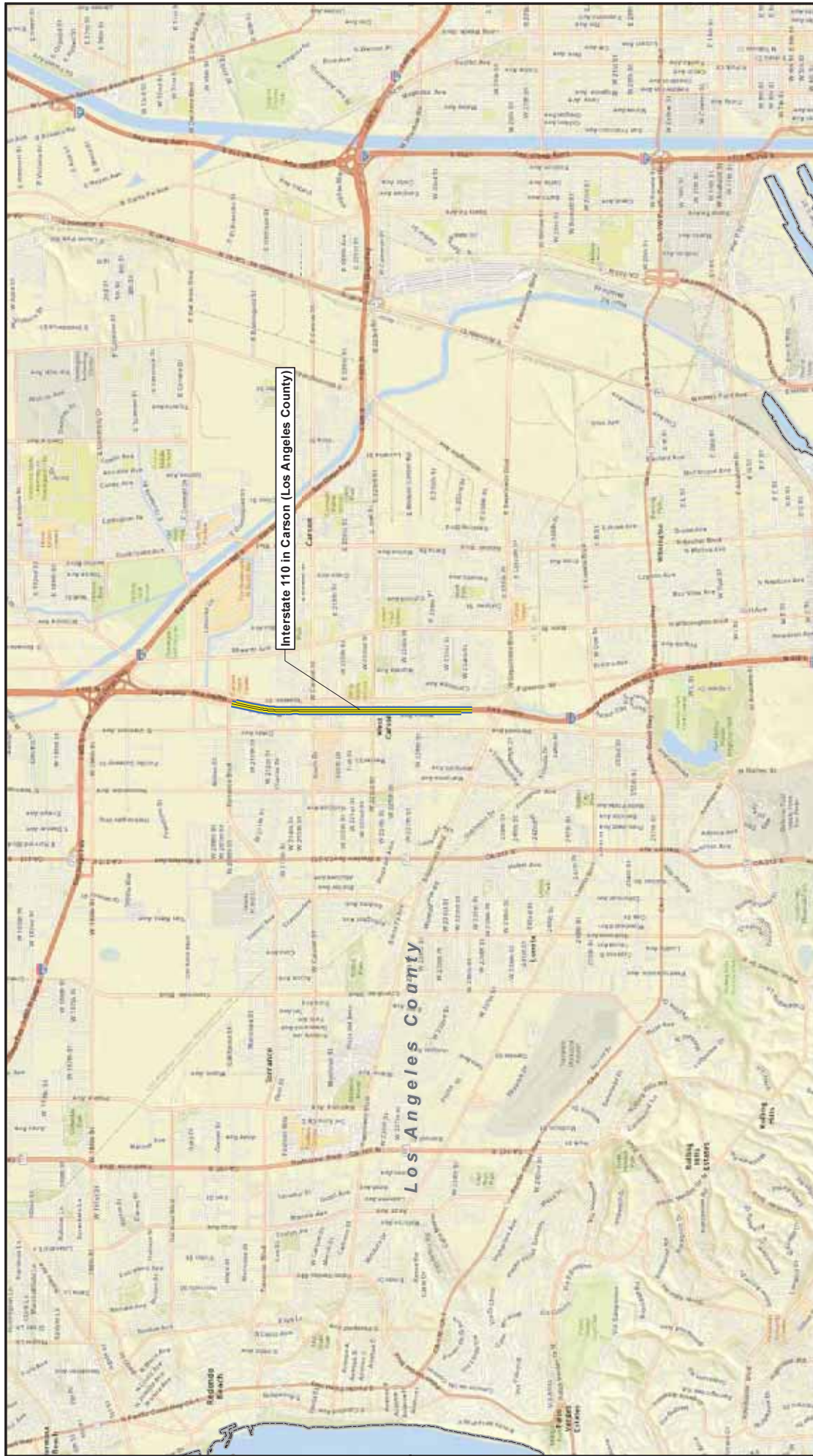
FIGURE

A-1



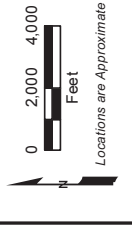
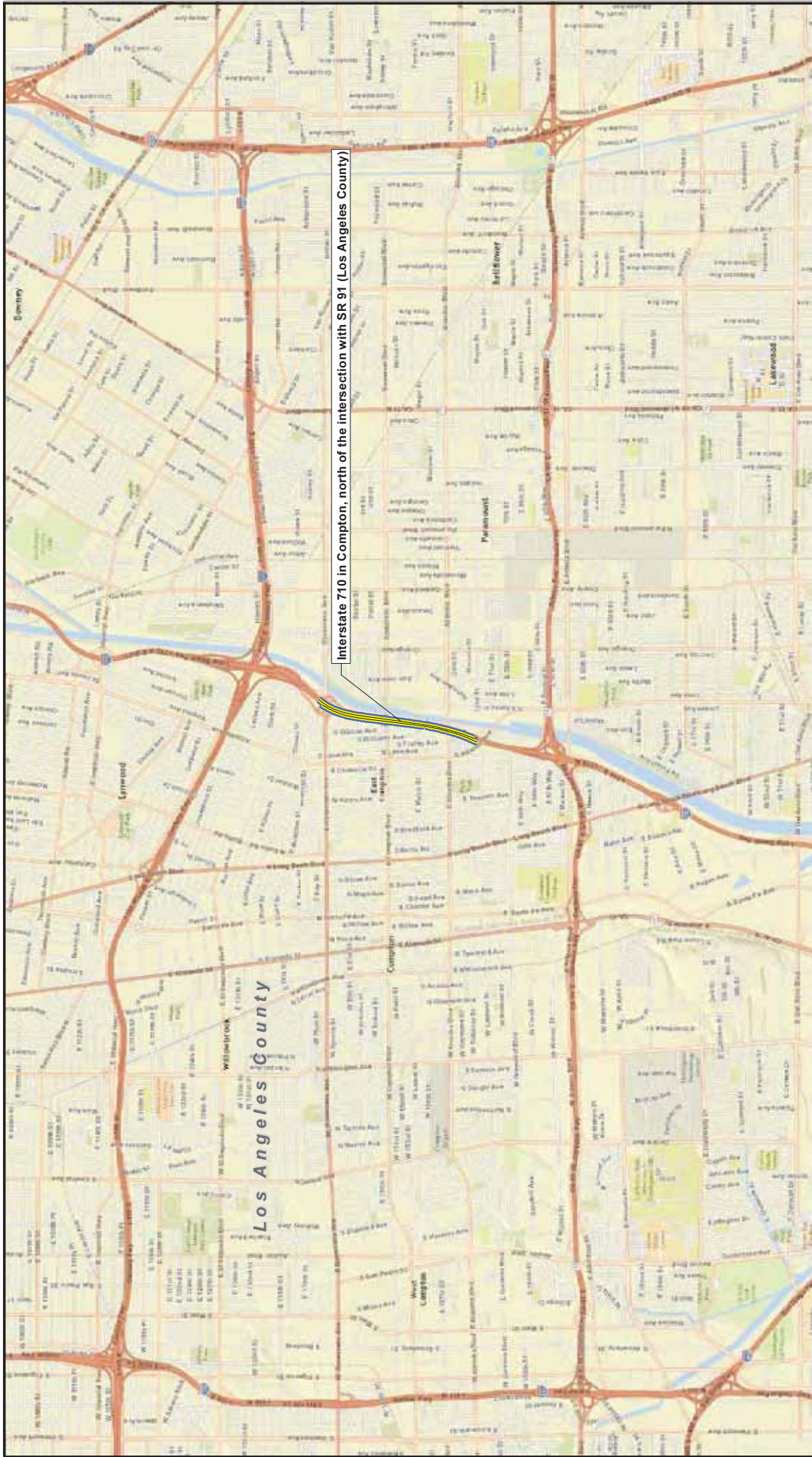
State Road 78 Freeway in Westmorland (Imperial County)

	<p>LEGEND</p> <ul style="list-style-type: none"> — 2040 SC2, SC3, SC3B County Boundary — 2040 BL — 2012 BY <p>Basemap: World Street Map via ESRI Map Service</p>	<p>The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. KLEINFELDER makes no representations or warranties, express or implied, as to the accuracy, completeness, or reliability of the information contained in this graphic representation. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.</p>		<p>PROJECT NO.: 20194370 DRAWN: OCT 2015 DRAWN BY: K.HAGAN CHECKED BY: R. ERBES FILE NAME: Detail_Additional.mxd</p>	<p>ADDITIONAL FREEWAY SEGMENT DETAIL IMP SR-78</p> <p>Diesel Exhaust Health Risk Assessment Southern California Association of Governments 2016 RTP/SCS PEIR</p>	<p>FIGURE A-2</p>
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Interstate 110 in Carson (Los Angeles County)

	<p>PROJECT NO.: 20194370 DRAWN: OCT 2015 DRAWN BY: K.HAGAN CHECKED BY: R. ERBES FILE NAME: Detail_Additional.mxd</p>	<p>FIGURE A-3</p>
	<p>ADDITIONAL FREEWAY SEGMENT DETAIL LA I-110</p> <p>Diesel Exhaust Health Risk Assessment Southern California Association of Governments 2016 RTP/SCS PEIR</p>	
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<p>LEGEND</p> <ul style="list-style-type: none"> — 2040 SC2, SC3, SC3B County Boundary — 2040 BL — 2012 BY <p>Basemap: World Street Map via ESRI Map Service</p>		
<p>0 2,000 4,000 Feet</p> <p>Locations are Approximate</p>		



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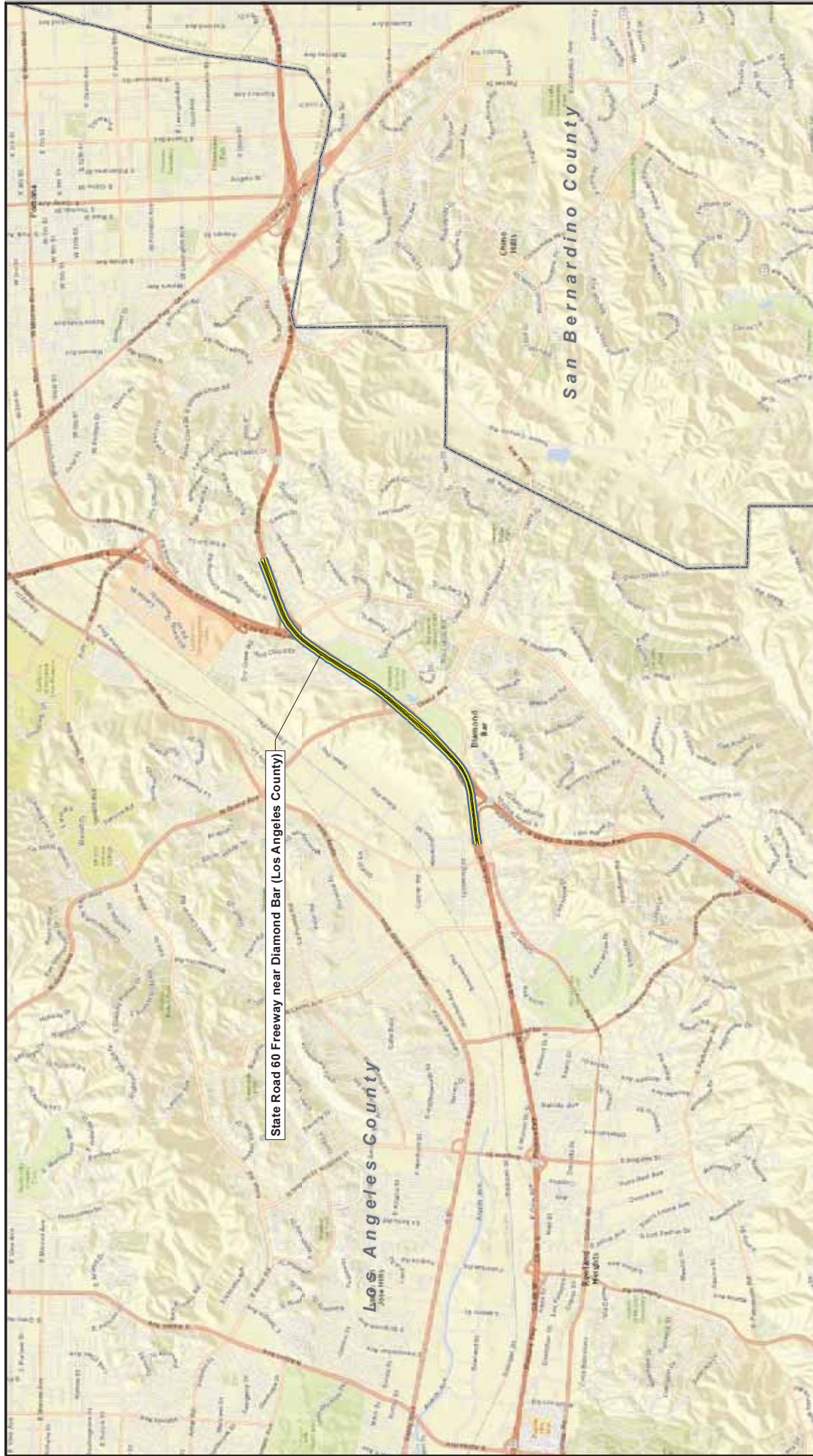


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FILE NAME: Detail_Original.mxd

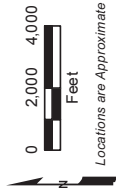
SEGMENT DETAIL MAP
LA I-710

Diesel Exhaust Health Risk Assessment
Southern California Association of Governments
Regional Transportation Plan

FIGURE
A-4



State Road 60 Freeway near Diamond Bar (Los Angeles County)



LEGEND

- 2040 SC2, SC3, SC3B County Boundary
- 2040 BL
- 2012 BY

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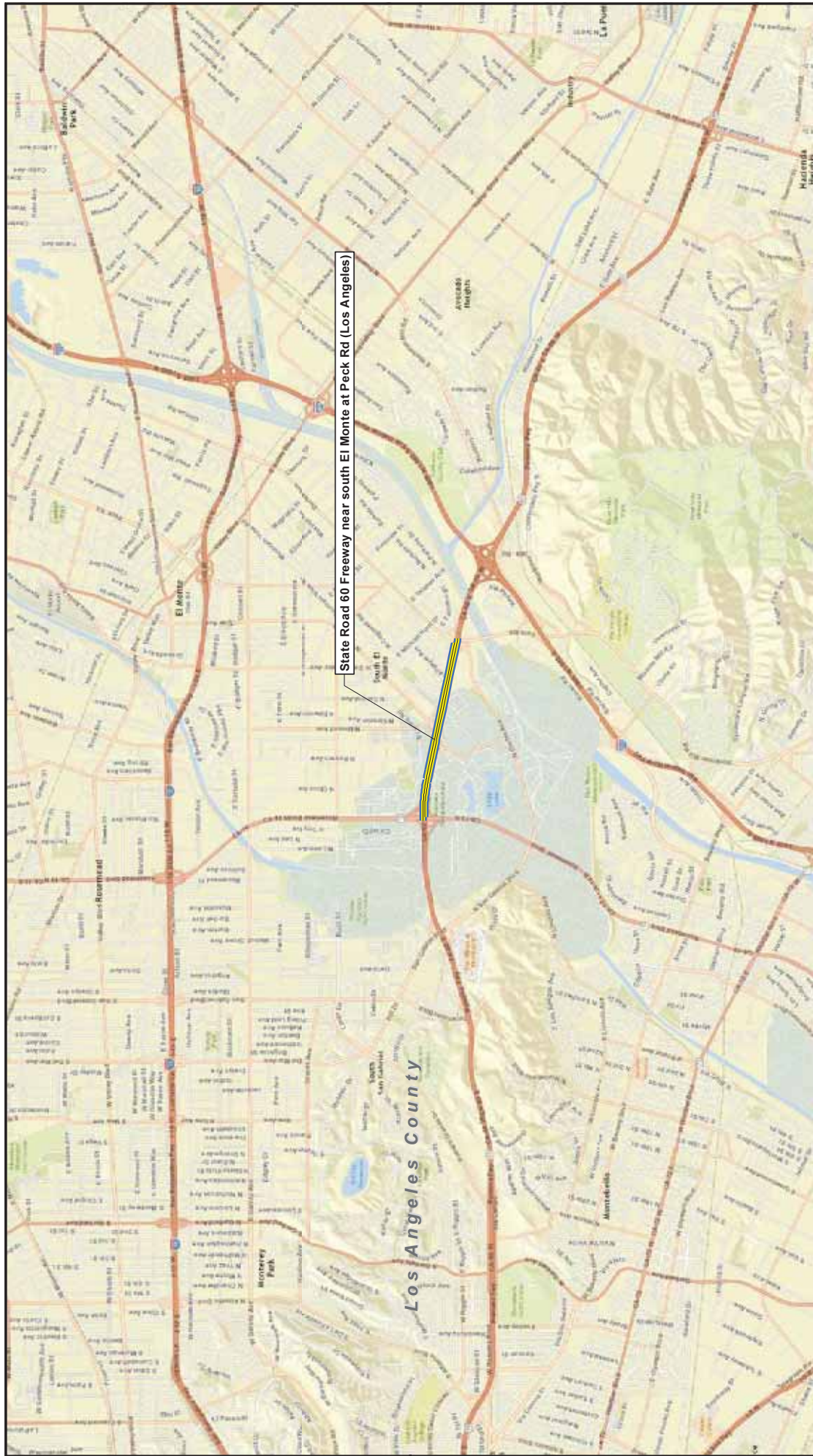


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SEGMENT DETAIL MAP
 LA SR-60 DB

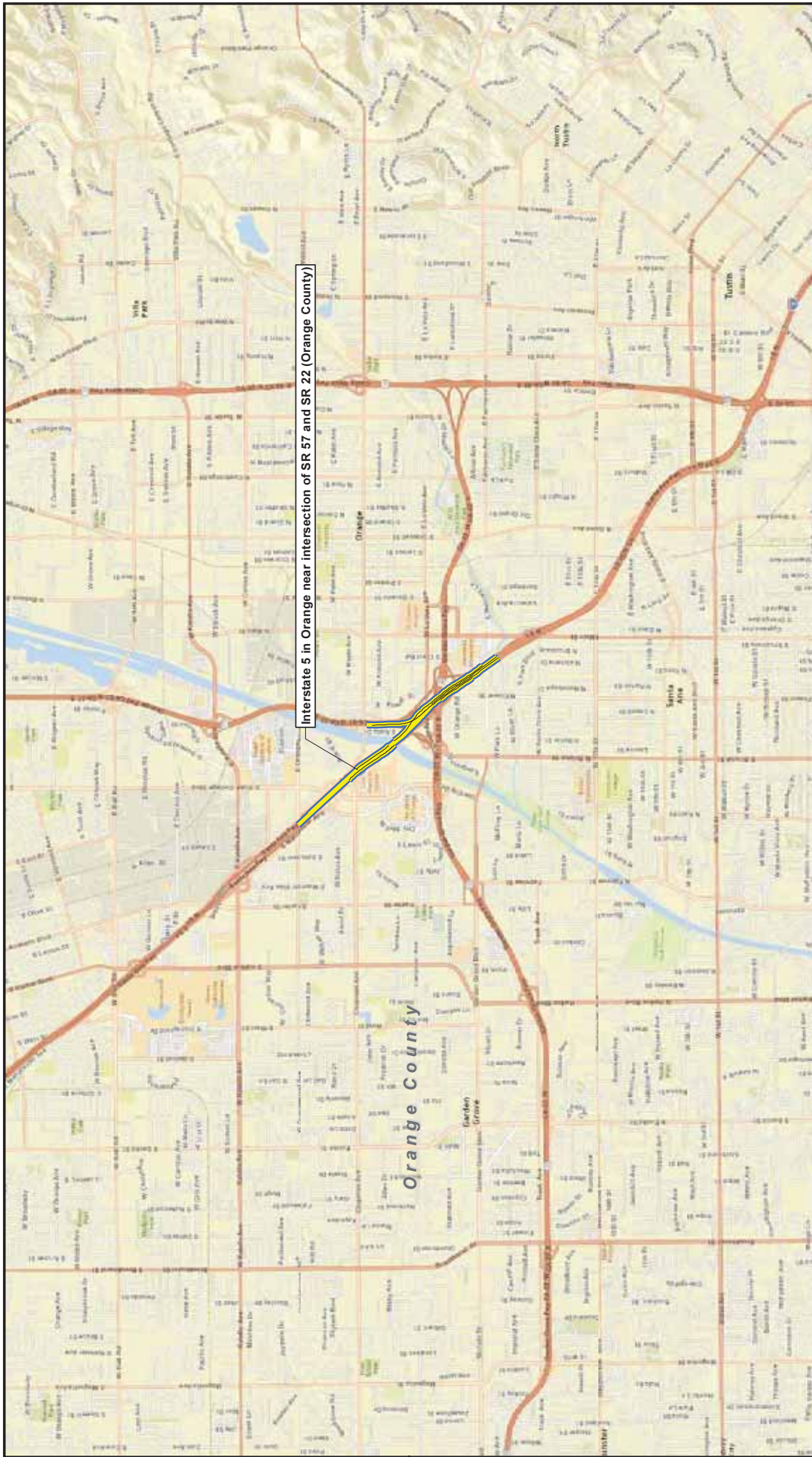
Diesel Exhaust Health Risk Assessment
 Southern California Association of Governments
 Regional Transportation Plan

FIGURE
A-5

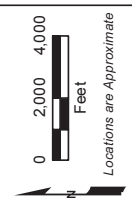


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Interstate 5 in Orange near intersection of SR 57 and SR 22 (Orange County)



LEGEND

- 2040 SC2, SC3, SC3B County Boundary
- 2040 BL
- 2012 BY

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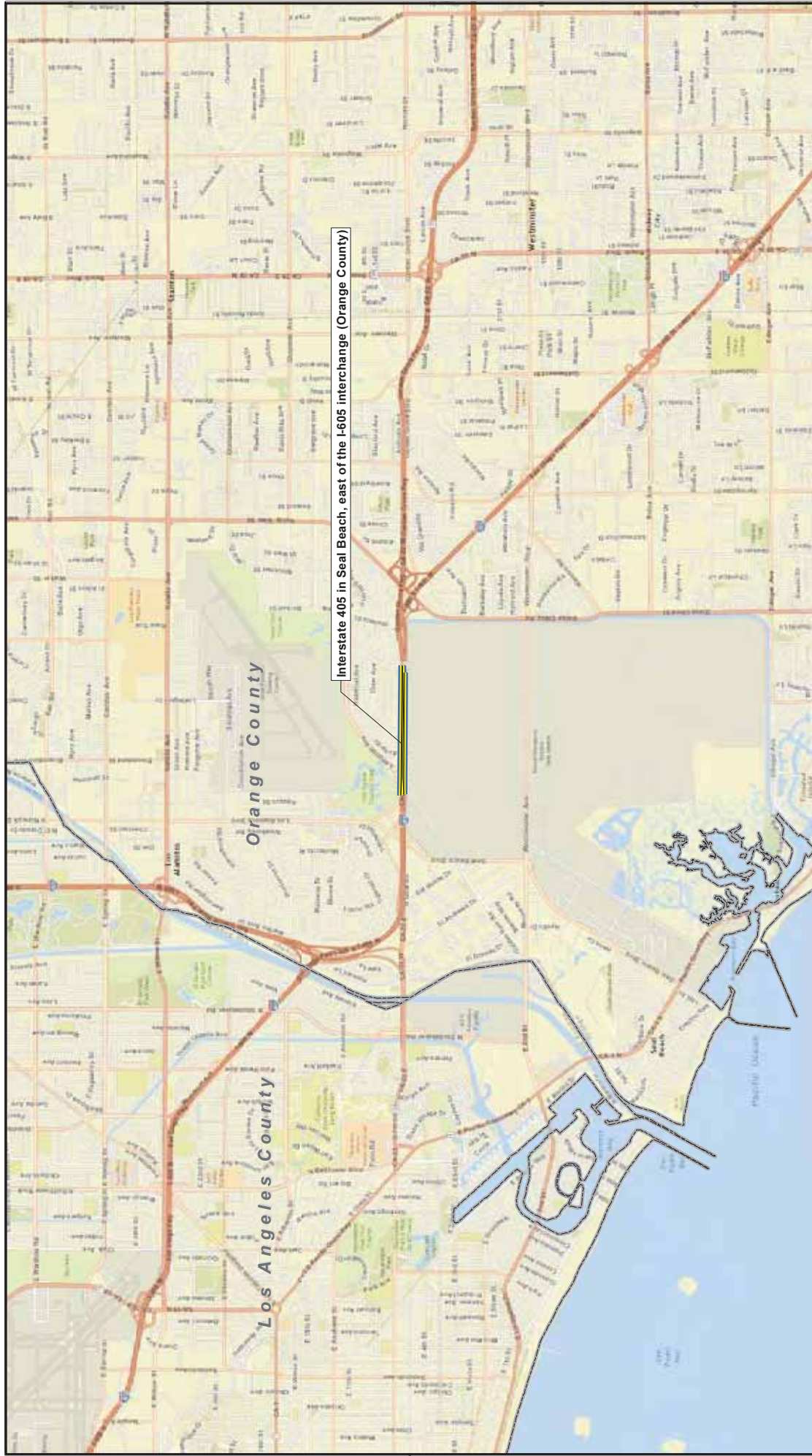


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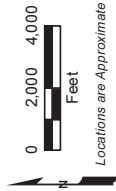
ADDITIONAL FREEWAY SEGMENT DETAIL
 ORA I-5

Diesel Exhaust Health Risk Assessment
 Southern California Association of Governments
 2016 RTP/SCS PEIR

FIGURE
A-7



Interstate 405 in Seal Beach, east of the I-605 interchange (Orange County)



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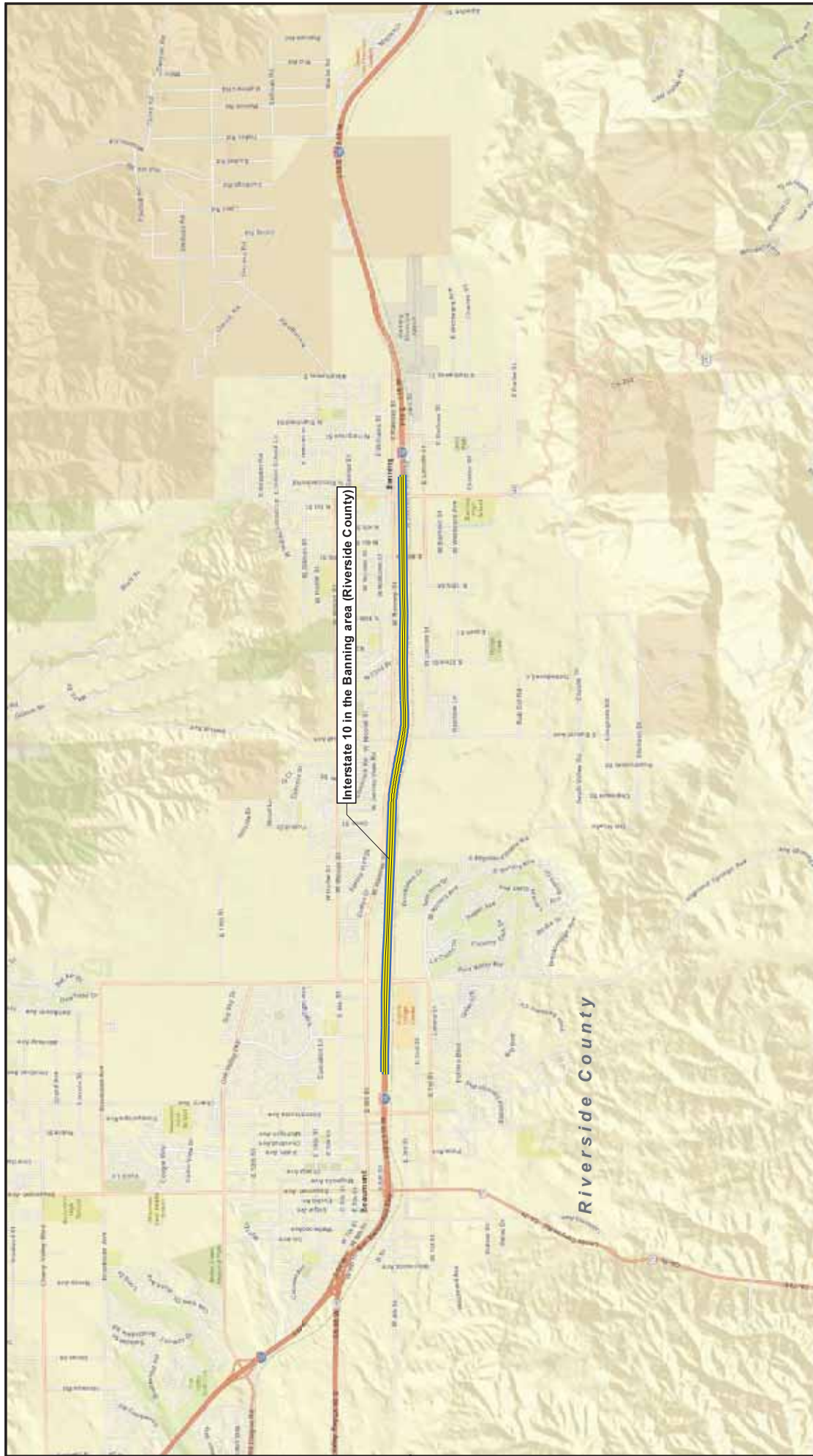


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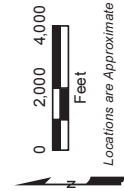
SEGMENT DETAIL MAP
 ORA I-405

Diesel Exhaust Health Risk Assessment
 Southern California Association of Governments
 Regional Transportation Plan

FIGURE
A-8



Interstate 10 in the Banning area (Riverside County)



LEGEND

- 2040 SC2, SC3, SC3B County Boundary
- 2040 BL
- 2012 BY

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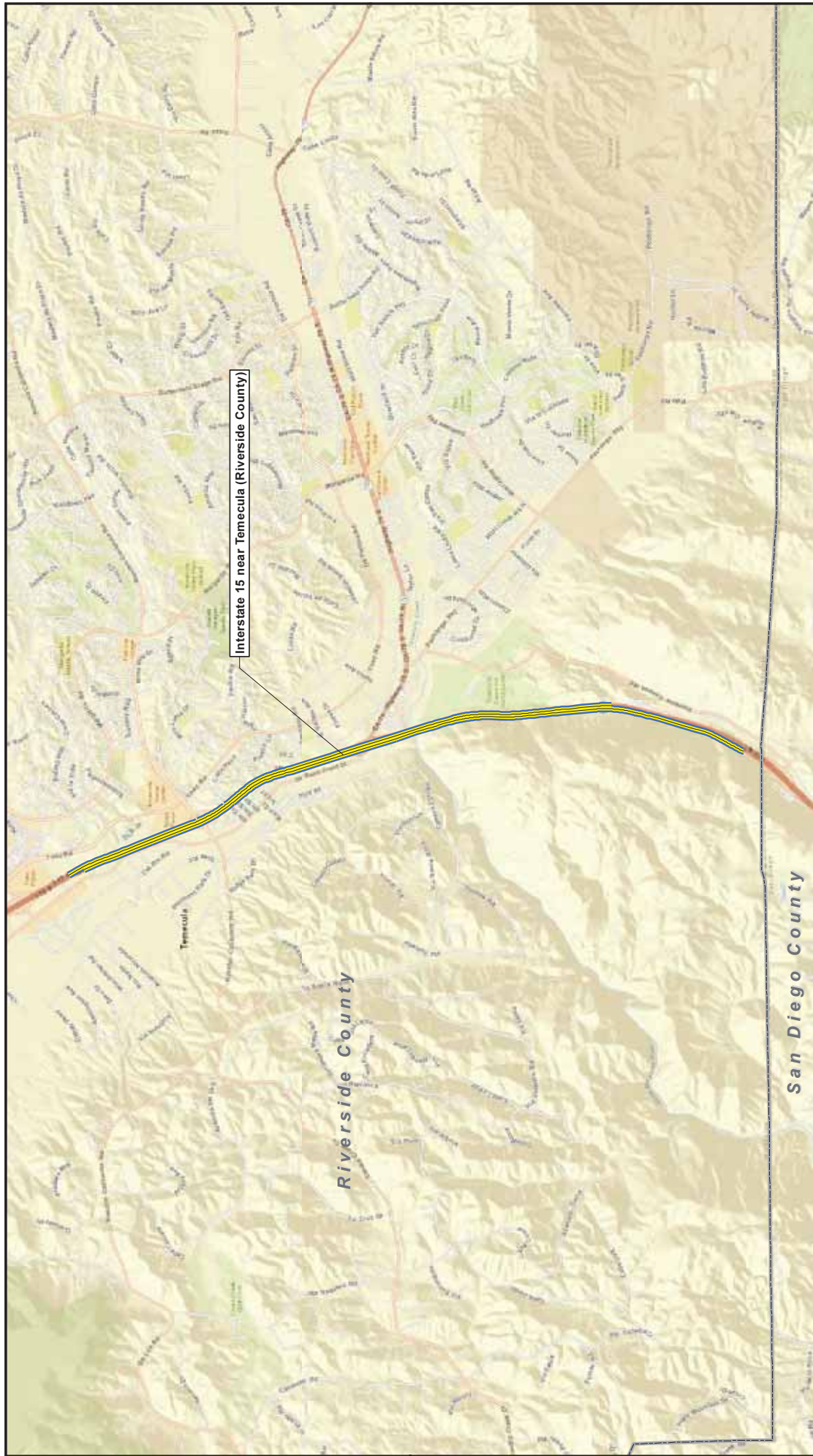
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 DRAWN: OCT 2015
 DRAWN BY: K.HAGAN
 CHECKED BY: R. ERBES
 FILE NAME: Detail_Additional.mxd

ADDITIONAL FREEWAY SEGMENT DETAIL
 RIV I-10

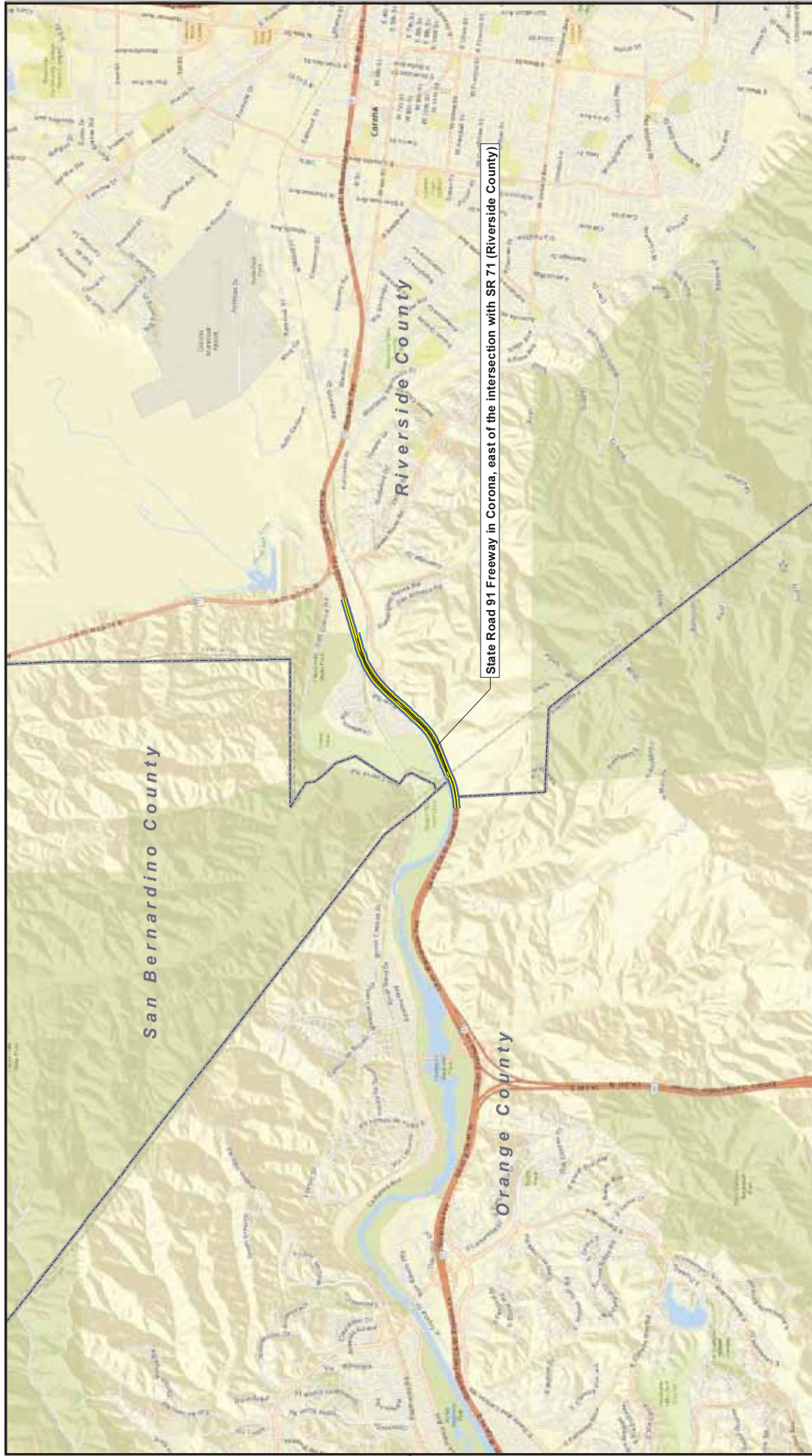
Diesel Exhaust Health Risk Assessment
 Southern California Association of Governments
 2016 RTP/SCS PEIR

FIGURE

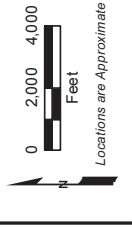
A-9



	<p>LEGEND</p> <ul style="list-style-type: none"> — 2040 SC2, SC3, SC3B — 2040 BL — 2012 BY <p>Basemap: World Street Map via ESRI Map Service</p>	<p>The information included in this graphic representation has been compiled from a variety of sources and is subject to change without notice. KLEINFELDER makes no representations or warranties, rights to future use of such information. This document is not intended for use as a final design document. The use or release of the information contained on this graphic representation is at the sole risk of the party using or releasing the information.</p>		<p>PROJECT NO.: 20194370 DRAWN: OCT 2015 DRAWN BY: K.HAGAN CHECKED BY: R. ERBES FILE NAME: Detail_Additional.mxd</p>	<p>ADDITIONAL FREEWAY SEGMENT DETAIL RV 1-15</p>	<p>FIGURE A-10</p>
<p>Diesel Exhaust Health Risk Assessment Southern California Association of Governments 2016 RTP/SCS PEIR</p>						



State Road 91 Freeway in Corona, east of the intersection with SR 71 (Riverside County)



LEGEND

- 2040 SC2, SC3, SC3B County Boundary
- 2040 BL
- 2012 BY

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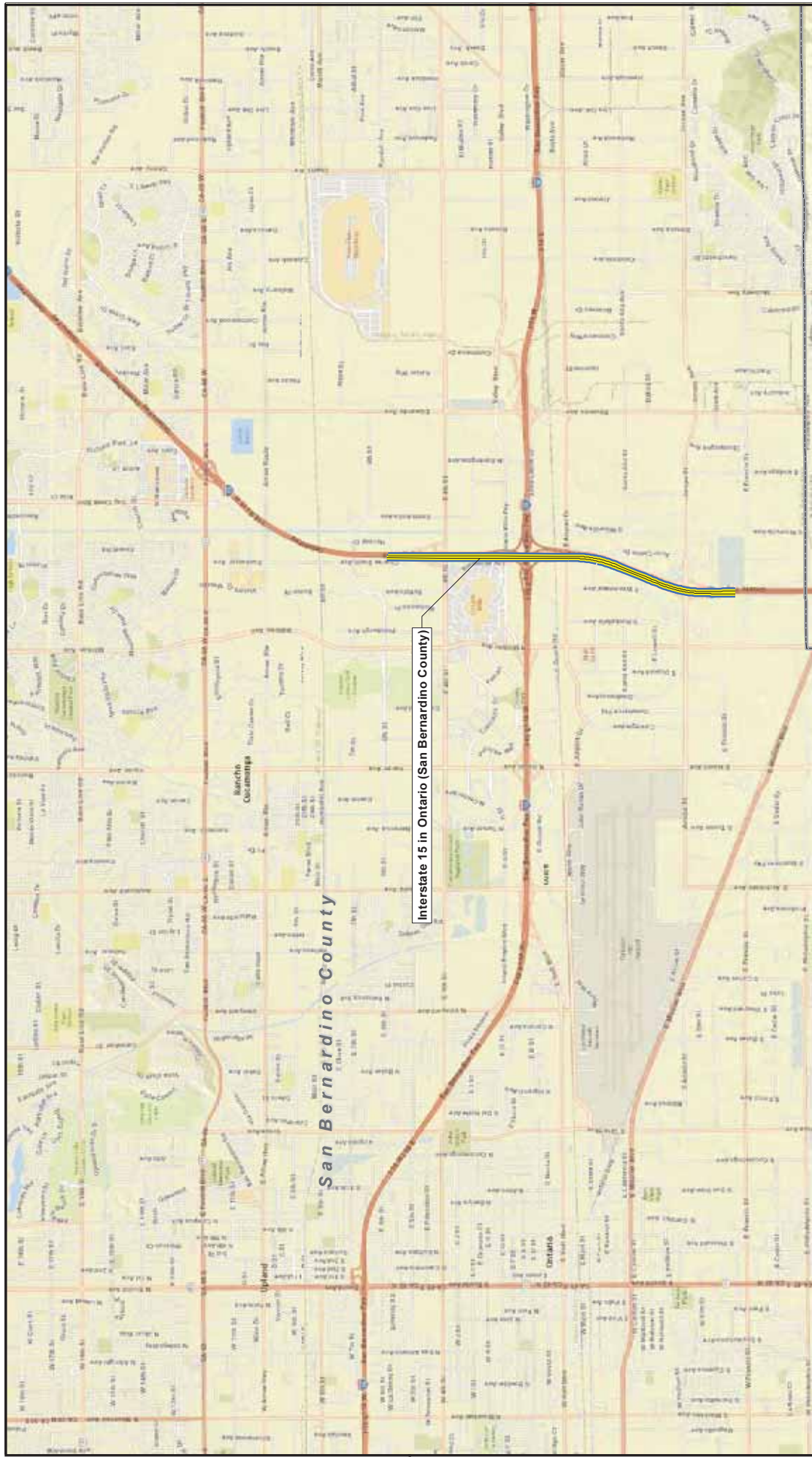


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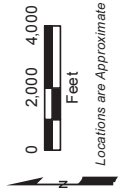
SEGMENT DETAIL MAP
 RIV SR-91

Diesel Exhaust Health Risk Assessment
 Southern California Association of Governments
 Regional Transportation Plan

FIGURE
A-11



Interstate 15 in Ontario (San Bernardino County)



LEGEND

- 2040 SC2, SC3, SC3B County Boundary
- 2040 BL
- 2012 BY

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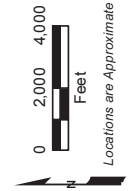
SEGMENT DETAIL MAP
SB I-15 ONTARIO

Diesel Exhaust Health Risk Assessment
 Southern California Association of Governments
 Regional Transportation Plan

FIGURE
A-12



Interstate 15 in the Victorville area (San Bernardino County)



LEGEND

- 2040 SC2, SC3, SC3B County Boundary
- 2040 BL
- 2012 BY

Basemap: World Street Map via ESRI Map Service

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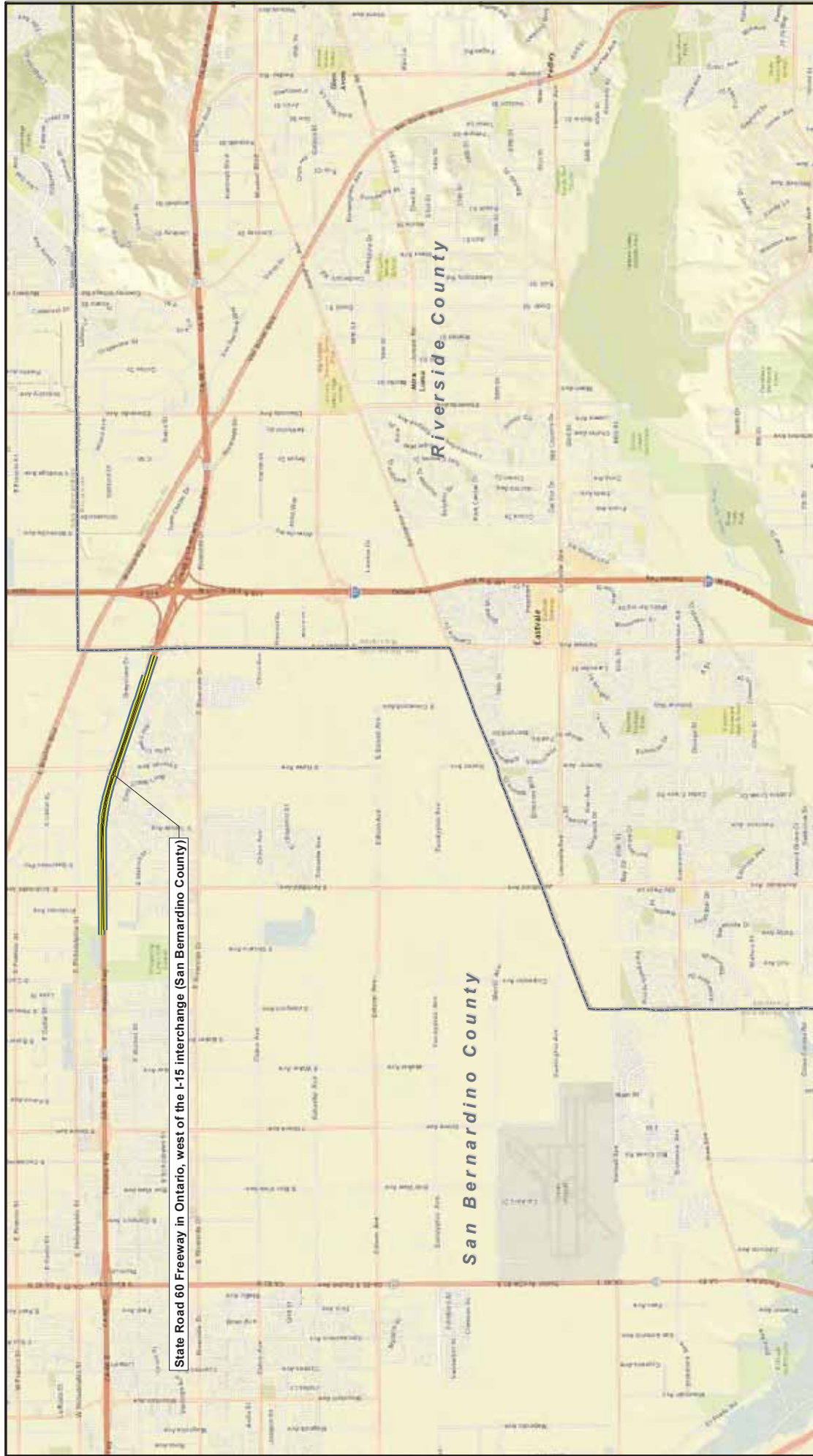


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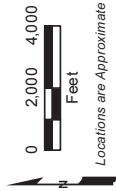
ADDITIONAL FREEWAY SEGMENT DETAIL
SB I-15 VICTORVILLE

Diesel Exhaust Health Risk Assessment
 Southern California Association of Governments
 2016 RTP/SCS PEIR

FIGURE
A-13



State Road 60 Freeway in Ontario, west of the I-15 interchange (San Bernardino County)



LEGEND

- 2040 SC2, SC3, SC3B County Boundary
- 2040 BL County Boundary
- 2012 BY

Basemap: World Street Map via ESRI Map Service

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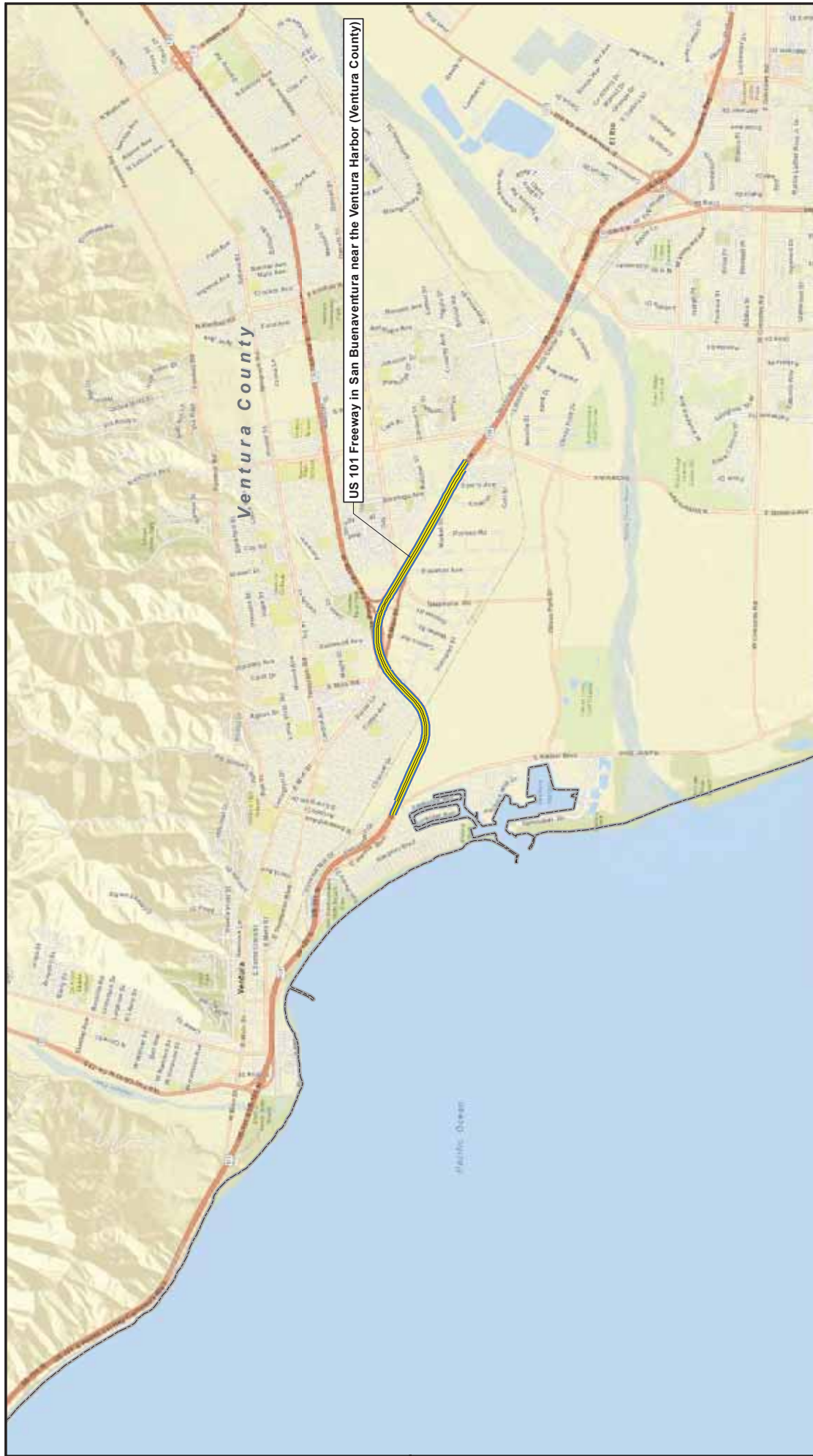


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SEGMENT DETAIL MAP
 SB SR-60

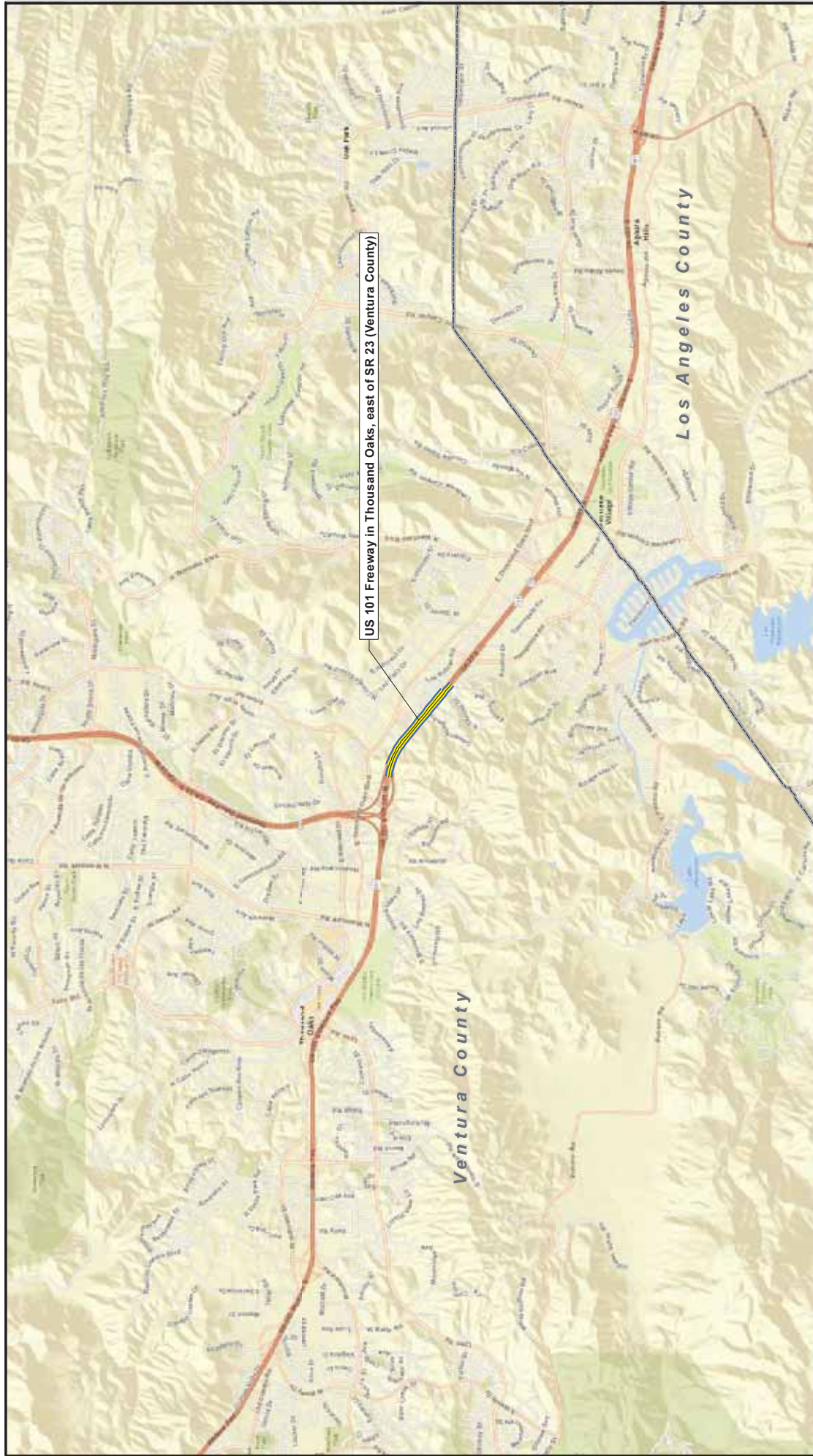
Diesel Exhaust Health Risk Assessment
 Southern California Association of Governments
 Regional Transportation Plan

FIGURE
A-14

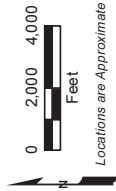


US 101 Freeway in San Buenaventura near the Ventura Harbor (Ventura County)

	<p>LEGEND</p> <ul style="list-style-type: none"> — 2040 SC2, SC3, SC3B County Boundary — 2040 BL — 2012 BY <p>Basemap: World Street Map via ESRI Map Service</p>	<p>The information included on this graphic representation has been compiled from a variety of sources and is subject to change without notice. Kleinfelder makes no representations or warranties, express or implied, regarding the accuracy, reliability, or completeness of the information contained in this graphic representation. The use or misuse of the information contained on this graphic representation is at the sole risk of the party using or misusing the information.</p>		<p>PROJECT NO.: 20194370 DRAWN: OCT 2015 DRAWN BY: K.HAGAN CHECKED BY: R. ERBES FILE NAME: Detail_Additional.mxd</p>	<p>ADDITIONAL FREEWAY SEGMENT DETAIL VEN US-101 SAN BUENAVENTURA</p>	<p>Diesel Exhaust Health Risk Assessment Southern California Association of Governments 2016 RTP/SCS PEIR</p>	<p>FIGURE A-15</p>
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US 101 Freeway in Thousand Oaks, east of SR 23 (Ventura County)



LEGEND

- 2040 SC2, SC3, SC3B County Boundary
- 2040 BL
- 2012 BY

Basemap: World Street Map via ESRI Map Service

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SEGMENT DETAIL MAP
VEN US-101 THOUSAND OAKS
 Diesel Exhaust Health Risk Assessment
 Southern California Association of Governments
 Regional Transportation Plan

FIGURE
A-16

APPENDIX B

DPM Emissions for Each Transportation Segment and Evaluation Simulation

Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
 Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emissions Inventory
 Region Type: County
 Region: Imperial
 Calendar Year: 2015
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Eastbound		Westbound		Emission Factor	Eastbound		Westbound		Emissions per Volume Source for 1-mile segment Model			
							Diesel VMT/day	VMT/day	Diesel VMT/day	VMT/day		PM10_RUNEX	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	Eastbound	Westbound	Eastbound	Westbound
Imperial	2015	HHDT	Aggregatec	55	GAS	479.49													
Imperial	2015	HHDT	Aggregatec	55	DSL	116651.26	3577.63	3724.53	0.063751128	0.50	0.52	74	74	2.36E-05	2.46E-05	18,222	21,350	3,592	3,740
					HHDT Total	117130.75													
Imperial	2015	LDA	Aggregatec	65	GAS	555842.16													
Imperial	2015	LDA	Aggregatec	65	DSL	4263.88	68.73	80.53	0.033134824	0.005	0.006								
Imperial	2015	LDT1	Aggregatec	65	GAS	45976.85													
Imperial	2015	LDT1	Aggregatec	65	DSL	67.54	1.09	1.28	0.168471034	0.000	0.000								
Imperial	2015	LDT2	Aggregatec	65	GAS	195697.70													
Imperial	2015	LDT2	Aggregatec	65	DSL	244.93	3.95	4.63	0.009951421	0.000	0.000								
Imperial	2015	LHDT1	Aggregatec	65	GAS	28432.06													
Imperial	2015	LHDT1	Aggregatec	65	DSL	39697.86	639.85	749.71	0.034850704	0.049	0.058								
Imperial	2015	LHDT2	Aggregatec	65	GAS	5454.87													
Imperial	2015	LHDT2	Aggregatec	65	DSL	11597.28	186.93	219.02	0.027094549	0.011	0.013								
Imperial	2015	MDV	Aggregatec	65	GAS	184785.84													
Imperial	2015	MDV	Aggregatec	65	DSL	1612.23	25.99	30.45	0.025717284	0.001	0.002								
Imperial	2015	MH	Aggregatec	65	GAS	1989.36													
Imperial	2015	MH	Aggregatec	65	DSL	413.72	6.67	7.81	0.230669229	0.003	0.004								
Imperial	2015	MHDT	Aggregatec	65	GAS	7266.85													
Imperial	2015	MHDT	Aggregatec	65	DSL	39444.85	635.77	744.93	0.187902797	0.263	0.309								
Imperial	2015	OBUS	Aggregatec	65	GAS	2528.78													
Imperial	2015	OBUS	Aggregatec	65	DSL	4575.32	73.75	86.41	0.045004397	0.007	0.009								
Imperial	2015	SBUS	Aggregatec	55	GAS	69.57													
Imperial	2015	SBUS	Aggregatec	55	DSL	135.20	2.18	2.55	0.067327464	0.000	0.000								
Imperial	2015	UBUS	Aggregatec	65	GAS	180.68													
Imperial	2015	UBUS	Aggregatec	65	DSL	229.13	3.69	4.33	0.175969908	0.001	0.002								
Imperial					LM Total	1130506.65			Total LM Diesel Emissions	0.85	0.93	74	74	3.97E-05	4.35E-05				

Total Emissions per Volume Source for Modeling
 1.61E-05
 3.97E-05
 1.89E-05
 4.35E-05

Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emissions Inventory
 Region Type: County
 Region: Imperial
 Calendar Year: 2015
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 IMP SR-78 Eastbound
 IMP SR-78 Westbound
 *IMP SR-78: State Road 78 Freeway in Westmorland

LM VMT/day
 6,534
 6,425

HD VMT/day
 1,280
 1,316

Total segment length
 0.88 miles
 0.88 miles

Region	CalYr	VehClass	MdVr	Speed	Fuel	VMT	Eastbound		Westbound		Emission Factor	Eastbound DPM Emissions (lb/day)	Westbound DPM Emissions (lb/day)	Eastbound No. of Vol Sources	Westbound No. of Vol Sources	Emissions per Volume Source for 1-mile segment Model	
							Diesel VMT/day	Diesel VMT/day	Diesel VMT/day	Diesel VMT/day						Eastbound g/sec	Westbound g/sec
							1274.82	1310.27	0.63751128	0.18						0.18	81	81	7.98E-06	1.96E-05
Imperial	2015	HHDT	Aggregatec	55	GAS	479.49											
Imperial	2015	HHDT	Aggregatec	55	DSL	11651.26											
						HHDT Total	117130.75										
Imperial	2015	LDA	Aggregatec	65	GAS	555842.16											
Imperial	2015	LDA	Aggregatec	65	DSL	4263.88	24.65	24.23	0.033134824	0.002	0.002						
Imperial	2015	LDT1	Aggregatec	65	GAS	45976.85											
Imperial	2015	LDT1	Aggregatec	65	DSL	67.54	0.39	0.38	0.168471034	0.000	0.000						
Imperial	2015	LDT2	Aggregatec	65	GAS	195697.70											
Imperial	2015	LDT2	Aggregatec	65	DSL	244.93	1.42	1.39	0.009951421	0.000	0.000						
Imperial	2015	LHDT1	Aggregatec	65	GAS	28432.06											
Imperial	2015	LHDT1	Aggregatec	65	DSL	39697.86	229.45	225.62	0.034850704	0.018	0.017						
Imperial	2015	LHDT2	Aggregatec	65	GAS	5454.87											
Imperial	2015	LHDT2	Aggregatec	65	DSL	11597.28	67.03	65.91	0.027094549	0.004	0.004						
Imperial	2015	MDV	Aggregatec	65	GAS	184785.84											
Imperial	2015	MDV	Aggregatec	65	DSL	1612.23	9.32	9.16	0.025717284	0.001	0.001						
Imperial	2015	MH	Aggregatec	65	GAS	1989.36											
Imperial	2015	MH	Aggregatec	65	DSL	413.72	2.39	2.35	0.230669229	0.001	0.001						
Imperial	2015	MHDT	Aggregatec	65	GAS	7266.85											
Imperial	2015	MHDT	Aggregatec	65	DSL	39444.85	227.99	224.18	0.187902797	0.094	0.093						
Imperial	2015	OBUS	Aggregatec	65	GAS	2528.78											
Imperial	2015	OBUS	Aggregatec	65	DSL	4575.32	26.45	26.00	0.045004397	0.003	0.003						
Imperial	2015	SBUS	Aggregatec	55	GAS	69.57											
Imperial	2015	SBUS	Aggregatec	55	DSL	135.20	0.78	0.77	0.067327464	0.000	0.000						
Imperial	2015	UBUS	Aggregatec	65	GAS	180.68											
Imperial	2015	UBUS	Aggregatec	65	DSL	229.13	1.32	1.30	0.175969908	0.001	0.001						
						LM Total	1130506.65	Total LM Diesel Emissions	0.30	0.31	Total Emissions per Volume Source for Modeling	81	81	7.98E-06	1.96E-05	7.84E-06	1.98E-05

Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: 2015

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Additional Segment
 LA I-110 Northbound 164,091
 LA I-110 Southbound 159,370
 *LA I-110 in the LA County area, Carson

LM VMT/day 164,091

HD VMT/day 16,205

14,486

1.98 miles

1.92 miles

Emissions per Volume Source for 1-mile segment Model

Northbound Southbound

g/sec g/sec

1.36E-04 1.25E-04

No. of Vol Sources 45 45

Southbound Northbound

g/sec g/sec

2.04E-04 2.04E-04

3.40E-04 3.30E-04

Total Emissions per Volume Source for Modeling

Southbound Northbound

DPM Emissions (lb/day)

2.06 2.30

Northbound Southbound

DPM Emissions (lb/day)

2.30 2.06

Emission Factor PM10_RUNEX

0.064932727 0.064932727

Southbound Northbound

Diesel VMT/day

14375.77 14375.77

Southbound Northbound

Diesel VMT/day

16081.26 16081.26

Southbound Northbound

Diesel VMT/day

621.84 621.84

Southbound Northbound

Diesel VMT/day

10.20 10.20

Southbound Northbound

Diesel VMT/day

41.69 41.69

Southbound Northbound

Diesel VMT/day

4981.13 4981.13

Southbound Northbound

Diesel VMT/day

2289.05 2289.05

Southbound Northbound

Diesel VMT/day

236.23 236.23

Southbound Northbound

Diesel VMT/day

82.27 82.27

Southbound Northbound

Diesel VMT/day

7085.37 7085.37

Southbound Northbound

Diesel VMT/day

633.06 633.06

Southbound Northbound

Diesel VMT/day

94.02 94.02

Southbound Northbound

Diesel VMT/day

157.48 157.48

Southbound Northbound

Total LM Diesel Emissions

3.47 3.47

5.77 5.42

Total LM Diesel Emissions

5.77 5.42

Region CalYr VehClass

Los Angeles 2015 HHDT

55 GAS 4419.08

55 DSL 576422.64

HHDT Total 580841.72

Los Angeles 2015 LDA

65 GAS 4214659.76

65 DSL 31654.76

Los Angeles 2015 LDT1

65 GAS 369362.50

65 DSL 519.37

Los Angeles 2015 LDT2

65 GAS 1538032.28

65 DSL 2122.03

Los Angeles 2015 LHDT1

65 GAS 260843.90

65 DSL 253565.54

Los Angeles 2015 LHDT2

65 GAS 55608.08

65 DSL 116524.52

Los Angeles 2015 MDV

65 GAS 996059.59

65 DSL 12025.33

Los Angeles 2015 MH

65 GAS 15284.66

65 DSL 4187.83

Los Angeles 2015 MHDT

65 GAS 53035.53

65 DSL 360682.53

Los Angeles 2015 OBUS

65 GAS 19915.01

65 DSL 32226.17

Los Angeles 2015 SBUS

65 GAS 1763.27

65 DSL 4785.99

Los Angeles 2015 SBUS

65 GAS 2242.48

65 DSL 8016.66

Los Angeles 2015 UBUS

LM Total 8353117.79

Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emissions Inventory
 Region Type: County
 Region: Los Angeles
 Calendar Year: 2015
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 LA I-710 in Compton Northbound
 LA I-710 in Compton Southbound
 *LA I-710 in Compton, north of the intersection with SR 91
 Total Segment Length Northbound 1.34 miles
 Total Segment Length Southbound 1.34 miles

LM VMT/day 178,750
 HD VMT/day 23,385
 LM VMT/day 133,387
 HD VMT/day 21,271

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Northbound		Emission Factor	Northbound DPM Emissions (lb/day)	Southbound DPM Emissions (lb/day)	Northbound No. of Vol Sources	Southbound No. of Vol Sources	Emissions per Volume Source for 1-mile segment Model		
							Diesel VMT/day	HHDT Total						Southbound Diesel VMT/day	Northbound g/sec	Southbound g/sec
Los Angeles	2015	HHDT	Aggregate	55	GAS	4419.08										
Los Angeles	2015	HHDT	Aggregate	55	DSL	576422.64										
Los Angeles	2015	HHDT	Aggregate	55	DSL	580841.72	23206.60	21108.98	0.064932727	3.32	3.02	34	34	3.83E-04	3.48E-04	
Los Angeles	2015	LDA	Aggregate	65	GAS	4214659.76										
Los Angeles	2015	LDA	Aggregate	65	DSL	31654.76	677.39	505.48	0.039353026	0.059	0.044					
Los Angeles	2015	LDT1	Aggregate	65	GAS	369362.50										
Los Angeles	2015	LDT1	Aggregate	65	DSL	519.37	11.11	8.29	0.167195976	0.004	0.003					
Los Angeles	2015	LDT2	Aggregate	65	GAS	1538032.28										
Los Angeles	2015	LDT2	Aggregate	65	DSL	2122.03	45.41	33.89	0.008519684	0.001	0.001					
Los Angeles	2015	LHDT1	Aggregate	65	GAS	260843.90										
Los Angeles	2015	LHDT1	Aggregate	65	DSL	253565.54	5426.10	4049.06	0.027480654	0.329	0.245					
Los Angeles	2015	LHDT2	Aggregate	65	GAS	55608.08										
Los Angeles	2015	LHDT2	Aggregate	65	DSL	116524.52	2493.53	1860.72	0.023705549	0.130	0.097					
Los Angeles	2015	MDV	Aggregate	65	GAS	996059.59										
Los Angeles	2015	MDV	Aggregate	65	DSL	12025.33	257.33	192.03	0.011618432	0.007	0.005					
Los Angeles	2015	MH	Aggregate	65	GAS	15284.66										
Los Angeles	2015	MH	Aggregate	65	DSL	4187.83	89.62	66.87	0.19832115	0.039	0.029					
Los Angeles	2015	MHDT	Aggregate	65	GAS	53035.53										
Los Angeles	2015	MHDT	Aggregate	65	DSL	360682.53	7718.32	5759.56	0.177413013	3.019	2.253					
Los Angeles	2015	OBUS	Aggregate	65	GAS	19915.01										
Los Angeles	2015	OBUS	Aggregate	65	DSL	32226.17	689.61	514.60	0.069414606	0.106	0.079					
Los Angeles	2015	SBUS	Aggregate	55	GAS	1763.27										
Los Angeles	2015	SBUS	Aggregate	55	DSL	4785.99	102.42	76.43	0.066771424	0.015	0.011					
Los Angeles	2015	UBUS	Aggregate	65	GAS	2242.48										
Los Angeles	2015	UBUS	Aggregate	65	DSL	8016.66	171.55	128.01	0.176063592	0.067	0.050					
Los Angeles	2015	UBUS	Aggregate	65	DSL	8353117.79										
											Total LM Diesel Emissions		Total LM Diesel Emissions		Total Emissions per Volume Source for Modeling	
											7.10		3.77		8.18E-04	
											5.84		2.82		6.73E-04	
											34		34		4.35E-04	

Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: 2015

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 LA SR-60 DB Eastbound 382,009 40,737
 LA SR-60 DB Westbound 382,164 40,328
 *LA SR-60 near Diamond Bar
 Total Segment Length Eastbound 3.14 miles
 Total Segment Length Westbound 2.98 miles

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Eastbound		Westbound		Emission Factor	Eastbound DPM Emissions (lb/day)	Westbound DPM Emissions (lb/day)	Emissions per Volume Source for 1-mile segment Model		
							Diesel VMT/day	VMT/day	Diesel VMT/day	VMT/day				No. of Vol Sources	No. of Vol Sources	g/sec
Los Angeles	2015	HHDT	Aggregatec	55	GAS	4419.08	40427.24	40021.39	0.064932727	5.79	5.73	46	46	2.10E-04	2.19E-04	
Los Angeles	2015	HHDT	Aggregatec	55	DSL	576422.64										
Los Angeles	2015	HHDT	Aggregatec			580841.72										
Los Angeles	2015	LDA	Aggregatec	65	GAS	4214659.76										
Los Angeles	2015	LDA	Aggregatec	65	DSL	31654.76	1447.65	1448.24	0.039353026	0.126	0.126					
Los Angeles	2015	LDT1	Aggregatec	65	GAS	369362.50										
Los Angeles	2015	LDT1	Aggregatec	65	DSL	519.37	23.75	23.76	0.167195976	0.009	0.009					
Los Angeles	2015	LDT2	Aggregatec	65	GAS	1538032.28										
Los Angeles	2015	LDT2	Aggregatec	65	DSL	2122.03	97.05	97.08	0.008519684	0.002	0.002					
Los Angeles	2015	LHDT1	Aggregatec	65	GAS	260843.90										
Los Angeles	2015	LHDT1	Aggregatec	65	DSL	253565.54	11596.19	11600.90	0.027480654	0.703	0.703					
Los Angeles	2015	LHDT2	Aggregatec	65	GAS	55608.08										
Los Angeles	2015	LHDT2	Aggregatec	65	DSL	116524.52	5328.96	5331.12	0.023705549	0.279	0.279					
Los Angeles	2015	MDV	Aggregatec	65	GAS	996059.59										
Los Angeles	2015	MDV	Aggregatec	65	DSL	12025.33	549.95	550.17	0.011618432	0.014	0.014					
Los Angeles	2015	MH	Aggregatec	65	GAS	15284.66										
Los Angeles	2015	MH	Aggregatec	65	DSL	4187.83	191.52	191.60	0.19832115	0.084	0.084					
Los Angeles	2015	MHDT	Aggregatec	65	GAS	53035.53										
Los Angeles	2015	MHDT	Aggregatec	65	DSL	360682.53	16494.93	16501.61	0.177413013	6.452	6.454					
Los Angeles	2015	OBUS	Aggregatec	65	GAS	19915.01										
Los Angeles	2015	OBUS	Aggregatec	65	DSL	32226.17	1473.78	1474.38	0.069414606	0.226	0.226					
Los Angeles	2015	SBUS	Aggregatec	55	GAS	1763.27										
Los Angeles	2015	SBUS	Aggregatec	55	DSL	4785.99	218.88	218.96	0.066771424	0.032	0.032					
Los Angeles	2015	UBUS	Aggregatec	65	GAS	2242.48										
Los Angeles	2015	UBUS	Aggregatec	65	DSL	8016.66	366.62	366.77	0.176063592	0.142	0.142					
Los Angeles	2015	UBUS	Aggregatec			8853117.79										
LM Total														2.93E-04	3.09E-04	
Total LM Diesel Emissions												8.07	8.07		5.04E-04	5.28E-04
Total Diesel Emissions												13.85	13.80			
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Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emissions Inventory
 Region Type: County
 Region: Los Angeles
 Calendar Year: 2015
 Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Additional Segment
 LA SR-60 SEM, El Monte Eastbound 14,054
 LA SR-60 SEM, El Monte Westbound 15,714
 *LA SR-60 in the El Monte / Pscok Rd area

LM VMT/day 199,784
 HD VMT/day 209,315

Total segment length 1.52 miles
 Total Segment Length Eastbound 1.50 miles
 Total Segment Length Westbound

Emissions per Volume Source for 1-

mile segment Model

Westbound

Eastbound

g/sec

g/sec

1.77E-04

2.00E-04

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Eastbound Diesel VMT/day	Westbound Diesel VMT/day	Emission Factor	Eastbound DPM Emissions (lb/day)	Westbound DPM Emissions (lb/day)	Eastbound No. of Vol Sources	Westbound No. of Vol Sources	Eastbound g/sec	Westbound g/sec
Los Angeles	2015	HHDT	Aggregatec	55	GAS	4419.08									
Los Angeles	2015	HHDT	Aggregatec	55	DSL	576422.64	13947.11	15594.04	0.064932727	2.00	2.23	39	39	1.77E-04	2.00E-04
					HHDT Total	580841.72									
Los Angeles	2015	LDA	Aggregatec	65	GAS	4214659.76									
Los Angeles	2015	LDA	Aggregatec	65	DSL	31654.76	757.10	793.21	0.039353026	0.066	0.069				
Los Angeles	2015	LDT1	Aggregatec	65	GAS	369362.50									
Los Angeles	2015	LDT1	Aggregatec	65	DSL	519.37	12.42	13.01	0.167195976	0.005	0.005				
Los Angeles	2015	LDT2	Aggregatec	65	GAS	1538032.28									
Los Angeles	2015	LDT2	Aggregatec	65	DSL	2122.03	50.75	53.17	0.008519684	0.001	0.001				
Los Angeles	2015	LHDT1	Aggregatec	65	GAS	260843.90									
Los Angeles	2015	LHDT1	Aggregatec	65	DSL	253565.54	6064.61	6353.92	0.027480654	0.367	0.385				
Los Angeles	2015	LHDT2	Aggregatec	65	GAS	55608.08									
Los Angeles	2015	LHDT2	Aggregatec	65	DSL	116524.52	2786.96	2919.91	0.023705549	0.146	0.153				
Los Angeles	2015	MDV	Aggregatec	65	GAS	996059.59									
Los Angeles	2015	MDV	Aggregatec	65	DSL	12025.33	287.61	301.33	0.011618432	0.007	0.008				
Los Angeles	2015	MH	Aggregatec	65	GAS	15284.66									
Los Angeles	2015	MH	Aggregatec	65	DSL	4187.83	100.16	104.94	0.19832115	0.044	0.046				
Los Angeles	2015	MHDT	Aggregatec	65	GAS	53035.53									
Los Angeles	2015	MHDT	Aggregatec	65	DSL	360682.53	8626.57	9038.09	0.177413013	3.374	3.535				
Los Angeles	2015	OBUS	Aggregatec	65	GAS	19915.01									
Los Angeles	2015	OBUS	Aggregatec	65	DSL	32226.17	770.76	807.53	0.069414606	0.118	0.124				
Los Angeles	2015	SBUS	Aggregatec	55	GAS	1763.27									
Los Angeles	2015	SBUS	Aggregatec	55	DSL	4785.99	114.47	119.93	0.066771424	0.017	0.018				
Los Angeles	2015	UBUS	Aggregatec	65	GAS	2242.48									
Los Angeles	2015	UBUS	Aggregatec	65	DSL	8016.66	191.74	200.88	0.176063592	0.074	0.078				
					LM Total	8353117.79				6.22	6.65	39	39	3.74E-04	3.97E-04
										4.22	4.42			5.50E-04	5.97E-04
										Total DPM Emissions	Total DPM Emissions			Total Emissions per Volume	Total Emissions per Volume
														Source for Modeling	Source for Modeling

Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emission Rates
 Region Type: County
 Region: Orange
 Calendar Year: 2015
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 ORA I-5 Northbound 10,227
 ORA I-5 Southbound 6,449
 *ORA I-5 in Orange County, near intersection of SR 57 and SR 22
 Total segment length 1.32 miles
 Total Segment Length Northbound 1.32 miles
 Total Segment Length Eastbound

LM VMT/day 214,774
 HD VMT/day 151,474

Region	CalYr	VehClass	MedYr	Speed	Fuel	VMT	Northbound		Southbound		Emission Factor	Northbound DPM Emissions (lb/day)	Southbound DPM Emissions (lb/day)	Northbound No. of Vol Sources	Southbound No. of Vol Sources	Emissions per Volume Source for 1-mile segment Model			
							Diesel VMT/day	Diesel VMT/day	Diesel VMT/day	g/sec						g/sec			
Orange	2015	HHDT	Aggregatec	55	GAS	1301.86													
Orange	2015	HHDT	Aggregatec	55	DSL	102957.74	10099.25	6368.21	0.083331046	1.86	1.17	26	26	2.84E-04	1.79E-04				
					HHDT Total	104259.61													
Orange	2015	LDA	Aggregatec	65	GAS	2568210.57													
Orange	2015	LDA	Aggregatec	65	DSL	21451.47	952.58	671.83	0.024973543	0.052	0.037								
Orange	2015	LDT1	Aggregatec	65	GAS	223028.51													
Orange	2015	LDT1	Aggregatec	65	DSL	156.39	6.94	4.90	0.161180683	0.002	0.002								
Orange	2015	LDT2	Aggregatec	65	GAS	1039549.78													
Orange	2015	LDT2	Aggregatec	65	DSL	1538.79	68.33	48.19	0.005047209	0.001	0.001								
Orange	2015	LHDT1	Aggregatec	65	GAS	67543.36													
Orange	2015	LHDT1	Aggregatec	65	DSL	78023.25	3464.72	2443.57	0.028412371	0.217	0.153								
Orange	2015	LHDT2	Aggregatec	65	GAS	13927.93													
Orange	2015	LHDT2	Aggregatec	65	DSL	31443.39	1396.28	984.76	0.024330169	0.075	0.053								
Orange	2015	MDV	Aggregatec	65	GAS	620994.27													
Orange	2015	MDV	Aggregatec	65	DSL	7776.98	345.35	243.56	0.007753133	0.006	0.004								
Orange	2015	MH	Aggregatec	65	GAS	4498.86													
Orange	2015	MH	Aggregatec	65	DSL	1813.99	80.55	56.81	0.219815897	0.039	0.028								
Orange	2015	MHDT	Aggregatec	65	GAS	13866.23													
Orange	2015	MHDT	Aggregatec	65	DSL	130165.36	5780.15	4076.58	0.17120599	2.182	1.539								
Orange	2015	OBUS	Aggregatec	65	GAS	4088.85													
Orange	2015	OBUS	Aggregatec	65	DSL	4928.52	218.86	154.35	0.069616238	0.034	0.024								
Orange	2015	SRUS	Aggregatec	55	GAS	537.08													
Orange	2015	SRUS	Aggregatec	55	DSL	1394.27	61.91	43.67	0.066701254	0.009	0.006								
Orange	2015	UBUS	Aggregatec	65	GAS	617.99													
Orange	2015	UBUS	Aggregatec	65	DSL	1010.85	44.89	31.66	0.087445163	0.009	0.006								
					LM Total	4836566.70													
											Total LMDiesel Emissions	4.48	3.02	26	26	4.02E-04	2.83E-04		
											Total LMDiesel Emissions	2.63	1.85					6.85E-04	4.62E-04
											Total Emissions per Volume Source for Modelling								

Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
 Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emission Rates
 Region Type: County
 Region: Orange
 Calendar Year: 2015
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CallYr	VehClass	MdYr	Speed	Fuel	VMT	Northbound Diesel VMT/day	Southbound Diesel VMT/day	Emission Factor PM10_RUNEX	Eastbound DPM Emissions (lb/day)	Westbound DPM Emissions (lb/day)	Eastbound No. of Vol Sources	Westbound No. of Vol Sources	Emissions per Volume Source for 1-mile segment Model	
														Eastbound g/sec	Westbound g/sec
Orange	2015	HHDT	Aggregatec	55	GAS	1301.86	19953.18	18357.94	0.083331046	3.67	3.37	28	28	6.31E-04	6.20E-04
Orange	2015	HHDT	Aggregatec	55	DSL	102957.74									
					HHDT Total	104259.61									
Orange	2015	LDA	Aggregatec	65	GAS	2568210.57	1045.96	964.93	0.024973543	0.058	0.053				
Orange	2015	LDA	Aggregatec	65	DSL	21451.47									
Orange	2015	LDT1	Aggregatec	65	GAS	223028.51	7.63	7.03	0.161180683	0.003	0.002				
Orange	2015	LDT1	Aggregatec	65	DSL	156.39									
Orange	2015	LDT2	Aggregatec	65	GAS	1039549.78	75.03	69.22	0.005047209	0.001	0.001				
Orange	2015	LDT2	Aggregatec	65	DSL	1538.79									
Orange	2015	LHDT1	Aggregatec	65	GAS	67543.36	3804.36	3509.63	0.028412371	0.238	0.220				
Orange	2015	LHDT1	Aggregatec	65	DSL	78023.25	1533.16	1414.38	0.024330169	0.082	0.076				
Orange	2015	LHDT2	Aggregatec	65	GAS	13927.93									
Orange	2015	LHDT2	Aggregatec	65	DSL	31443.39									
Orange	2015	MIDV	Aggregatec	65	GAS	620994.27	379.20	349.82	0.007753133	0.006	0.006				
Orange	2015	MIDV	Aggregatec	65	DSL	7776.98									
Orange	2015	MH	Aggregatec	65	GAS	4498.86	88.45	81.60	0.219815897	0.043	0.040				
Orange	2015	MH	Aggregatec	65	DSL	1813.99									
Orange	2015	MHDT	Aggregatec	65	GAS	13866.23	6346.78	5855.07	0.17120599	2.396	2.210				
Orange	2015	MHDT	Aggregatec	65	DSL	130165.36									
Orange	2015	OBUS	Aggregatec	65	GAS	4088.85	240.31	221.69	0.069616238	0.037	0.034				
Orange	2015	OBUS	Aggregatec	65	DSL	4928.52									
Orange	2015	SBUS	Aggregatec	55	GAS	537.08	67.98	62.72	0.066701254	0.010	0.009				
Orange	2015	SBUS	Aggregatec	55	DSL	1394.27									
Orange	2015	UBUS	Aggregatec	65	GAS	617.99	49.29	45.47	0.087445163	0.010	0.009				
Orange	2015	UBUS	Aggregatec	65	DSL	1010.85									
					LM Total	4836566.70									
							Total LM Diesel Emissions	Total Diesel Emissions							
							45.47	62.72	6.03	2.88	6.55	28	28	4.96E-04	4.89E-04
														1.13E-03	1.11E-03

Total Emissions per Volume Source for Modelling

Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
 Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County

Region: Riverside

Calendar Year: 2015

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Additional Segment
 RIV I-10 in the Banning area Eastbound 320,238 71,178
 RIV I-10 in the Banning area Westbound 315,658 70,605
 * RIV I-10 in the Banning area

Total segment length 5.01 miles
 Total Segment Length Eastbound 4.98 miles
 Total Segment Length Westbound

Region	CalYr	VehClass	MedYr	Speed	Fuel	VMT	Eastbound		Westbound		Emission Factor	DPM Emissions		DPM Emissions		Emissions per Volume Source for 1- mile segment Model		
							Diesel VMT/day	Diesel VMT/day	PMT10_RUNEX	Eastbound (lb/day)		Westbound (lb/day)	No. of Vol Sources	No. of Vol Sources	Eastbound g/sec	Westbound g/sec		
Riverside	2015	HHDT	Aggregatec	55 GAS	1403.89	308092.30	70855.35	70285.10	0.073538006	11.49	11.39	45	45	2.68E-04	2.67E-04			
Riverside	2015	HHDT	Aggregatec	55 DSL	309496.19													
				HHDT Total	2670667.33													
Riverside	2015	LDA	Aggregatec	65 GAS		1380.10	1380.10	1360.36	0.023015548	0.070	0.069							
Riverside	2015	LDA	Aggregatec	65 DSL	22040.31													
Riverside	2015	LDT1	Aggregatec	65 GAS	228955.94													
Riverside	2015	LDT1	Aggregatec	65 DSL	189.30													
Riverside	2015	LDT2	Aggregatec	65 GAS	945884.23													
Riverside	2015	LDT2	Aggregatec	65 DSL	1242.57													
Riverside	2015	LHDT1	Aggregatec	65 GAS	102120.28													
Riverside	2015	LHDT1	Aggregatec	65 DSL	146141.06													
Riverside	2015	LHDT2	Aggregatec	65 GAS	17415.00													
Riverside	2015	LHDT2	Aggregatec	65 DSL	55134.61													
Riverside	2015	MDV	Aggregatec	65 GAS	730217.11													
Riverside	2015	MDV	Aggregatec	65 DSL	7172.99													
Riverside	2015	MH	Aggregatec	65 GAS	9333.27													
Riverside	2015	MH	Aggregatec	65 DSL	3529.49													
Riverside	2015	MHDT	Aggregatec	65 GAS	13306.78													
Riverside	2015	MHDT	Aggregatec	65 DSL	145614.04													
Riverside	2015	OBUS	Aggregatec	65 GAS	5991.76													
Riverside	2015	OBUS	Aggregatec	65 DSL	5271.46													
Riverside	2015	SRUS	Aggregatec	55 GAS	663.36													
Riverside	2015	SRUS	Aggregatec	55 DSL	1633.16													
Riverside	2015	UBUS	Aggregatec	65 GAS	812.34													
Riverside	2015	UBUS	Aggregatec	65 DSL	890.87													
				LM Total	5114227.27													
													Total Diesel Emissions		Total Emissions per Volume Source for Modeling			
													54.99	0.131129181	45	45	1.22E-04	1.21E-04
													5.23	5.16	3.89E-04	3.88E-04		
													16.72	16.55				

Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County

Region: Riverside

Calendar Year: 2015

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Additional Segment
RIV 1-15, Riverside Northbound 291,514 31,564
RIV 1-15, Riverside Southbound 347,213 37,377

*RIV 1-15, Riverside County, near Temecula

Total segment length

4.80 miles

5.84 miles

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Northbound Diesel VMT/day	Southbound Diesel VMT/day	Emission Factor PM10_RUNEX	Northbound DPM Emissions (lb/day)	Southbound DPM Emissions (lb/day)	Northbound No. of Vol Sources	Southbound No. of Vol Sources	LM VMT/day	HD VMT/day	Emissions per Volume Source for 1-mile segment Model Northbound g/sec	Emissions per Volume Source for 1-mile segment Model Southbound g/sec
Riverside	2015	HHDT	Aggregatec	55	GAS	1403.89												
Riverside	2015	HHDT	Aggregatec	55	DSL	308092.30	31420.56	37207.63	37207.63	0.073538006	5.09	6.03	45	45	1.24E-04	1.21E-04		
						309496.19												
						HHDT Total												
Riverside	2015	LDA	Aggregatec	65	GAS	2670667.33												
Riverside	2015	LDA	Aggregatec	65	DSL	22040.31	1256.31	1496.35	1496.35	0.023015548	0.064	0.076						
Riverside	2015	LDT1	Aggregatec	65	GAS	228955.94												
Riverside	2015	LDT1	Aggregatec	65	DSL	189.30	10.79	12.85	12.85	0.178432445	0.004	0.005						
Riverside	2015	LDT2	Aggregatec	65	GAS	945884.23												
Riverside	2015	LDT2	Aggregatec	65	DSL	1242.57	70.83	84.36	84.36	0.009061241	0.001	0.002						
Riverside	2015	LHDT1	Aggregatec	65	GAS	102120.28												
Riverside	2015	LHDT1	Aggregatec	65	DSL	146141.06	8330.13	9921.76	9921.76	0.034532967	0.634	0.755						
Riverside	2015	LHDT2	Aggregatec	65	GAS	17415.00												
Riverside	2015	LHDT2	Aggregatec	65	DSL	55134.61	3142.71	3743.18	3743.18	0.029052946	0.201	0.240						
Riverside	2015	MDV	Aggregatec	65	GAS	730217.11												
Riverside	2015	MDV	Aggregatec	65	DSL	7172.99	408.87	486.99	486.99	0.011795897	0.011	0.013						
Riverside	2015	MH	Aggregatec	65	GAS	9333.27												
Riverside	2015	MH	Aggregatec	65	DSL	3529.49	201.18	239.62	239.62	0.240432926	0.107	0.127						
Riverside	2015	MHDT	Aggregatec	65	GAS	13306.78												
Riverside	2015	MHDT	Aggregatec	65	DSL	145614.04	8300.09	9885.98	9885.98	0.20048642	3.669	4.370						
Riverside	2015	OBUS	Aggregatec	65	GAS	5991.76												
Riverside	2015	OBUS	Aggregatec	65	DSL	5271.46	300.48	357.89	357.89	0.066701611	0.044	0.053						
Riverside	2015	SBUS	Aggregatec	55	GAS	663.36												
Riverside	2015	SBUS	Aggregatec	55	DSL	1633.16	93.09	110.88	110.88	0.066815392	0.014	0.016						
Riverside	2015	UBUS	Aggregatec	65	GAS	812.34												
Riverside	2015	UBUS	Aggregatec	65	DSL	890.87	50.78	60.48	60.48	0.131129181	0.015	0.017						
						LM Total	5114227.27											
						Total LM Diesel Emissions		60.48	60.48	0.131129181	0.015	0.017	45	45	1.16E-04	1.13E-04		
						Total Diesel Emissions		110.88	110.88	0.066815392	0.014	0.016	45	45	2.40E-04	2.34E-04		

Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
 Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emissions Inventory
 Region Type: County
 Region: Riverside
 Calendar Year: 2015
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 RIV SR-91 in Corona Eastbound
 RIV SR-91 in Corona Westbound
 *SR 91 in Corona, east of the intersection with SR 71
 Total Segment Length Eastbound
 Total Segment Length Westbound

LM VMT/day 280,666
 HD VMT/day 34,243
 262,746
 35,070
 2.01 miles
 1.76 miles

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Eastbound Diesel VMT/day	Westbound Diesel VMT/day	Emission Factor	Emission Factor	DPM Emissions		DPM Emissions		Emissions per Volume Source for 1-mile segment Model	
											(lb/day)	(lb/day)	Eastbound	Westbound	Eastbound	Westbound	g/sec	g/sec
Riverside	2015	HHDT	Aggregatec	55	GAS	1403.89	34087.92	34910.88	0.073538006	5.53	5.66	35	35	4.12E-04	4.82E-04	
Riverside	2015	HHDT	Aggregatec	55	DSL	308092.30										
Riverside	2015	HHDT	Aggregatec	55	DSL	309496.19										
Riverside	2015	LDA	Aggregatec	65	GAS	2670667.33										
Riverside	2015	LDA	Aggregatec	65	DSL	22040.31	1209.56	1132.33	0.023015548	0.061	0.057					
Riverside	2015	LDT1	Aggregatec	65	GAS	228955.94										
Riverside	2015	LDT1	Aggregatec	65	DSL	189.30	10.39	9.73	0.178432445	0.004	0.004					
Riverside	2015	LDT2	Aggregatec	65	GAS	945884.23										
Riverside	2015	LDT2	Aggregatec	65	DSL	1242.57	68.19	63.84	0.009061241	0.001	0.001					
Riverside	2015	LHDT1	Aggregatec	65	GAS	102120.28										
Riverside	2015	LHDT1	Aggregatec	65	DSL	146141.06	8020.15	7508.07	0.034532967	0.611	0.572					
Riverside	2015	LHDT2	Aggregatec	65	GAS	17415.00										
Riverside	2015	LHDT2	Aggregatec	65	DSL	55134.61	3025.76	2832.57	0.029052946	0.194	0.181					
Riverside	2015	MDV	Aggregatec	65	GAS	730217.11										
Riverside	2015	MDV	Aggregatec	65	DSL	7172.99	393.65	368.52	0.011795897	0.010	0.010					
Riverside	2015	MH	Aggregatec	65	GAS	9333.27										
Riverside	2015	MH	Aggregatec	65	DSL	3529.49	193.70	181.33	0.240432926	0.103	0.096					
Riverside	2015	MHDT	Aggregatec	65	GAS	13306.78										
Riverside	2015	MHDT	Aggregatec	65	DSL	145614.04	7991.23	7481.00	0.20048642	3.532	3.307					
Riverside	2015	OBUS	Aggregatec	65	GAS	5991.76										
Riverside	2015	OBUS	Aggregatec	65	DSL	5271.46	289.30	270.82	0.066701611	0.043	0.040					
Riverside	2015	SBUS	Aggregatec	55	GAS	663.36										
Riverside	2015	SBUS	Aggregatec	55	DSL	1633.16	89.63	83.90	0.066815392	0.013	0.012					
Riverside	2015	UBUS	Aggregatec	65	GAS	812.34										
Riverside	2015	UBUS	Aggregatec	65	DSL	890.87	48.89	45.77	0.131129181	0.014	0.013					
Riverside	2015	UBUS	Aggregatec	65	DSL	890.87	48.89	45.77	0.131129181	0.014	0.013					
					LM Total	5114227.27			Total LM Diesel Emissions	10.11	9.95	35	35	3.42E-04	3.66E-04	
									Total Diesel Emissions	4.59	4.29			7.55E-04	8.48E-04	

Total Emissions per Volume Source for Modeling

Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
 Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emissions Inventory
 Region Type: County
 Region: San Bernardino
 Calendar Year: 2015
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Additional Segment
 SB I-15 in the Victorville area Northbound 42,857
 SB I-15 in the Victorville area Southbound 42,614
 * I-15 in the Victorville area
 Total segment length 4.32 miles
 Total Segment Length Northbound 4.39 miles
 Total Segment Length Southbound

LM VMT/day 170,736
 HD VMT/day 42,857
 163,348
 42,614

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	Emission Factor	DPM Emissions (lb/day)	DPM Emissions (lb/day)	Emissions per Volume Source for 1-mile segment Model	
												Northbound	Southbound	Northbound	Southbound
San Bernar	2015	HHDT	Aggregatec	55	GAS	1498.52							
San Bernar	2015	HHDT	Aggregatec	55	DSL	238609.31	42589.33	42348.30	0.064652943	6.07	6.04	58	1.27E-04
						240107.82						58	1.24E-04
						HHDT Total							
San Bernar	2015	LDA	Aggregatec	65	GAS	3384933.90							
San Bernar	2015	LDA	Aggregatec	65	DSL	26056.95	706.99	676.40	0.027732343	0.043	0.041		
San Bernar	2015	LDT1	Aggregatec	65	GAS	282279.07							
San Bernar	2015	LDT1	Aggregatec	65	DSL	343.58	9.32	8.92	0.172149303	0.004	0.003		
San Bernar	2015	LDT2	Aggregatec	65	GAS	1168763.88							
San Bernar	2015	LDT2	Aggregatec	65	DSL	1479.55	40.14	38.41	0.0085998	0.001	0.001		
San Bernar	2015	LHDT1	Aggregatec	65	GAS	129391.39							
San Bernar	2015	LHDT1	Aggregatec	65	DSL	147063.55	3990.19	3817.52	0.034902873	0.307	0.294		
San Bernar	2015	LHDT2	Aggregatec	65	GAS	21213.83							
San Bernar	2015	LHDT2	Aggregatec	65	DSL	52935.62	1436.27	1374.12	0.029111634	0.092	0.088		
San Bernar	2015	MDV	Aggregatec	65	GAS	896162.09							
San Bernar	2015	MDV	Aggregatec	65	DSL	8976.64	243.56	233.02	0.015758862	0.008	0.008		
San Bernar	2015	MH	Aggregatec	65	GAS	12045.78							
San Bernar	2015	MH	Aggregatec	65	DSL	3445.84	93.49	89.45	0.23710071	0.049	0.047		
San Bernar	2015	MHDT	Aggregatec	65	GAS	20064.86							
San Bernar	2015	MHDT	Aggregatec	65	DSL	117668.87	3192.65	3054.49	0.178073301	1.253	1.199		
San Bernar	2015	OBUS	Aggregatec	65	GAS	10235.27							
San Bernar	2015	OBUS	Aggregatec	65	DSL	3966.84	107.63	102.97	0.070308049	0.017	0.016		
San Bernar	2015	SBUS	Aggregatec	55	GAS	459.36							
San Bernar	2015	SBUS	Aggregatec	55	DSL	1790.07	48.57	46.47	0.067061152	0.007	0.007		
San Bernar	2015	UBUS	Aggregatec	65	GAS	1377.61							
San Bernar	2015	UBUS	Aggregatec	65	DSL	2034.92	55.21	52.82	0.127329139	0.015	0.015		
						LM Total	6292689.45	Total LM Diesel Emissions	7.87	7.87	7.76	58	3.76E-05
								Total Diesel Emissions	1.80	1.72	1.72	58	1.60E-04
								Total LM Diesel Emissions	7.87	7.76	7.76	58	1.60E-04

Modeling

Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
 Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emissions Inventory
 Region Type: County
 Region: San Bernardino
 Calendar Year: 2015
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 SB SR-60 in Ontario Eastbound 44,530
 SB SR-60 in Ontario Westbound 42,065
 *SR 60 in Ontario, west of the I-15 Interchange
 Total Segment Length Eastbound 2.35 miles
 Total Segment Length Westbound 2.22 miles

LM VMT/day 257,591
 HD VMT/day 44,530
 248,515
 42,065

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day		Emission Factor		DPM Emissions (lb/day)		No. of Vol Sources		Emissions per Volume Source for 1-mile segment Model	
							Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
San Bernar	2015	HHDT	Aggregatec	55	GAS	1498.52	41802.80	0.064652943	6.31	5.96	38	38	3.71E-04	3.71E-04		
San Bernar	2015	HHDT	Aggregatec	55	DSL	238609.31										
					HHDT Total	240107.82										
San Bernar	2015	LDA	Aggregatec	65	GAS	3384933.90	1029.06	0.027732343	0.065	0.063						
San Bernar	2015	LDA	Aggregatec	65	DSL	26056.95										
San Bernar	2015	LDT1	Aggregatec	65	GAS	282279.07	14.06	0.172149303	0.005	0.005						
San Bernar	2015	LDT1	Aggregatec	65	DSL	343.58										
San Bernar	2015	LDT2	Aggregatec	65	GAS	1168763.88	60.57	0.0085998	0.001	0.001						
San Bernar	2015	LDT2	Aggregatec	65	DSL	1479.55										
San Bernar	2015	LHDT1	Aggregatec	65	GAS	129391.39	5807.92	0.034902873	0.463	0.447						
San Bernar	2015	LHDT1	Aggregatec	65	DSL	147063.55										
San Bernar	2015	LHDT2	Aggregatec	65	GAS	21213.83	2090.57	0.029111634	0.139	0.134						
San Bernar	2015	LHDT2	Aggregatec	65	DSL	52935.62										
San Bernar	2015	MDV	Aggregatec	65	GAS	896162.09	367.46	0.015758862	0.013	0.012						
San Bernar	2015	MDV	Aggregatec	65	DSL	8976.64										
San Bernar	2015	MH	Aggregatec	65	GAS	12045.78	136.09	0.23710071	0.074	0.071						
San Bernar	2015	MH	Aggregatec	65	DSL	3445.84										
San Bernar	2015	MHDT	Aggregatec	65	GAS	20064.86	4647.05	0.178073301	1.891	1.824						
San Bernar	2015	MHDT	Aggregatec	65	DSL	117668.87										
San Bernar	2015	OBUS	Aggregatec	65	GAS	10235.27	156.66	0.070308049	0.025	0.024						
San Bernar	2015	OBUS	Aggregatec	65	DSL	3966.84										
San Bernar	2015	SBUS	Aggregatec	55	GAS	459.36	70.69	0.067061152	0.011	0.010						
San Bernar	2015	SBUS	Aggregatec	55	DSL	1790.07										
San Bernar	2015	UBUS	Aggregatec	65	GAS	1377.61	80.36	0.127329139	0.023	0.023						
San Bernar	2015	UBUS	Aggregatec	65	DSL	2034.92										
San Bernar	2015	UBUS	Aggregatec	65	DSL	6292689.45	83.30	Total LM Diesel Emissions	2.71	2.62	38	38	1.59E-04	1.63E-04	5.30E-04	5.34E-04
					LM Total	6292689.45	Total LM Diesel Emissions	9.02	8.57	Total Emissions per Volume Source for Modeling						

Client: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
 Project: Regional Transportation Plan Risk Assessment Emissions

EMFAC2014 (v1.0.7) Emissions Inventory
 Region Type: County
 Region: Ventura
 Calendar Year: 2015
 Season: Annual

Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, lb/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 VEN US-101 in Thousand Oaks Northbound
 VEN US-101 in Thousand Oaks Southbound
 *US 101 in Thousand Oaks, east of SR 23
 Total segment length 0.79 miles
 Total Segment Length Northbound
 Total Segment Length Southbound 0.94 miles

LM VMT/day 73,667
 HD VMT/day 6,251

LM VMT/day 87,499
 HD VMT/day 7,614

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Northbound		Southbound		Emission Factor	Northbound DPM Emissions (lb/day)	Southbound DPM Emissions (lb/day)	Northbound No. of Vol Sources	Southbound No. of Vol Sources	Emissions per Volume Source for 1-mile segment Model	
							Diesel VMT/day	VMT	Diesel VMT/day	VMT						g/sec	g/sec
Ventura	2015	HHDT	Aggregatec	55	GAS	335.21											
Ventura	2015	HHDT	Aggregatec	55	DSL	29611.35	6180.97	7528.85	0.107501813	1.46	1.78	36	36	2.14E-04	2.60E-04		
					HHDT Total	29946.56											
Ventura	2015	LDA	Aggregatec	65	GAS	920759.04											
Ventura	2015	LDA	Aggregatec	65	DSL	8615.05	358.65	425.99	0.030348885	0.024	0.029						
Ventura	2015	LDT1	Aggregatec	65	GAS	81906.81											
Ventura	2015	LDT1	Aggregatec	65	DSL	91.58	3.81	4.53	0.168476516	0.001	0.002						
Ventura	2015	LDT2	Aggregatec	65	GAS	337444.14											
Ventura	2015	LDT2	Aggregatec	65	DSL	517.92	21.56	25.61	0.006643074	0.000	0.000						
Ventura	2015	LHDT1	Aggregatec	65	GAS	38288.46											
Ventura	2015	LHDT1	Aggregatec	65	DSL	60910.47	2535.72	3011.85	0.033740837	0.189	0.224						
Ventura	2015	LHDT2	Aggregatec	65	GAS	7591.20											
Ventura	2015	LHDT2	Aggregatec	65	DSL	21325.51	887.79	1054.48	0.028046912	0.055	0.065						
Ventura	2015	MDV	Aggregatec	65	GAS	233842.11											
Ventura	2015	MDV	Aggregatec	65	DSL	2628.44	109.42	129.97	0.010802137	0.003	0.003						
Ventura	2015	MH	Aggregatec	65	GAS	3635.42											
Ventura	2015	MH	Aggregatec	65	DSL	1306.31	54.38	64.59	0.239502418	0.029	0.034						
Ventura	2015	MHDT	Aggregatec	65	GAS	3791.01											
Ventura	2015	MHDT	Aggregatec	65	DSL	43747.33	1821.21	2163.18	0.183419467	0.736	0.875						
Ventura	2015	OBUS	Aggregatec	65	GAS	1419.45											
Ventura	2015	OBUS	Aggregatec	65	DSL	1068.15	44.47	52.82	0.072530335	0.007	0.008						
Ventura	2015	SBUS	Aggregatec	55	GAS	74.80											
Ventura	2015	SBUS	Aggregatec	55	DSL	215.75	8.98	10.67	0.067180797	0.001	0.002						
Ventura	2015	UBUS	Aggregatec	65	GAS	128.39											
Ventura	2015	UBUS	Aggregatec	65	DSL	246.99	10.28	12.21	0.070473691	0.002	0.002						
					LM Total	1769554.33											
													Total Emissions per Volume Source for Modeling	36	36	1.53E-04	1.81E-04
															3.66E-04	4.42E-04	

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Imperial
 Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, g/mile for RUXEX, PMBW and PMTW

Original Segment
 IMP I-8 just east of El Centro Eastbound
 IMP I-8 just east of El Centro Westbound
 * IMP I-8 just east of El Centro
 Total Segment Length Eastbound
 Total Segment Length Westbound

LM VMT/day 191,039 30,683
 115,930 14,854

HD VMT/day
 1.51 miles
 1.51 miles

Emissions per Volume Source for 1-mile segment Model

Region	CalYr	VehClass	MDYr	Speed	Fuel	VMT	Eastbound	Westbound	Emission Factor	Eastbound	Westbound	Eastbound	Westbound	No. of Vol Sources	Eastbound	Westbound	Emissions per Volume Source for 1-mile segment Model
Imperial	Imperial	2040 HHDT	Aggregate	Aggregate	55 GAS	344.61	Diesel VMT/day	Diesel VMT/day	PM10_RUXEX	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	g/sec	g/sec	g/sec	g/sec
Imperial	Imperial	2040 HHDT	Aggregate	Aggregate	55 DSL	112537.37	30589.12	14808.49	0.00444601	0.30	0.15	74	74	1.41E-05	6.82E-06		
					HHDT Total	112881.97											
Imperial	Imperial	2040 SBUS	Aggregate	Aggregate	55 GAS	106.81				0.000	0.000						
Imperial	Imperial	2040 SRUS	Aggregate	Aggregate	55 DSL	133.56	21.40	12.99	0.002371209	0.000	0.000						
Imperial	Imperial	2040 LDA	Aggregate	Aggregate	65 GAS	652537.91				0.002	0.001						
Imperial	Imperial	2040 LDA	Aggregate	Aggregate	65 DSL	9049.41	1450.31	880.10	0.000607682	0.000	0.000						
Imperial	Imperial	2040 LDT1	Aggregate	Aggregate	65 GAS	40817.67	3.69	2.24	0.004422653	0.000	0.000						
Imperial	Imperial	2040 LDT1	Aggregate	Aggregate	65 DSL	23.04				0.001	0.000						
Imperial	Imperial	2040 LDT2	Aggregate	Aggregate	65 GAS	231016.98				0.001	0.000						
Imperial	Imperial	2040 LDT2	Aggregate	Aggregate	65 DSL	506.71	81.21	49.28	0.003155957	0.059	0.036						
Imperial	Imperial	2040 LHDT1	Aggregate	Aggregate	65 GAS	9623.67				0.022	0.013						
Imperial	Imperial	2040 LHDT1	Aggregate	Aggregate	65 DSL	23096.13	3701.51	2246.22	0.007196915	0.001	0.001						
Imperial	Imperial	2040 LHDT2	Aggregate	Aggregate	65 GAS	3638.16				0.001	0.001						
Imperial	Imperial	2040 LHDT2	Aggregate	Aggregate	65 DSL	11199.01	1794.81	1089.16	0.005588946	0.001	0.001						
Imperial	Imperial	2040 MDV	Aggregate	Aggregate	65 GAS	131010.07	573.77	348.19	0.000845033	0.001	0.001						
Imperial	Imperial	2040 MDV	Aggregate	Aggregate	65 DSL	3580.16				0.003	0.002						
Imperial	Imperial	2040 MH	Aggregate	Aggregate	65 GAS	1208.45	60.96	37.00	0.02146537	0.001	0.001						
Imperial	Imperial	2040 MH	Aggregate	Aggregate	65 DSL	380.40				0.046	0.028						
Imperial	Imperial	2040 MHDT	Aggregate	Aggregate	65 GAS	8871.92				0.010	0.006						
Imperial	Imperial	2040 MHDT	Aggregate	Aggregate	65 DSL	50973.55	8169.29	4957.45	0.002559514	0.001	0.001						
Imperial	Imperial	2040 OBUS	Aggregate	Aggregate	65 GAS	3105.57				0.14	0.09						
Imperial	Imperial	2040 OBUS	Aggregate	Aggregate	65 DSL	10460.70	1676.49	1017.36	0.002730687	0.001	0.001						
Imperial	Imperial	2040 UBUS	Aggregate	Aggregate	65 GAS	340.65				0.44	0.23						
Imperial	Imperial	2040 UBUS	Aggregate	Aggregate	65 DSL	336.86	53.99	32.76	0.008915933	0.001	0.001						
					LM Total	1192017.37			Total LM Diesel Emissions	0.44	0.23	74	74	2.09E-05	6.80E-06	4.13E-06	1.09E-05

Total Emissions per Volume Source for Modeling

EMFAC2014 (V1.0.7) Emission Rates

Region Type: County
 Region: Imperial
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 IMP SR-78 Eastbound 83,147
 IMP SR-78 Westbound 83,147
 *IMP SR-78: State Road 78 Freeway in Westmorland

LM VMT/day 83,147
 HD VMT/day 17,539

Total segment length 0.88 miles
 Total Segment Length Eastbound 0.88 miles
 Total Segment Length Westbound

Emissions per Volume Source
 for 1-mile segment Model
 Eastbound Westbound

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Westbound Diesel VMT/day	Eastbound Diesel VMT/day	Emission Factor	PM10_RUNEX	DPM Emissions (lb/day)	Eastbound DPM Emissions (lb/day)	Westbound DPM Emissions (lb/day)	No. of Vol Sources	Eastbound No. of Vol Sources	Westbound No. of Vol Sources	g/sec	Eastbound g/sec	Westbound g/sec
Imperial	2040	HHDT	Aggregatec	55	GAS	344.61	17485.07	17485.07	17485.07	0.00444601	0.17	0.17	0.17	0.17	81	81	81	1.11E-05	1.11E-05	1.11E-05
Imperial	2040	HHDT	Aggregatec	55	DSL	112537.37														
					HHDT Total	112881.97														
Imperial	2040	SBUS	Aggregatec	55	GAS	106.81	9.32	9.32	9.32	0.002371209	0.000	0.000	0.000	0.000						
Imperial	2040	SBUS	Aggregatec	55	DSL	133.56														
Imperial	2040	LDA	Aggregatec	65	GAS	652537.91	631.22	631.22	631.22	0.000607682	0.001	0.001	0.001	0.001						
Imperial	2040	LDA	Aggregatec	65	DSL	9049.41														
Imperial	2040	LDT1	Aggregatec	65	GAS	40817.67	1.61	1.61	1.61	0.004422653	0.000	0.000	0.000	0.000						
Imperial	2040	LDT1	Aggregatec	65	DSL	23.04														
Imperial	2040	LDT2	Aggregatec	65	GAS	231016.98	35.34	35.34	35.34	0.003155957	0.000	0.000	0.000	0.000						
Imperial	2040	LDT2	Aggregatec	65	DSL	506.71														
Imperial	2040	LHDT1	Aggregatec	65	GAS	9623.67	1611.02	1611.02	1611.02	0.007196915	0.026	0.026	0.026	0.026						
Imperial	2040	LHDT1	Aggregatec	65	DSL	23096.13														
Imperial	2040	LHDT2	Aggregatec	65	GAS	3638.16	781.16	781.16	781.16	0.005588946	0.010	0.010	0.010	0.010						
Imperial	2040	LHDT2	Aggregatec	65	DSL	11199.01														
Imperial	2040	MDV	Aggregatec	65	GAS	131010.07	249.73	249.73	249.73	0.000845033	0.000	0.000	0.000	0.000						
Imperial	2040	MDV	Aggregatec	65	DSL	3580.16														
Imperial	2040	MH	Aggregatec	65	GAS	1208.45	26.53	26.53	26.53	0.02146537	0.001	0.001	0.001	0.001						
Imperial	2040	MH	Aggregatec	65	DSL	380.40														
Imperial	2040	MHDT	Aggregatec	65	GAS	8871.92	3555.56	3555.56	3555.56	0.002559514	0.020	0.020	0.020	0.020						
Imperial	2040	MHDT	Aggregatec	65	DSL	50973.55														
Imperial	2040	OBUS	Aggregatec	65	GAS	3105.57	729.67	729.67	729.67	0.002730687	0.004	0.004	0.004	0.004						
Imperial	2040	OBUS	Aggregatec	65	DSL	10460.70														
Imperial	2040	UBUS	Aggregatec	65	GAS	340.65	23.50	23.50	23.50	0.008915933	0.006	0.006	0.006	0.006						
Imperial	2040	UBUS	Aggregatec	65	DSL	336.86														
					LM Total	1192017.37														
											81	81	81	4.08E-06	4.08E-06	1.52E-05	1.52E-05	1.52E-05	1.52E-05	1.52E-05
											Total Emissions per Volume		Source for Modelling							

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Los Angeles
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 LA I-710 in Compton Northbound
 LA I-710 in Compton Southbound
 *LA I-710 in Compton, north of the intersection with SR 91
 Total Segment Length Northbound
 1.34 miles
 Total Segment Length Southbound
 1.34 miles

Emissions per Volume Source for 1-
 mile segment Model

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Southbound	Emission Factor	Northbound	Southbound	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	Northbound	Southbound	No. of Vol Sources	g/sec	Northbound	Southbound	g/sec																	
Los Angeles	2040	HHDT	Aggregatec		55 GAS	8784.56																																
Los Angeles	2040	HHDT	Aggregatec		55 DSL	1353513.34	28798.81	22867.06	0.004705303	0.30	0.24	0.30	0.24	34	34			3.44E-05			2.73E-05																	
					HHDT Total	1362297.90																																
Los Angeles	2040	SBUS	Aggregatec		55 GAS	3729.05																																
Los Angeles	2040	SBUS	Aggregatec		55 DSL	4974.29	108.43	89.68	0.002363056	0.001	0.000	0.001	0.000																									
Los Angeles	2040	LDA	Aggregatec		65 GAS	3710930.24																																
Los Angeles	2040	LDA	Aggregatec		65 DSL	51247.27	1117.14	923.89	0.000638477	0.002	0.001	0.002	0.001																									
Los Angeles	2040	LDT1	Aggregatec		65 GAS	357689.74																																
Los Angeles	2040	LDT1	Aggregatec		65 DSL	203.88	4.44	3.68	0.005414579	0.000	0.000	0.000	0.000																									
Los Angeles	2040	LDT2	Aggregatec		65 GAS	1717339.22																																
Los Angeles	2040	LDT2	Aggregatec		65 DSL	3767.19	82.12	67.92	0.003206373	0.001	0.000	0.001	0.000																									
Los Angeles	2040	LHDT1	Aggregatec		65 GAS	79906.68																																
Los Angeles	2040	LHDT1	Aggregatec		65 DSL	333048.29	7260.10	6004.20	0.005312212	0.085	0.070	0.085	0.070																									
Los Angeles	2040	LHDT2	Aggregatec		65 GAS	34998.09																																
Los Angeles	2040	LHDT2	Aggregatec		65 DSL	170083.04	3707.63	3066.26	0.005548914	0.045	0.038	0.045	0.038																									
Los Angeles	2040	MDV	Aggregatec		65 GAS	925711.09																																
Los Angeles	2040	MDV	Aggregatec		65 DSL	25939.59	565.46	467.64	0.000810979	0.001	0.001	0.001	0.001																									
Los Angeles	2040	MH	Aggregatec		65 GAS	8959.81																																
Los Angeles	2040	MH	Aggregatec		65 DSL	3546.36	77.31	63.93	0.019049327	0.003	0.003	0.003	0.003																									
Los Angeles	2040	MHDT	Aggregatec		65 GAS	35781.07																																
Los Angeles	2040	MHDT	Aggregatec		65 DSL	406327.01	8857.50	7325.27	0.002356509	0.046	0.038	0.046	0.038																									
Los Angeles	2040	OBUS	Aggregatec		65 GAS	15205.64																																
Los Angeles	2040	OBUS	Aggregatec		65 DSL	40072.26	873.53	722.42	0.003145968	0.006	0.005	0.006	0.005																									
Los Angeles	2040	UBUS	Aggregatec		65 GAS	2408.08																																
Los Angeles	2040	UBUS	Aggregatec		65 DSL	2618.07	57.07	47.20	0.008638593	0.001	0.001	0.001	0.001																									
					LM Total	7934485.95																																
																	Total Emissions per Volume Source for Modeling																					
																	Total LM Diesel Emissions	0.19	0.16	0.39	0.16	0.39	0.39	0.16	0.39	34	34	2.20E-05	1.82E-05					5.64E-05	4.55E-05			

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Los Angeles
 Calendar Year: 2040
 Season: Annual

Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 LA SR-60 DB Eastbound 433,407 LM VMT/day 63,590 HD VMT/day
 LA SR-60 DB Westbound 441,273 76,771
 *LA SR-60 near Diamond Bar
 Total Segment Length Eastbound 3.14 miles
 Total Segment Length Westbound 3.12 miles

Emissions per Volume Source
 for 1-mile segment Model
 Eastbound Westbound

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day	Westbound	Emission Factor	Eastbound	DPM Emissions (lb/day)	Westbound	Eastbound	No. of Vol Sources	Westbound	Eastbound	No. of Vol Sources	g/sec	Westbound	Eastbound	g/sec	
Los Angeles	2040	HHDT	Aggregatec	55	GAS	8784.56																
Los Angeles	2040	HHDT	Aggregatec	55	DSL	1353513.34	76276.21	63180.40	0.004705303	0.66	0.79	0.79	0.79	46	46	46	46	2.38E-05	2.38E-05	2.89E-05	2.89E-05	
HHDT Total 1362297.90																						
Los Angeles	2040	SBUS	Aggregatec	55	GAS	3729.05																
Los Angeles	2040	SBUS	Aggregatec	55	DSL	4974.29	276.64	271.71	0.002363056	0.001	0.001	0.001	0.001									
Los Angeles	2040	LDA	Aggregatec	65	GAS	3710930.24																
Los Angeles	2040	LDA	Aggregatec	65	DSL	51247.27	2850.10	2799.29	0.000638477	0.004	0.004	0.004	0.004									
Los Angeles	2040	LDT1	Aggregatec	65	GAS	357689.74																
Los Angeles	2040	LDT1	Aggregatec	65	DSL	203.88	11.34	11.14	0.005414579	0.000	0.000	0.000	0.000									
Los Angeles	2040	LDT2	Aggregatec	65	GAS	1717339.22																
Los Angeles	2040	LDT2	Aggregatec	65	DSL	3767.19	209.51	205.78	0.003206373	0.001	0.001	0.001	0.001									
Los Angeles	2040	LHDT1	Aggregatec	65	GAS	79906.68																
Los Angeles	2040	LHDT1	Aggregatec	65	DSL	333048.29	18522.34	18192.15	0.005312212	0.213	0.217	0.213	0.217									
Los Angeles	2040	LHDT2	Aggregatec	65	GAS	34998.09																
Los Angeles	2040	LHDT2	Aggregatec	65	DSL	170083.04	9459.10	9290.47	0.005548914	0.114	0.116	0.114	0.116									
Los Angeles	2040	MDV	Aggregatec	65	GAS	925711.09																
Los Angeles	2040	MDV	Aggregatec	65	DSL	25939.59	1442.62	1416.90	0.000810979	0.003	0.003	0.003	0.003									
Los Angeles	2040	MH	Aggregatec	65	GAS	8959.81																
Los Angeles	2040	MH	Aggregatec	65	DSL	3546.36	197.23	193.71	0.019049327	0.008	0.008	0.008	0.008									
Los Angeles	2040	MHDT	Aggregatec	65	GAS	35781.07																
Los Angeles	2040	MHDT	Aggregatec	65	DSL	406327.01	22597.71	22194.86	0.002356509	0.115	0.117	0.115	0.117									
Los Angeles	2040	OBUS	Aggregatec	65	GAS	15205.64																
Los Angeles	2040	OBUS	Aggregatec	65	DSL	40072.26	2228.60	2188.87	0.003145968	0.015	0.015	0.015	0.015									
Los Angeles	2040	UBUS	Aggregatec	65	GAS	2408.08																
Los Angeles	2040	UBUS	Aggregatec	65	DSL	2618.07	145.60	143.01	0.008638593	0.003	0.003	0.003	0.003									
LM Total 7934486																						
											46			46			46			46		
											Total Emissions per Volume			Total Emissions per Volume			Total Emissions per Volume			Total Emissions per Volume		
											4.12E-05			4.12E-05			4.12E-05			4.12E-05		
											1.74E-05			1.74E-05			1.74E-05			1.74E-05		
											4.67E-05			4.67E-05			4.67E-05			4.67E-05		
											Source for Modelling											

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Orange
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PM10 and PM2.5

Original Segment
 ORA I-5 Northbound 134,257 21,222
 ORA I-5 Southbound 147,059 20,241
 * ORA I-5 in Orange County, near intersection of SR 57 and SR 22

Total segment length 1.32 miles
 Total Segment Length Northbound 0.81 miles
 Total Segment Length Southbound

Emissions per Volume Source for 1 -
 mile segment Model
 Northbound Southbound

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	Southbound	Northbound	Emission Factor	Southbound	Northbound	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	Southbound	Northbound	g/sec	g/sec				
Orange	2040	HHDT	Aggregatec	55	GAS	2257.31	20954.18	19986.18	19986.18	0.004511043	0.21	0.20	26	26	0.000	0.000	26	26	3.19E-05	4.01E-05					
Orange	2040	HHDT	Aggregatec	55	DSL	176773.19	46.51	50.95	0.002362087	0.000	0.000	0.000	0.000	0.000	0.000	0.000									
Orange	2040	SBUS	Aggregatec	55	GAS	1129.72	986.69	1080.78	0.000592181	0.001	0.001	0.001	0.001	0.001	0.001										
Orange	2040	LDA	Aggregatec	65	GAS	2230959.18	3.48	3.81	0.003645739	0.000	0.000	0.000	0.000	0.000	0.000										
Orange	2040	LDA	Aggregatec	65	DSL	30932.11	68.27	74.78	0.003112028	0.000	0.000	0.001	0.001	0.001	0.001										
Orange	2040	LDT1	Aggregatec	65	GAS	197767.78	2222.91	2434.89	0.005689391	0.028	0.031	0.031	0.031	0.031	0.031										
Orange	2040	LDT1	Aggregatec	65	DSL	109.07	1122.57	1229.62	0.005579285	0.014	0.015	0.015	0.015	0.015	0.015										
Orange	2040	LDT2	Aggregatec	65	GAS	973824.14	418.61	458.53	0.000770465	0.001	0.001	0.001	0.001	0.001	0.001										
Orange	2040	LDT2	Aggregatec	65	DSL	2140.08	27.48	30.10	0.027778475	0.002	0.002	0.002	0.002	0.002	0.002										
Orange	2040	LHD1	Aggregatec	65	GAS	18088.63	4412.56	4833.34	0.002357575	0.023	0.025	0.025	0.025	0.025	0.025										
Orange	2040	LHD1	Aggregatec	65	DSL	69687.29	186.10	203.85	0.003107651	0.001	0.001	0.001	0.001	0.001	0.001										
Orange	2040	LHD2	Aggregatec	65	GAS	35192.00	17.80	19.50	0.005885378	0.000	0.000	0.000	0.000	0.000	0.000										
Orange	2040	LHD2	Aggregatec	65	DSL	466835.18	Total LM Diesel Emissions	Total LM Diesel Emissions	0.071	0.077	0.077	0.28	0.28	0.28	0.28										
Orange	2040	MDV	Aggregatec	65	GAS	466835.18	4208881.127																		
Orange	2040	MDV	Aggregatec	65	DSL	13123.32																			
Orange	2040	MH	Aggregatec	65	GAS	2227.68																			
Orange	2040	MH	Aggregatec	65	DSL	861.58																			
Orange	2040	MHDT	Aggregatec	65	GAS	7648.92																			
Orange	2040	MHDT	Aggregatec	65	DSL	138331.51																			
Orange	2040	OBUS	Aggregatec	65	GAS	3771.10																			
Orange	2040	OBUS	Aggregatec	65	DSL	5834.17																			
Orange	2040	UBUS	Aggregatec	65	GAS	542.98																			
Orange	2040	UBUS	Aggregatec	65	DSL	558.15																			
														LM Total		LM Total									
														4208881.127		4208881.127		1.08E-05		1.56E-05		1.08E-05		1.56E-05	
														26		26		4.27E-05		5.57E-05		4.27E-05		5.57E-05	
														Total Emissions per Volume Source for Modeling		Total Emissions per Volume Source for Modeling									

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Orange
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 ORA I-405 Seal Beach, Corona Northbound
 ORA I-405 Seal Beach, Corona Southbound
 *I-405 in Seal Beach, east of the I-605 interchange
 Total Segment Length Northbound 1.09 miles
 Total Segment Length Southbound 1.02 miles

Emissions per Volume Source for 1-mile segment Model

Region	CalYr	VehClass	MidYr	Speed	Fuel	VMT	Diesel VMT/day		Emission Factor		DPM Emissions (lb/day)		No. of Vol Sources		g/sec	
							Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
Orange	2040	HHDT	Aggregatec		55 GAS	2257.31										
Orange	2040	HHDT	Aggregatec		55 DSL	176773.19	32122.89	35255.38	0.004511043	0.32	0.35	28	28	5.50E-05	6.45E-05	
					HHDT Total	179030.51										
Orange	2040	SBUS	Aggregatec		55 GAS	1129.72										
Orange	2040	SBUS	Aggregatec		55 DSL	1458.16	73.35	70.73	0.002362087	0.000	0.000					
Orange	2040	LDA	Aggregatec		65 GAS	2230959.18										
Orange	2040	LDA	Aggregatec		65 DSL	30932.11	1555.98	1500.35	0.000592181	0.002	0.002					
Orange	2040	LDT1	Aggregatec		65 GAS	197767.78										
Orange	2040	LDT1	Aggregatec		65 DSL	109.07	5.49	5.29	0.003645739	0.000	0.000					
Orange	2040	LDT2	Aggregatec		65 GAS	973824.14										
Orange	2040	LDT2	Aggregatec		65 DSL	2140.08	107.65	103.80	0.003112028	0.001	0.001					
Orange	2040	LHDT1	Aggregatec		65 GAS	18088.63										
Orange	2040	LHDT1	Aggregatec		65 DSL	69687.29	3505.48	3380.15	0.005689391	0.044	0.042					
Orange	2040	LHDT2	Aggregatec		65 GAS	7858.38										
Orange	2040	LHDT2	Aggregatec		65 DSL	35192.00	1770.26	1706.97	0.005579285	0.022	0.021					
Orange	2040	MDV	Aggregatec		65 GAS	466835.18										
Orange	2040	MDV	Aggregatec		65 DSL	13123.32	660.14	636.54	0.000770465	0.001	0.001					
Orange	2040	MH	Aggregatec		65 GAS	2227.68										
Orange	2040	MH	Aggregatec		65 DSL	861.58	43.34	41.79	0.027778475	0.003	0.003					
Orange	2040	MHDT	Aggregatec		65 GAS	7648.92										
Orange	2040	MHDT	Aggregatec		65 DSL	138331.51	6958.50	6709.71	0.002357575	0.036	0.035					
Orange	2040	OBUS	Aggregatec		65 GAS	3771.10										
Orange	2040	OBUS	Aggregatec		65 DSL	5834.17	293.48	282.98	0.003107651	0.002	0.002					
Orange	2040	UBUS	Aggregatec		65 GAS	542.98										
Orange	2040	UBUS	Aggregatec		65 DSL	558.15	28.08	27.07	0.005885378	0.000	0.000					
					LM Total	4208881.1										

28	28	28	28
1.91E-05	7.41E-05	1.91E-05	8.42E-05
Total Emissions per Volume Source for Modelling			

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Riverside
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUXEX, PMBW and PMTW

Additional Segment
 RIV I-10 in the Banning area Eastbound 142,725
 RIV I-10 in the Banning area Westbound 142,301
 *RIV I-10 in the Banning area

LM VMT/day 345,401
 HD VMT/day 439,457

Total segment length 5.01 miles
 Total Segment Length Eastbound 4.98 miles
 Total Segment Length Westbound

Emissions per Volume Source for 1-mile segment Model

	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
DPM Emissions (lb/day)	1.40	1.40	0.004476464	0.000	0.000	0.001	0.000	0.001
No. of Vol Sources	45	45	45	45	45	45	45	45
g/sec	3.27E-05	3.27E-05	3.26E-05	3.26E-05	3.26E-05	3.26E-05	3.26E-05	3.27E-05

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/7day	PM10_RUXEX	Emission Factor	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	g/sec	g/sec
Riverside	2040	HHDT	Aggregatec	55	GAS	3201.49	142025.48	141603.36	0.004476464	1.40	1.40	1.40	45	45	3.26E-05	3.27E-05
Riverside	2040	HHDT	Aggregatec	55	DSL	649756.47	652957.96									
						HHDT Total										
Riverside	2040	SBUS	Aggregatec	55	GAS	776.58										
Riverside	2040	SBUS	Aggregatec	55	DSL	1690.78	90.51	115.16	0.00236367	0.000	0.001	0.001				
Riverside	2040	LDA	Aggregatec	65	GAS	3501914.18										
Riverside	2040	LDA	Aggregatec	65	DSL	48508.09	2596.72	3303.84	0.000623643	0.004	0.005	0.005				
Riverside	2040	LDT1	Aggregatec	65	GAS	248324.94										
Riverside	2040	LDT1	Aggregatec	65	DSL	137.00	7.33	9.33	0.003565448	0.000	0.000	0.000				
Riverside	2040	LDT2	Aggregatec	65	GAS	1414362.82										
Riverside	2040	LDT2	Aggregatec	65	DSL	3103.14	166.12	211.35	0.003153393	0.001	0.001	0.001				
Riverside	2040	LHDT1	Aggregatec	65	GAS	39326.39										
Riverside	2040	LHDT1	Aggregatec	65	DSL	115060.74	6159.40	7836.67	0.006306578	0.086	0.109	0.109				
Riverside	2040	LHDT2	Aggregatec	65	GAS	14891.48										
Riverside	2040	LHDT2	Aggregatec	65	DSL	57609.46	3083.93	3923.72	0.005487154	0.037	0.047	0.047				
Riverside	2040	MDV	Aggregatec	65	GAS	719958.26										
Riverside	2040	MDV	Aggregatec	65	DSL	20002.70	1070.78	1362.36	0.000795775	0.002	0.002	0.002				
Riverside	2040	MH	Aggregatec	65	GAS	4466.36										
Riverside	2040	MH	Aggregatec	65	DSL	1592.49	85.25	108.46	0.036584456	0.007	0.009	0.009				
Riverside	2040	MHDT	Aggregatec	65	GAS	24915.11										
Riverside	2040	MHDT	Aggregatec	65	DSL	212366.83	11368.37	14464.09	0.002461834	0.062	0.079	0.079				
Riverside	2040	OBUS	Aggregatec	65	GAS	9566.87										
Riverside	2040	OBUS	Aggregatec	65	DSL	11315.88	605.76	770.71	0.002890411	0.004	0.005	0.005				
Riverside	2040	UBUS	Aggregatec	65	GAS	1194.26										
Riverside	2040	UBUS	Aggregatec	65	DSL	1183.27	63.34	80.59	0.001990034	0.000	0.000	0.000				
						LM Total										
						6452267.66										
						Total LM Diesel Emissions										
						1.60										
						Total Diesel Emissions										
						1.66										
						Total Emissions per Volume Source for Modelling										
						4.72E-06										
						3.74E-05										
						6.04E-06										
						3.88E-05										

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Riverside
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Additional Segment	LM VMT/day	HD VMT/day
RIV I-15, Riverside Northbound	357,646	52,487
RIV I-15, Riverside Southbound	393,680	62,533
*RIV I-15, Riverside County, near Temecula		
Total segment length	4.81 miles	
Total Segment Length Northbound		
Total Segment Length Southbound		

Emissions per Volume Source for 1-mile segment Model

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day		Emission Factor		DPM Emissions (lb/day)		No. of Vol Sources		g/sec	
							Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
Riverside	2040 HHDT	Aggregatec	Aggregatec	Aggregatec	55 GAS	3201.49	52229.98	62225.93	0.004476464	0.52	0.61	45	45	1.25E-05	1.23E-05	
Riverside	2040 HHDT	Aggregatec	Aggregatec	Aggregatec	55 DSL	649756.47	93.72	103.16	0.00236367	0.000	0.001					
Riverside	2040 SBUS	Aggregatec	Aggregatec	Aggregatec	HHDT Total	652957.96	2688.78	2959.68	0.000623643	0.004	0.004					
Riverside	2040 LDA	Aggregatec	Aggregatec	Aggregatec	55 GAS	776.58	7.59	8.36	0.003565448	0.000	0.000					
Riverside	2040 LDA	Aggregatec	Aggregatec	Aggregatec	55 DSL	1690.78	172.01	189.34	0.003153393	0.001	0.001					
Riverside	2040 LDA	Aggregatec	Aggregatec	Aggregatec	65 GAS	3501914.18	63771.76	7020.33	0.006306578	0.089	0.098					
Riverside	2040 LDA	Aggregatec	Aggregatec	Aggregatec	65 DSL	48508.09	3193.27	3514.99	0.005487154	0.039	0.043					
Riverside	2040 LD11	Aggregatec	Aggregatec	Aggregatec	65 GAS	248324.94	1108.74	1220.45	0.000795775	0.002	0.002					
Riverside	2040 LD11	Aggregatec	Aggregatec	Aggregatec	65 DSL	137.00	88.27	97.16	0.036584456	0.007	0.008					
Riverside	2040 LD12	Aggregatec	Aggregatec	Aggregatec	65 GAS	1414362.82	11771.40	12957.38	0.002461834	0.064	0.070					
Riverside	2040 LD12	Aggregatec	Aggregatec	Aggregatec	65 DSL	3103.14	627.23	690.43	0.002890411	0.004	0.004					
Riverside	2040 LHDT1	Aggregatec	Aggregatec	Aggregatec	65 GAS	39326.39	65.59	72.20	0.001999034	0.000	0.000					
Riverside	2040 LHDT1	Aggregatec	Aggregatec	Aggregatec	65 DSL	3103.14	65.59	72.20	0.001999034	0.000	0.000					
Riverside	2040 LHDT2	Aggregatec	Aggregatec	Aggregatec	65 GAS	14891.48	6452267.7	Total LM Diesel Emissions	0.73	0.85						
Riverside	2040 LHDT2	Aggregatec	Aggregatec	Aggregatec	65 DSL	57609.46		Total LM Diesel Emissions	0.21	0.23						
Riverside	2040 MDV	Aggregatec	Aggregatec	Aggregatec	65 GAS	719958.26		Total LM Diesel Emissions	0.73	0.85						
Riverside	2040 MDV	Aggregatec	Aggregatec	Aggregatec	65 DSL	20002.70		Total LM Diesel Emissions	0.21	0.23						
Riverside	2040 MH	Aggregatec	Aggregatec	Aggregatec	65 GAS	4466.36		Total LM Diesel Emissions	0.73	0.85						
Riverside	2040 MH	Aggregatec	Aggregatec	Aggregatec	65 DSL	1592.49		Total LM Diesel Emissions	0.21	0.23						
Riverside	2040 MHDT	Aggregatec	Aggregatec	Aggregatec	65 GAS	24915.11		Total LM Diesel Emissions	0.73	0.85						
Riverside	2040 MHDT	Aggregatec	Aggregatec	Aggregatec	65 DSL	212366.83		Total LM Diesel Emissions	0.21	0.23						
Riverside	2040 OBUS	Aggregatec	Aggregatec	Aggregatec	65 GAS	9566.87		Total LM Diesel Emissions	0.73	0.85						
Riverside	2040 OBUS	Aggregatec	Aggregatec	Aggregatec	65 DSL	11315.88		Total LM Diesel Emissions	0.21	0.23						
Riverside	2040 UBUS	Aggregatec	Aggregatec	Aggregatec	65 GAS	1194.26		Total LM Diesel Emissions	0.73	0.85						
Riverside	2040 UBUS	Aggregatec	Aggregatec	Aggregatec	65 DSL	1183.27		Total LM Diesel Emissions	0.21	0.23						
					LM Total	6452267.7						45	45	5.09E-06	4.63E-06	

Total Emissions per Volume Source for Modelling

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: San Bernardino
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Additional Segment
 SB I-15 in the Victorville area Northbound
 SB I-15 in the Victorville area Southbound
 *I-15 in the Victorville area
 Total segment length
 Total Segment Length Northbound
 Total Segment Length Southbound

LM VMT/day
 127,704
 250,931
 4.32 miles
 4.39 miles

HD VMT/day
 46,847
 74,054

Emissions per Volume Source for 1-mile segment Model
 Northbound
 Southbound

Region	CalYr	VehClass	MD/Yr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	Emission Factor	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	Emissions per Volume Source for 1-mile segment Model
							Northbound	Southbound		Northbound	Southbound	Northbound	Southbound	Northbound
San Bernar	2040	HHDT	Aggregatec	55	GAS	2082.99								
San Bernar	2040	HHDT	Aggregatec	55	DSL	603502.45	46685.46	73799.05	0.004549501	0.47	0.74	58	58	9.81E-06
					HHDT Total	605585.43								1.53E-05
San Bernar	2040	SBUS	Aggregatec	55	GAS	948.29								
San Bernar	2040	SBUS	Aggregatec	55	DSL	1812.51	29.85	58.64	0.002367195	0.000	0.000			
San Bernar	2040	LDA	Aggregatec	65	GAS	4394414.35								
San Bernar	2040	LDA	Aggregatec	65	DSL	60835.08	1001.72	1968.32	0.000628079	0.001	0.003			
San Bernar	2040	LDT1	Aggregatec	65	GAS	297115.98								
San Bernar	2040	LDT1	Aggregatec	65	DSL	166.37	2.74	5.38	0.004148062	0.000	0.000			
San Bernar	2040	LDT2	Aggregatec	65	GAS	1662936.18								
San Bernar	2040	LDT2	Aggregatec	65	DSL	3645.97	60.04	117.97	0.003170803	0.000	0.001			
San Bernar	2040	LHDT1	Aggregatec	65	GAS	49719.79								
San Bernar	2040	LHDT1	Aggregatec	65	DSL	100601.03	1656.51	3254.95	0.006471347	0.024	0.046			
San Bernar	2040	LHDT2	Aggregatec	65	GAS	18595.24								
San Bernar	2040	LHDT2	Aggregatec	65	DSL	49401.15	813.45	1598.38	0.005641162	0.010	0.020			
San Bernar	2040	MDV	Aggregatec	65	GAS	858133.18								
San Bernar	2040	MDV	Aggregatec	65	DSL	23766.83	391.35	768.98	0.000818397	0.001	0.001			
San Bernar	2040	MH	Aggregatec	65	GAS	6284.92								
San Bernar	2040	MH	Aggregatec	65	DSL	1868.41	30.77	60.45	0.035762098	0.002	0.005			
San Bernar	2040	MHDT	Aggregatec	65	GAS	32168.83								
San Bernar	2040	MHDT	Aggregatec	65	DSL	167377.33	2756.06	5415.51	0.002347392	0.014	0.028			
San Bernar	2040	OBUS	Aggregatec	65	GAS	16247.91								
San Bernar	2040	OBUS	Aggregatec	65	DSL	5941.27	97.83	192.23	0.003061533	0.001	0.001			
San Bernar	2040	UBUS	Aggregatec	65	GAS	1757.59								
San Bernar	2040	UBUS	Aggregatec	65	DSL	1791.14	29.49	57.95	0.005096589	0.000	0.001			
					LM Total	7755529.37								
							Total LM Diesel Emissions	Total LM Diesel Emissions						
							57.95	57.95	0.005096589	0.000	0.001	58	58	1.13E-06
							0.05	0.05	0.005096589	0.001	0.11	58	58	2.19E-06
							0.52	0.52	0.005096589	0.001	0.85	58	58	1.75E-05
							Total Emissions per Volume Source for Modeling							

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: San Bernardino
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 SB SR-60 in Ontario Eastbound 226,731 43,641
 SB SR-60 in Ontario Westbound 156,404 34,971
 *SR 60 in Ontario, west of the I-15 interchange
 Total Segment Length Eastbound 2.35 miles
 Total Segment Length Westbound 2.22 miles

Emissions per Volume Source
 for 1-mile segment Model
 Eastbound Westbound

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	Westbound	Emission Factor	Eastbound	Westbound	Eastbound	No. of Vol Sources	No. of Vol Sources	DPM Emissions (lb/day)	DPM Emissions (lb/day)	Westbound	Eastbound	No. of Vol Sources	No. of Vol Sources	DPM Emissions (lb/day)	DPM Emissions (lb/day)	Westbound	Eastbound	Emissions per Volume Source for 1-mile segment Model	Emissions per Volume Source for 1-mile segment Model	
San Bernar	2040	HHDT	Aggregatec		55 GAS	2082.99																						
San Bernar	2040	HHDT	Aggregatec		55 DSL	603502.45	43490.48	34850.99	0.004549501	0.44	0.35	0.35	0.35	38	38	0.35	0.35	0.35	0.35	38	38	0.35	0.35	0.35	0.35	2.56E-05	2.18E-05	
San Bernar	2040	SBUS	Aggregatec		HHDT Total	605585.43																						
San Bernar	2040	SBUS	Aggregatec		55 GAS	948.29																						
San Bernar	2040	SBUS	Aggregatec		55 DSL	1812.51	52.99	36.55	0.002367195	0.000	0.000	0.000	0.000															
San Bernar	2040	LDA	Aggregatec		65 GAS	4394414.35																						
San Bernar	2040	LDA	Aggregatec		65 DSL	60835.08	1778.50	1226.85	0.000628079	0.002	0.002	0.002	0.002															
San Bernar	2040	LDT1	Aggregatec		65 GAS	297115.98																						
San Bernar	2040	LDT1	Aggregatec		65 DSL	166.37	4.86	3.36	0.004148062	0.000	0.000	0.000	0.000															
San Bernar	2040	LDT2	Aggregatec		65 GAS	1662936.18																						
San Bernar	2040	LDT2	Aggregatec		65 DSL	3645.97	106.59	73.53	0.003170803	0.001	0.001	0.001	0.001															
San Bernar	2040	LHDT1	Aggregatec		65 GAS	49719.79																						
San Bernar	2040	LHDT1	Aggregatec		65 DSL	100601.03	2941.05	2028.80	0.006471347	0.042	0.029	0.029	0.029															
San Bernar	2040	LHDT2	Aggregatec		65 GAS	18595.24																						
San Bernar	2040	LHDT2	Aggregatec		65 DSL	49401.15	1444.23	996.26	0.005641162	0.018	0.012	0.012	0.012															
San Bernar	2040	MDV	Aggregatec		65 GAS	858133.18																						
San Bernar	2040	MDV	Aggregatec		65 DSL	23766.83	694.82	479.30	0.000818397	0.001	0.001	0.001	0.001															
San Bernar	2040	MH	Aggregatec		65 GAS	6284.92																						
San Bernar	2040	MH	Aggregatec		65 DSL	1868.41	54.62	37.68	0.035762098	0.004	0.003	0.003	0.003															
San Bernar	2040	MHDT	Aggregatec		65 GAS	32168.83																						
San Bernar	2040	MHDT	Aggregatec		65 DSL	167377.33	4893.24	3375.47	0.002347392	0.025	0.017	0.017	0.017															
San Bernar	2040	OBUS	Aggregatec		65 GAS	16247.91																						
San Bernar	2040	OBUS	Aggregatec		65 DSL	5941.27	173.69	119.82	0.003061533	0.001	0.001	0.001	0.001															
San Bernar	2040	UBUS	Aggregatec		65 GAS	1757.59																						
San Bernar	2040	UBUS	Aggregatec		65 DSL	1791.14	52.36	36.12	0.005096589	0.001	0.000	0.000	0.000															
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total	775529.4																						
San Bernar	2040	UBUS	Aggregatec		LM Total																							

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Ventura
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNE, PMBW and PMTW

Original Segment
 VEN US-101 in Thousand Oaks Northbound
 VEN US-101 in Thousand Oaks Southbound
 *US 101 in Thousand Oaks, east of SR 23
 Total segment length
 Total Segment Length Northbound
 Total Segment Length Southbound

Emissions per Volume Source for 1-
 mile segment Model
 Northbound Southbound

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	Emission Factor	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	g/sec	g/sec
Ventura	2040	HHDT	Aggregatec	55	GAS	574.78									
Ventura	2040	HHDT	Aggregatec	55	DSL	40656.62	10240.22	15868.07	0.004456099	0.10	0.16	36	36	1.47E-05	2.27E-05
HHDT Total							41231.40								
Ventura	2040	SBUS	Aggregatec	55	GAS	236.72									
Ventura	2040	SBUS	Aggregatec	55	DSL	216.06	7.58	15.36	0.002368973	0.000	0.000				
Ventura	2040	LDA	Aggregatec	65	GAS	970214.24									
Ventura	2040	LDA	Aggregatec	65	DSL	13436.49	471.27	955.01	0.000640157	0.001	0.001				
Ventura	2040	LDT1	Aggregatec	65	GAS	71327.90									
Ventura	2040	LDT1	Aggregatec	65	DSL	39.64	1.39	2.82	0.004119509	0.000	0.000				
Ventura	2040	LDT2	Aggregatec	65	GAS	351421.41									
Ventura	2040	LDT2	Aggregatec	65	DSL	772.46	27.09	54.90	0.003097864	0.000	0.000				
Ventura	2040	LHDT1	Aggregatec	65	GAS	8740.89									
Ventura	2040	LHDT1	Aggregatec	65	DSL	35099.94	1231.09	2494.76	0.006651495	0.018	0.037				
Ventura	2040	LHDT2	Aggregatec	65	GAS	3704.61									
Ventura	2040	LHDT2	Aggregatec	65	DSL	17306.58	607.01	1230.08	0.005632767	0.008	0.015				
Ventura	2040	MDV	Aggregatec	65	GAS	173106.80									
Ventura	2040	MDV	Aggregatec	65	DSL	4862.35	170.54	345.60	0.000733245	0.000	0.001				
Ventura	2040	MH	Aggregatec	65	GAS	1073.74									
Ventura	2040	MH	Aggregatec	65	DSL	426.61	14.96	30.32	0.04421314	0.001	0.003				
Ventura	2040	MHDT	Aggregatec	65	GAS	3429.98									
Ventura	2040	MHDT	Aggregatec	65	DSL	51809.22	1817.15	3682.38	0.002371846	0.010	0.019				
Ventura	2040	OBUS	Aggregatec	65	GAS	1565.61									
Ventura	2040	OBUS	Aggregatec	65	DSL	1256.95	44.09	89.34	0.003032481	0.000	0.001				
Ventura	2040	UBUS	Aggregatec	65	GAS	226.50									
Ventura	2040	UBUS	Aggregatec	65	DSL	230.13	8.07	16.36	0.002390041	0.000	0.000				
LMTTotal							1710504.85	Total LM Diesel Emissions	Total LM Diesel Emissions	0.14	0.23	36	36	5.55E-06	1.12E-05
								Total Emissions per Volume Source	Total Emissions per Volume Source	0.14	0.23	for Modeling			

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Imperial
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day		Emission Factor		DPM Emissions (lb/day)		DPM Emissions (lb/day)		Emissions per Volume Source for 1-mile segment Model		
							Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
Imperial	2040	HHDT	Aggregate	55	GAS	344.61											
Imperial	2040	HHDT	Aggregate	55	DSL	112537.37	2329.52	2484.77	0.00444601	0.02	0.02	0.02	0.02	81	1.48E-06	1.58E-06	
					HHDT Total	112881.97											
Imperial	2040	SBUS	Aggregate	55	GAS	106.81											
Imperial	2040	SBUS	Aggregate	55	DSL	133.56	1.54	0.92	0.002371209	0.000	0.000	0.000	0.000				
Imperial	2040	LDA	Aggregate	65	GAS	652537.91											
Imperial	2040	LDA	Aggregate	65	DSL	9049.41	104.30	62.57	0.000607682	0.000	0.000	0.000	0.000				
Imperial	2040	LDT1	Aggregate	65	GAS	40817.67											
Imperial	2040	LDT1	Aggregate	65	DSL	23.04	0.27	0.16	0.004422653	0.000	0.000	0.000	0.000				
Imperial	2040	LDT2	Aggregate	65	GAS	231016.98											
Imperial	2040	LDT2	Aggregate	65	DSL	506.71	5.84	3.50	0.003155957	0.000	0.000	0.000	0.000				
Imperial	2040	LHDT1	Aggregate	65	GAS	9623.67											
Imperial	2040	LHDT1	Aggregate	65	DSL	23096.13	266.20	159.69	0.007196915	0.004	0.003	0.003	0.003				
Imperial	2040	LHDT2	Aggregate	65	GAS	3638.16											
Imperial	2040	LHDT2	Aggregate	65	DSL	11199.01	129.07	77.43	0.005588946	0.002	0.001	0.001	0.001				
Imperial	2040	MDV	Aggregate	65	GAS	131010.07											
Imperial	2040	MDV	Aggregate	65	DSL	3580.16	41.26	24.75	0.000845033	0.000	0.000	0.000	0.000				
Imperial	2040	MH	Aggregate	65	GAS	1208.45											
Imperial	2040	MH	Aggregate	65	DSL	380.40	4.38	2.63	0.02146537	0.000	0.000	0.000	0.000				
Imperial	2040	MHDT	Aggregate	65	GAS	8871.92											
Imperial	2040	MHDT	Aggregate	65	DSL	50973.55	587.50	352.44	0.002559514	0.003	0.002	0.002	0.002				
Imperial	2040	OBUS	Aggregate	65	GAS	3105.57											
Imperial	2040	OBUS	Aggregate	65	DSL	10460.70	120.57	72.33	0.002730687	0.001	0.000	0.000	0.000				
Imperial	2040	UBUS	Aggregate	65	GAS	340.65											
Imperial	2040	UBUS	Aggregate	65	DSL	336.86	3.88	2.33	0.008915933	0.000	0.000	0.000	0.000				
					LM Total	1192017.37								81	6.75E-07	4.05E-07	
														81	2.15E-06	1.98E-06	
														Total Emissions per Volume Source for Modeling			

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Los Angeles
 Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 LA I-710 in Compton Northbound 24,245
 LA I-710 in Compton Southbound 21,235
 *LA I-710 in Compton, north of the intersection with SR 91
 Total Segment Length Northbound 1.34 miles
 Total Segment Length Southbound 1.34 miles

Emissions per Volume Source for 1-mile segment Model

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day		Emission Factor		DPM Emissions (lb/day)		DPM Emissions (lb/day)		No. of Vol Sources		g/sec	
							Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
Los Angeles	2040	HHDT	Aggregatec	55	GAS	8784.56	24089.15	21098.24	0.004705303	0.22	0.25	0.22	34	34	2.88E-05	2.52E-05		
Los Angeles	2040	HHDT	Aggregatec	55	DSL	1353513.34												
						HHDT Total	1362297.90											
Los Angeles	2040	SBUS	Aggregatec	55	GAS	3729.05												
Los Angeles	2040	SBUS	Aggregatec	55	DSL	4974.29	105.83	102.13	0.002363056	0.001	0.001	0.001						
Los Angeles	2040	LDA	Aggregatec	65	GAS	3710930.24												
Los Angeles	2040	LDA	Aggregatec	65	DSL	51247.27	1090.35	1052.23	0.000638477	0.002	0.002	0.001						
Los Angeles	2040	LDT1	Aggregatec	65	GAS	357689.74												
Los Angeles	2040	LDT1	Aggregatec	65	DSL	203.88	4.34	4.19	0.005414579	0.000	0.000	0.000						
Los Angeles	2040	LDT2	Aggregatec	65	GAS	1717339.22												
Los Angeles	2040	LDT2	Aggregatec	65	DSL	3767.19	80.15	77.35	0.003206373	0.001	0.001	0.001						
Los Angeles	2040	LHDT1	Aggregatec	65	GAS	79906.68												
Los Angeles	2040	LHDT1	Aggregatec	65	DSL	333048.29	7086.04	6838.30	0.005312212	0.083	0.083	0.080						
Los Angeles	2040	LHDT2	Aggregatec	65	GAS	34998.09												
Los Angeles	2040	LHDT2	Aggregatec	65	DSL	170083.04	3618.74	3492.22	0.005548914	0.044	0.044	0.043						
Los Angeles	2040	MDV	Aggregatec	65	GAS	925711.09												
Los Angeles	2040	MDV	Aggregatec	65	DSL	25939.59	551.90	532.60	0.000810979	0.001	0.001	0.001						
Los Angeles	2040	MH	Aggregatec	65	GAS	8959.81												
Los Angeles	2040	MH	Aggregatec	65	DSL	3546.36	75.45	72.82	0.019049327	0.003	0.003	0.003						
Los Angeles	2040	MHDT	Aggregatec	65	GAS	35781.07												
Los Angeles	2040	MHDT	Aggregatec	65	DSL	406327.01	8645.14	8342.89	0.002356509	0.045	0.045	0.043						
Los Angeles	2040	OBUS	Aggregatec	65	GAS	15205.64												
Los Angeles	2040	OBUS	Aggregatec	65	DSL	40072.26	852.59	822.78	0.003145968	0.006	0.006	0.006						
Los Angeles	2040	UBUS	Aggregatec	65	GAS	2408.08												
Los Angeles	2040	UBUS	Aggregatec	65	DSL	2618.07	55.70	53.76	0.008638593	0.001	0.001	0.001						
						LM Total	7934485.95											
													34	34	2.14E-05	2.07E-05		
															5.02E-05	4.59E-05		
															Total Emissions per Volume Source for Modeling			

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Los Angeles
 Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 LA SR-60 DB Eastbound 324,880 38,900
 LA SR-60 DB Westbound 365,183 35,510
 *LA SR-60 near Diamond Bar
 Total Segment Length Eastbound 3.14 miles
 Total Segment Length Westbound 3.12 miles

Emissions per Volume Source for 1-mile segment Model
 Eastbound Westbound

Region	CalYr	VehClass	Speed	Fuel	VMT	Diesel VMT/day	Diesel WMT/day	PM10_RUNEX	DPM Emissions (lb/day)	DPM Emissions (lb/day)	Emission Factor	Eastbound	Westbound	Eastbound	Westbound	No. of Vol Sources	No. of Vol Sources	Emissions per Volume Source for 1-mile segment Model Eastbound	Emissions per Volume Source for 1-mile segment Model Westbound
Los Angeles	2040	HHDT	Aggregatec	55 GAS	8784.56														
Los Angeles	2040	HHDT	Aggregatec	55 DSL	1353513.34	38648.87	35281.12	0.004705303	0.40	0.37		0.40	0.37	46	46	46	46	1.46E-05	1.34E-05
				HHDT Total	1362297.90														
Los Angeles	2040	SBUS	Aggregatec	55 GAS	3729.05														
Los Angeles	2040	SBUS	Aggregatec	55 DSL	4974.29	203.67	228.94	0.002363056	0.001	0.001		0.001	0.001						
Los Angeles	2040	LDA	Aggregatec	65 GAS	3710930.24														
Los Angeles	2040	LDA	Aggregatec	65 DSL	51247.27	2098.33	2358.65	0.000638477	0.003	0.003		0.003	0.003						
Los Angeles	2040	LDT1	Aggregatec	65 GAS	357689.74														
Los Angeles	2040	LDT1	Aggregatec	65 DSL	203.88	8.35	9.38	0.005414579	0.000	0.000		0.000	0.000						
Los Angeles	2040	LDT2	Aggregatec	65 GAS	1717339.22														
Los Angeles	2040	LDT2	Aggregatec	65 DSL	3767.19	154.25	173.38	0.003206373	0.001	0.001		0.001	0.001						
Los Angeles	2040	LHDT1	Aggregatec	65 GAS	79906.68														
Los Angeles	2040	LHDT1	Aggregatec	65 DSL	333048.29	13636.75	15328.48	0.005312212	0.160	0.180		0.160	0.180						
Los Angeles	2040	LHDT2	Aggregatec	65 GAS	34998.09														
Los Angeles	2040	LHDT2	Aggregatec	65 DSL	170083.04	6964.09	7828.04	0.005548914	0.085	0.096		0.085	0.096						
Los Angeles	2040	MDV	Aggregatec	65 GAS	925711.09														
Los Angeles	2040	MDV	Aggregatec	65 DSL	25939.59	1062.10	1193.86	0.000810979	0.002	0.002		0.002	0.002						
Los Angeles	2040	MH	Aggregatec	65 GAS	8959.81														
Los Angeles	2040	MH	Aggregatec	65 DSL	3546.36	145.21	163.22	0.019049327	0.006	0.007		0.006	0.007						
Los Angeles	2040	MHDT	Aggregatec	65 GAS	35781.07														
Los Angeles	2040	MHDT	Aggregatec	65 DSL	406327.01	16637.16	18701.12	0.002356509	0.086	0.097		0.086	0.097						
Los Angeles	2040	OBUS	Aggregatec	65 GAS	15205.64														
Los Angeles	2040	OBUS	Aggregatec	65 DSL	40072.26	1640.77	1844.32	0.003145968	0.011	0.013		0.011	0.013						
Los Angeles	2040	UBUS	Aggregatec	65 GAS	2408.08														
Los Angeles	2040	UBUS	Aggregatec	65 DSL	2618.07	107.20	120.50	0.008638593	0.002	0.002		0.002	0.002						
Los Angeles	2040	UBUS	Aggregatec	LM Total	7934485.95			Total Diesel Emissions	0.76	0.77		0.76	0.77						
								Total LM Diesel Emissions	0.36	0.40		0.36	0.40						
								Total Emissions per Volume Source for Modelling	2.76E-05	2.81E-05		2.76E-05	2.81E-05						

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County

Region: Los Angeles

Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Additional Segment
 LA SR-60 SEM, El Monte Eastbound 184,513
 LA SR-60 SEM, El Monte Westbound 198,120
 *LA SR-60 in the El Monte / Peck Rd area

Total segment length 1.52 miles
 Total Segment Length Eastbound 1.50 miles
 Total Segment Length Westbound

LM VMT/day 184,513
 HD VMT/day 14,118
 198,120 16,318

Emissions per Volume Source for 1-
 mile segment Model

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Emission Factor		DPM Emissions		DPM Emissions		No. of Vol Sources		Emissions per Volume Source for 1- mile segment Model	
							Southbound	Northbound	(lb/day)	(lb/day)	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	g/sec	g/sec
Los Angeles	2040	HHDT	Aggregatec	55	GAS	8784.56										
Los Angeles	2040	HHDT	Aggregatec	55	DSL	1353513.34	14026.95	16212.62	0.004705303	0.15	0.17	39	39	1.29E-05	1.51E-05	
					HHDT Total	1362297.90										
Los Angeles	2040	SBUS	Aggregatec	55	GAS	3729.05										
Los Angeles	2040	SBUS	Aggregatec	55	DSL	4974.29	115.67	124.21	0.002363056	0.001	0.001					
Los Angeles	2040	LDA	Aggregatec	65	GAS	3710930.24										
Los Angeles	2040	LDA	Aggregatec	65	DSL	51247.27	1191.73	1279.62	0.000638477	0.002	0.002					
Los Angeles	2040	LD11	Aggregatec	65	GAS	357689.74										
Los Angeles	2040	LD11	Aggregatec	65	DSL	203.88	4.74	5.09	0.005414579	0.000	0.000					
Los Angeles	2040	LD12	Aggregatec	65	GAS	1717339.22										
Los Angeles	2040	LD12	Aggregatec	65	DSL	3767.19	87.60	94.07	0.003206373	0.001	0.001					
Los Angeles	2040	LHD11	Aggregatec	65	GAS	79906.68										
Los Angeles	2040	LHD11	Aggregatec	65	DSL	333048.29	7744.89	8316.06	0.005312212	0.091	0.097					
Los Angeles	2040	LHD12	Aggregatec	65	GAS	34998.09										
Los Angeles	2040	LHD12	Aggregatec	65	DSL	170083.04	3955.21	4246.90	0.005548914	0.048	0.052					
Los Angeles	2040	MDV	Aggregatec	65	GAS	925711.09										
Los Angeles	2040	MDV	Aggregatec	65	DSL	25939.59	603.21	647.70	0.000810979	0.001	0.001					
Los Angeles	2040	MH	Aggregatec	65	GAS	8959.81										
Los Angeles	2040	MH	Aggregatec	65	DSL	3546.36	82.47	88.55	0.019049327	0.003	0.004					
Los Angeles	2040	MHDT	Aggregatec	65	GAS	35781.07										
Los Angeles	2040	MHDT	Aggregatec	65	DSL	406327.01	9448.95	10145.80	0.002356509	0.049	0.053					
Los Angeles	2040	OBUS	Aggregatec	65	GAS	15205.64										
Los Angeles	2040	OBUS	Aggregatec	65	DSL	40072.26	931.86	1000.59	0.003145968	0.006	0.007					
Los Angeles	2040	UBUS	Aggregatec	65	GAS	2408.08	60.88	65.37	0.008638593	0.001	0.001					
Los Angeles	2040	UBUS	Aggregatec	65	DSL	2618.07	60.88	65.37	0.008638593	0.020	0.22					
					LM Total	7934485.95			Total LM Diesel Emissions	0.35	0.39	39	39	1.80E-05	1.96E-05	
									Total Diesel Emissions	0.39	0.39			3.09E-05	3.47E-05	

Total Emissions per Volume Source
 for Modelling

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Orange
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUXEX, PMBW and PMTW

Original Segment
 ORA I-5 Northbound 197,793 19,225
 ORA I-5 Southbound 120,747 12,079
 *ORA I-5 in Orange County, near intersection of SR 57 and SR 22
 Total segment length 1.32 miles
 Total Segment Length Northbound 0.81 miles
 Total Segment Length Southbound

Region	CalYr	VehClass	MedYr	Speed	Fuel	VMT	Northbound		Southbound		Emission Factor	Northbound		Southbound		Emissions per Volume Source for 1-mile segment Model	
							Diesel VMT/day	Diesel VMT/day	DPM Emissions (lb/day)	DPM Emissions (lb/day)		No. of Vol Sources	No. of Vol Sources	DPM Emissions (lb/day)	DPM Emissions (lb/day)	g/sec	g/sec
Orange	2040	HHDT	Aggregatec	55	GAS	2257.31	18982.99	11926.73	0.004511043	0.19	0.12	26	26	2.89E-05	2.40E-05		
Orange	2040	HHDT	Aggregatec	55	DSL	176773.19											
Orange	2040	HHDT	Aggregatec	55	DSL	179030.51											
Orange	2040	SBUS	Aggregatec	55	GAS	1129.72											
Orange	2040	SBUS	Aggregatec	55	DSL	1458.76	68.53	41.83	0.002362087	0.000	0.000						
Orange	2040	LDA	Aggregatec	65	GAS	2230959.18											
Orange	2040	LDA	Aggregatec	65	DSL	30932.11	1453.63	887.40	0.000592181	0.002	0.001						
Orange	2040	LDT1	Aggregatec	65	GAS	197767.78											
Orange	2040	LDT1	Aggregatec	65	DSL	109.07	5.13	3.13	0.003645739	0.000	0.000						
Orange	2040	LDT2	Aggregatec	65	GAS	973824.14											
Orange	2040	LDT2	Aggregatec	65	DSL	2140.08	100.57	61.40	0.003112028	0.001	0.000						
Orange	2040	LHDT1	Aggregatec	65	GAS	18088.63											
Orange	2040	LHDT1	Aggregatec	65	DSL	69687.29	3274.90	1999.22	0.005689391	0.041	0.025						
Orange	2040	LHDT2	Aggregatec	65	GAS	7858.38											
Orange	2040	LHDT2	Aggregatec	65	DSL	35192.00	1653.82	1009.61	0.005579285	0.020	0.012						
Orange	2040	MDV	Aggregatec	65	GAS	466835.18											
Orange	2040	MDV	Aggregatec	65	DSL	13123.32	616.72	376.49	0.000770465	0.001	0.001						
Orange	2040	MH	Aggregatec	65	GAS	2227.68											
Orange	2040	MH	Aggregatec	65	DSL	861.58	40.49	24.72	0.027778475	0.002	0.002						
Orange	2040	MHDT	Aggregatec	65	GAS	7648.92											
Orange	2040	MHDT	Aggregatec	65	DSL	138331.51	6500.78	3968.53	0.002357575	0.034	0.021						
Orange	2040	OBUS	Aggregatec	65	GAS	3771.10											
Orange	2040	OBUS	Aggregatec	65	DSL	5834.17	274.17	167.37	0.003107651	0.002	0.001						
Orange	2040	UBUS	Aggregatec	65	GAS	542.98											
Orange	2040	UBUS	Aggregatec	65	DSL	558.15	26.23	16.01	0.005885378	0.000	0.000						
Orange	2040	UBUS	Aggregatec	65	DSL	4208881.13											
												Total LM Diesel Emissions		Total Emissions per Volume Source for Modeling			
												0.18	0.18	26	26	1.59E-05	1.28E-05
												0.29	0.29	26	26	4.48E-05	3.68E-05

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Riverside
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day		Emission Factor		DPM Emissions		DPM Emissions		No. of Vol Sources		Emissions per Volume Source for 1-mile segment Model		
							Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
Riverside	2040	HHDT	Aggregatec	55	GAS	3201.49	144118.86	142482.00	0.004476464	1.42	1.41	45	45	3.31E-05	3.29E-05	LM VMT/day	HD VMT/day		
Riverside	2040	HHDT	Aggregatec	55	DSL	649756.47										317,387	144,829		
						652957.96										372,726	143,184		
						HHDT Total													
Riverside	2040	SRUS	Aggregatec	55	GAS	776.58													
Riverside	2040	SRUS	Aggregatec	55	DSL	1690.78	83.17	97.67	0.00236367	0.000	0.001								
Riverside	2040	LDA	Aggregatec	65	GAS	3501914.18													
Riverside	2040	LDA	Aggregatec	65	DSL	48508.09	2386.11	2802.15	0.000623643	0.003	0.004								
Riverside	2040	LDT1	Aggregatec	65	GAS	248324.94													
Riverside	2040	LDT1	Aggregatec	65	DSL	137.00	6.74	7.91	0.003565448	0.000	0.000								
Riverside	2040	LDT2	Aggregatec	65	GAS	1414362.82													
Riverside	2040	LDT2	Aggregatec	65	DSL	3103.14	152.64	179.26	0.003153393	0.001	0.001								
Riverside	2040	LHDT1	Aggregatec	65	GAS	39326.39													
Riverside	2040	LHDT1	Aggregatec	65	DSL	115060.74	5659.84	6646.67	0.006306578	0.079	0.092								
Riverside	2040	LHDT2	Aggregatec	65	GAS	14891.48													
Riverside	2040	LHDT2	Aggregatec	65	DSL	57609.46	2833.81	3327.90	0.005487154	0.034	0.040								
Riverside	2040	MDV	Aggregatec	65	GAS	719958.26													
Riverside	2040	MDV	Aggregatec	65	DSL	20002.70	983.93	1155.49	0.000795775	0.002	0.002								
Riverside	2040	MH	Aggregatec	65	GAS	4466.36													
Riverside	2040	MH	Aggregatec	65	DSL	1592.49	78.33	91.99	0.036584456	0.006	0.007								
Riverside	2040	MHDT	Aggregatec	65	GAS	24915.11													
Riverside	2040	MHDT	Aggregatec	65	DSL	212366.83	10446.32	12267.71	0.002461834	0.057	0.067								
Riverside	2040	OBUS	Aggregatec	65	GAS	9566.87													
Riverside	2040	OBUS	Aggregatec	65	DSL	11315.88	556.63	653.68	0.002890411	0.004	0.004								
Riverside	2040	UBUS	Aggregatec	65	GAS	1194.26													
Riverside	2040	UBUS	Aggregatec	65	DSL	1183.27	58.21	68.35	0.001999034	0.000	0.000								
						LM Total			Total LM Diesel Emissions	1.61	1.62	45	45	3.75E-05	3.81E-05				
						6452267.66			Total LM Diesel Emissions	1.61	1.62	45	45	3.75E-05	3.81E-05				

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Riverside
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Additional Segment
 RIV I-15, Riverside Northbound 75,978
 RIV I-15, Riverside Southbound 91,002
 *RIV I-15, Riverside County, near Temecula
 Total segment length 4.81 miles
 Total Segment Length Northbound 5.83 miles
 Total Segment Length Southbound

LM VMT/day 469,031
 HD VMT/day 75,978
 555,310 91,002

Emissions per Volume Source for 1-
 mile segment Model

Region	CalYr	VehClass	MedYr	Speed	Fuel	VMT	Diesel VMT/day		Diesel VMT/day		Emission Factor	DPM Emissions (lb/day)		DPM Emissions (lb/day)		No. of Vol Sources	No. of Vol Sources	Emissions per Volume Source for 1- mile segment Model	
							Eastbound	Westbound	Eastbound	Westbound		Eastbound	Westbound	Eastbound	Westbound			Eastbound	Westbound
Riverside	2040	HHDT	Aggregatec	55	GAS	3201.49	75605.33	90555.32	0.004476464	0.75	0.89	45	45	1.81E-05	1.79E-05				
Riverside	2040	HHDT	Aggregatec	55	DSL	649756.47													
						HHDT Total													
Riverside	2040	SBUS	Aggregatec	55	GAS	776.58													
Riverside	2040	SBUS	Aggregatec	55	DSL	1690.78	122.91	145.52	0.00236367	0.001	0.001	0.001	0.001						
Riverside	2040	LDA	Aggregatec	65	GAS	3501914.18													
Riverside	2040	LDA	Aggregatec	65	DSL	48508.09	3526.17	4174.81	0.000623643	0.005	0.006	0.006	0.006						
Riverside	2040	LDT1	Aggregatec	65	GAS	248324.94													
Riverside	2040	LDT1	Aggregatec	65	DSL	137.00	9.96	11.79	0.003565448	0.000	0.000	0.000	0.000						
Riverside	2040	LDT2	Aggregatec	65	GAS	1414362.82													
Riverside	2040	LDT2	Aggregatec	65	DSL	3103.14	225.58	267.07	0.003153393	0.002	0.002	0.002	0.002						
Riverside	2040	LHDT1	Aggregatec	65	GAS	39326.39													
Riverside	2040	LHDT1	Aggregatec	65	DSL	115060.74	8364.05	9902.62	0.006306578	0.116	0.138	0.138	0.138						
Riverside	2040	LHDT2	Aggregatec	65	GAS	14891.48													
Riverside	2040	LHDT2	Aggregatec	65	DSL	57609.46	4187.77	4958.12	0.005487154	0.051	0.060	0.060	0.060						
Riverside	2040	MDV	Aggregatec	65	GAS	719958.26													
Riverside	2040	MDV	Aggregatec	65	DSL	20002.70	1454.05	1721.52	0.000795775	0.003	0.003	0.003	0.003						
Riverside	2040	MH	Aggregatec	65	GAS	4466.36													
Riverside	2040	MH	Aggregatec	65	DSL	1592.49	115.76	137.06	0.036584456	0.009	0.011	0.011	0.011						
Riverside	2040	MHDT	Aggregatec	65	GAS	24915.11													
Riverside	2040	MHDT	Aggregatec	65	DSL	212366.83	15437.47	18277.20	0.002461834	0.084	0.099	0.099	0.099						
Riverside	2040	OBUS	Aggregatec	65	GAS	9566.87													
Riverside	2040	OBUS	Aggregatec	65	DSL	11315.88	822.58	973.89	0.002890411	0.005	0.006	0.006	0.006						
Riverside	2040	UBUS	Aggregatec	65	GAS	1194.26													
Riverside	2040	UBUS	Aggregatec	65	DSL	1183.27	86.01	101.84	0.00199034	0.000	0.000	0.000	0.000						
						LM Total	6452267.66	Total LM Diesel Emissions	1.02	1.22	1.22	1.22	1.22						
								Total Diesel Emissions	0.28	0.33	0.33	0.33	0.33						
								Total LM Diesel Emissions	45	45	45	45	45						
								Total Diesel Emissions	6.68E-06	2.44E-05	2.44E-05	2.44E-05	2.44E-05						
								Total LM Diesel Emissions	6.52E-06	2.44E-05	2.44E-05	2.44E-05	2.44E-05						

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Riverside
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 RW SR-91 in Corona Eastbound 42,928
 RW SR-91 in Corona Westbound 45,127
 *SR 91 in Corona, east of the intersection with SR 71
 Total Segment Length Eastbound 2.01 miles
 Total Segment Length Westbound 1.76 miles

LM VMT/day 279,241
 HD VMT/day 261,128

Emissions per Volume Source for 1-mile segment Model

Region	CalYr	VehClass	MedYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	Emission Factor	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	Eastbound	Westbound	Eastbound	Westbound
Riverside	2040	HHDT	Aggregatec	55	GAS	3201.49	42717.23	44906.14	0.004476464	0.42	0.44	35	35	3.15E-05	3.78E-05		
Riverside	2040	HHDT	Aggregatec	55	DSL	649756.47											
					HHDT Total	652957.96											
Riverside	2040	SBUS	Aggregatec	55	GAS	776.58											
Riverside	2040	SBUS	Aggregatec	55	DSL	1690.78	73.17	68.43	0.00236367	0.000	0.000						
Riverside	2040	LDA	Aggregatec	65	GAS	3501914.18											
Riverside	2040	LDA	Aggregatec	65	DSL	48508.09	2099.33	1963.16	0.000623643	0.003	0.003						
Riverside	2040	LDT1	Aggregatec	65	GAS	248324.94											
Riverside	2040	LDT1	Aggregatec	65	DSL	137.00	5.93	5.54	0.003565448	0.000	0.000						
Riverside	2040	LDT2	Aggregatec	65	GAS	1414362.82											
Riverside	2040	LDT2	Aggregatec	65	DSL	3103.14	134.30	125.59	0.003163393	0.001	0.001						
Riverside	2040	LHDT1	Aggregatec	65	GAS	39326.39											
Riverside	2040	LHDT1	Aggregatec	65	DSL	115060.74	4979.59	4656.60	0.006306578	0.069	0.065						
Riverside	2040	LHDT2	Aggregatec	65	GAS	14891.48											
Riverside	2040	LHDT2	Aggregatec	65	DSL	57609.46	2493.22	2331.50	0.005487154	0.030	0.028						
Riverside	2040	MDV	Aggregatec	65	GAS	719958.26											
Riverside	2040	MDV	Aggregatec	65	DSL	20002.70	865.68	809.53	0.000795775	0.002	0.001						
Riverside	2040	MH	Aggregatec	65	GAS	4466.36											
Riverside	2040	MH	Aggregatec	65	DSL	1592.49	68.92	64.45	0.036584456	0.006	0.005						
Riverside	2040	MHDT	Aggregatec	65	GAS	24915.11											
Riverside	2040	MHDT	Aggregatec	65	DSL	212366.83	9190.80	8594.66	0.002461834	0.050	0.047						
Riverside	2040	OBUS	Aggregatec	65	GAS	9566.87											
Riverside	2040	OBUS	Aggregatec	65	DSL	11315.88	489.73	457.96	0.002890411	0.003	0.003						
Riverside	2040	UBUS	Aggregatec	65	GAS	1194.26											
Riverside	2040	UBUS	Aggregatec	65	DSL	1183.27	51.21	47.89	0.001999034	0.000	0.000						
					LM Total	6452267.66			Total LM Diesel Emissions	0.16	0.15						
									Total Diesel Emissions	0.59	0.60						

Total Emissions per Volume Source for Modeling
 35 1.22E-05 1.31E-05
 35 4.37E-05 5.08E-05

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: San Bernardino
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 SB I-15 in Ontario Northbound 244,700 LM VMT/day 56,894 HD VMT/day
 SB I-15 in Ontario Southbound 227,670 58,753
 *SB I-15 in Ontario
 Total Segment Length Northbound 2.95 miles
 Total Segment Length Southbound 2.97 miles

Emissions per Volume Source for 1-
 mile segment Model
 Northbound Southbound

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Southbound	Emission Factor	Northbound	Southbound	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	g/sec	g/sec
San Bernar	2040	HHDT	Aggregatec	55	GAS	2082.99											
San Bernar	2040	HHDT	Aggregatec	55	DSL	603502.45	56698.73	58551.02	0.004549501	0.57	0.59	0.57	0.59	38	38	2.66E-05	2.73E-05
					HHDT Total	605585.43											
San Bernar	2040	SBUS	Aggregatec	55	GAS	948.29											
San Bernar	2040	SBUS	Aggregatec	55	DSL	1812.51	57.19	53.21	0.002367195	0.000	0.000	0.000	0.000				
San Bernar	2040	LDA	Aggregatec	65	GAS	4394414.35											
San Bernar	2040	LDA	Aggregatec	65	DSL	60835.08	1919.45	1785.87	0.000628079	0.003	0.002	0.003	0.002				
San Bernar	2040	LDT1	Aggregatec	65	GAS	297115.98											
San Bernar	2040	LDT1	Aggregatec	65	DSL	166.37	5.25	4.88	0.004148062	0.000	0.000	0.000	0.000				
San Bernar	2040	LDT2	Aggregatec	65	GAS	1662936.18											
San Bernar	2040	LDT2	Aggregatec	65	DSL	3645.97	115.04	107.03	0.003170803	0.001	0.001	0.001	0.001				
San Bernar	2040	LHDT1	Aggregatec	65	GAS	49719.79											
San Bernar	2040	LHDT1	Aggregatec	65	DSL	100601.03	3174.13	2953.23	0.006471347	0.045	0.042	0.045	0.042				
San Bernar	2040	LHDT2	Aggregatec	65	GAS	18595.24											
San Bernar	2040	LHDT2	Aggregatec	65	DSL	49401.15	1558.69	1450.21	0.005641162	0.019	0.018	0.019	0.018				
San Bernar	2040	MDV	Aggregatec	65	GAS	858133.18											
San Bernar	2040	MDV	Aggregatec	65	DSL	23766.83	749.88	697.70	0.000818397	0.001	0.001	0.001	0.001				
San Bernar	2040	MH	Aggregatec	65	GAS	6284.92											
San Bernar	2040	MH	Aggregatec	65	DSL	1868.41	58.95	54.85	0.035762098	0.005	0.004	0.005	0.004				
San Bernar	2040	MHDT	Aggregatec	65	GAS	32168.83											
San Bernar	2040	MHDT	Aggregatec	65	DSL	167377.33	5281.03	4913.50	0.002347392	0.027	0.025	0.027	0.025				
San Bernar	2040	OBUS	Aggregatec	65	GAS	16247.91											
San Bernar	2040	OBUS	Aggregatec	65	DSL	5941.27	187.46	174.41	0.003061533	0.001	0.001	0.001	0.001				
San Bernar	2040	UBUS	Aggregatec	65	GAS	1757.59											
San Bernar	2040	UBUS	Aggregatec	65	DSL	1791.14	56.51	52.58	0.005096589	0.001	0.001	0.001	0.001				
					LM Total	7755529.37											
Total Emissions per Volume Source for Modeling																	
Total LM Diesel Emissions 0.67																	
Total LM Diesel Emissions 0.10																	
Total Emissions per Volume Source 3.15E-05																	
Total Emissions per Volume Source 4.86E-06																	
Total Emissions per Volume Source 3.18E-05																	

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: San Bernardino
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Additional Segment
 SB I-15 in the Victorville area Northbound
 SB I-15 in the Victorville area Southbound
 *I-15 in the Victorville area

Total segment length
 Total Segment Length Northbound 4.32 miles
 Total Segment Length Southbound 4.39 miles

Emissions per Volume Source for 1-
 mile segment Model
 Eastbound Westbound

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Westbound	Emission Factor	Eastbound	Westbound	Eastbound	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	g/sec	g/sec
San Bernar	2040	HHDT	Aggregatec	55	GAS	2082.99												
San Bernar	2040	HHDT	Aggregatec	55	DSL	603502.45	85534.46	88219.93	0.004549501	0.86	0.88	0.88	0.86	0.88	58	58	1.80E-05	1.82E-05
							HHDT Total											
San Bernar	2040	SBUS	Aggregatec	55	GAS	948.29												
San Bernar	2040	SBUS	Aggregatec	55	DSL	1812.51	44.84	41.61	0.002367195	0.000	0.000	0.000	0.000	0.000				
San Bernar	2040	LDA	Aggregatec	65	GAS	4394414.35												
San Bernar	2040	LDA	Aggregatec	65	DSL	60835.08	1504.90	1396.66	0.000628079	0.002	0.002	0.002	0.002	0.002				
San Bernar	2040	LDT1	Aggregatec	65	GAS	297115.98												
San Bernar	2040	LDT1	Aggregatec	65	DSL	166.37	4.12	3.82	0.004148062	0.000	0.000	0.000	0.000	0.000				
San Bernar	2040	LDT2	Aggregatec	65	GAS	1662936.18												
San Bernar	2040	LDT2	Aggregatec	65	DSL	3645.97	90.19	83.70	0.003170803	0.001	0.001	0.001	0.001	0.001				
San Bernar	2040	LHDT1	Aggregatec	65	GAS	49719.79												
San Bernar	2040	LHDT1	Aggregatec	65	DSL	100601.03	2488.61	2309.61	0.006471347	0.036	0.033	0.033	0.036	0.033				
San Bernar	2040	LHDT2	Aggregatec	65	GAS	18595.24												
San Bernar	2040	LHDT2	Aggregatec	65	DSL	49401.15	1222.06	1134.16	0.005641162	0.015	0.014	0.014	0.015	0.014				
San Bernar	2040	MDV	Aggregatec	65	GAS	858133.18												
San Bernar	2040	MDV	Aggregatec	65	DSL	23766.83	587.93	545.64	0.000818397	0.001	0.001	0.001	0.001	0.001				
San Bernar	2040	MH	Aggregatec	65	GAS	6284.92												
San Bernar	2040	MH	Aggregatec	65	DSL	1868.41	46.22	42.90	0.035762098	0.004	0.003	0.003	0.004	0.003				
San Bernar	2040	MHDT	Aggregatec	65	GAS	32168.83												
San Bernar	2040	MHDT	Aggregatec	65	DSL	167377.33	4140.48	3842.66	0.002347392	0.021	0.020	0.020	0.021	0.020				
San Bernar	2040	OBUS	Aggregatec	65	GAS	16247.91												
San Bernar	2040	OBUS	Aggregatec	65	DSL	5941.27	146.97	136.40	0.003061533	0.001	0.001	0.001	0.001	0.001				
San Bernar	2040	UBUS	Aggregatec	65	GAS	1757.59												
San Bernar	2040	UBUS	Aggregatec	65	DSL	1791.14	44.31	41.12	0.005096589	0.000	0.000	0.000	0.000	0.000				
							LM Total											
							7755529.37	Total Diesel Emissions	0.94		0.96		Total Emissions per Volume Source for Modeling		58		1.70E-06 1.98E-05	

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: San Bernardino
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNETX, PMBW and PMTWT

Original Segment
 SB SR-60 in Ontario Eastbound 33,829
 SB SR-60 in Ontario Westbound 30,221
 *SR 60 in Ontario, west of the I-15 interchange
 Total Segment Length Eastbound 2.35 miles
 Total Segment Length Westbound 2.22 miles

Emissions per Volume Source for 1-mile segment Model

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day		DPM Emissions (lb/day)		Emission Factor		DPM Emissions (lb/day)		No. of Vol Sources		Emissions per Volume Source for 1-mile segment Model	
							Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
San Bernar	2040	HHDT	Aggregatec	55	GAS	2082.99	33712.84	30117.11	0.004549501	0.34	0.30	38	38	1.99E-05	1.88E-05			
San Bernar	2040	HHDT	Aggregatec	55	DSL	603502.45												
					HHDT Total	605585.43												
San Bernar	2040	SBUS	Aggregatec	55	GAS	948.29												
San Bernar	2040	SBUS	Aggregatec	55	DSL	1812.51	56.82	55.17	0.002367195	0.000	0.000							
San Bernar	2040	LDA	Aggregatec	65	GAS	4394414.35												
San Bernar	2040	LDA	Aggregatec	65	DSL	60835.08	1906.96	1851.86	0.000628079	0.003	0.003							
San Bernar	2040	LDT1	Aggregatec	65	GAS	297115.98												
San Bernar	2040	LDT1	Aggregatec	65	DSL	166.37	5.21	5.06	0.004148062	0.000	0.000							
San Bernar	2040	LDT2	Aggregatec	65	GAS	1662936.18												
San Bernar	2040	LDT2	Aggregatec	65	DSL	3645.97	114.29	110.99	0.003170803	0.001	0.001							
San Bernar	2040	LHDT1	Aggregatec	65	GAS	49719.79												
San Bernar	2040	LHDT1	Aggregatec	65	DSL	100601.03	3153.47	3062.36	0.006471347	0.045	0.044							
San Bernar	2040	LHDT2	Aggregatec	65	GAS	18595.24												
San Bernar	2040	LHDT2	Aggregatec	65	DSL	49401.15	1548.54	1503.80	0.005641162	0.019	0.019							
San Bernar	2040	MDV	Aggregatec	65	GAS	858133.18												
San Bernar	2040	MDV	Aggregatec	65	DSL	23766.83	745.00	723.48	0.000818397	0.001	0.001							
San Bernar	2040	MH	Aggregatec	65	GAS	6284.92												
San Bernar	2040	MH	Aggregatec	65	DSL	1868.41	58.57	56.88	0.035762098	0.005	0.004							
San Bernar	2040	MHDT	Aggregatec	65	GAS	32168.83												
San Bernar	2040	MHDT	Aggregatec	65	DSL	167377.33	5246.66	5095.06	0.002347392	0.027	0.026							
San Bernar	2040	OBUS	Aggregatec	65	GAS	16247.91												
San Bernar	2040	OBUS	Aggregatec	65	DSL	5941.27	186.24	180.86	0.003061533	0.001	0.001							
San Bernar	2040	UBUS	Aggregatec	65	GAS	1757.59												
San Bernar	2040	UBUS	Aggregatec	65	DSL	1791.14	56.15	54.52	0.005096589	0.001	0.001							
					LM Total	7755529.37												
					Total LM Diesel Emissions					0.44	0.10							
					Total Diesel Emissions					0.40	0.10							
					Total LM Diesel Emissions					0.10	0.10							
					Total Diesel Emissions					0.40	0.10							
					Total LM Diesel Emissions					0.10	0.10							
					Total Diesel Emissions					0.40	0.10							
					Total LM Diesel Emissions					0.10	0.10							
					Total Diesel Emissions					0.40	0.10							
					Total LM Diesel Emissions					0.10	0.10							
					Total Diesel Emissions					0.40	0.10							
					Total LM Diesel Emissions					0.10	0.10							
					Total Diesel Emissions					0.40	0.10							

6.06E-06	38	6.23E-06
2.59E-05	38	2.50E-05

Total Emissions per Volume Source for Modelling

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Ventura
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUXEX, PMBW and PMTW

Original Segment
 VEN US-101 SB Ventura Freeway Northbound
 VEN US-101 SB Ventura Freeway Southbound
 *US-101 Freeway in San Buenaventura near the Ventura Harbor
 Total segment length 3.21 miles
 Total Segment Length Northbound
 Total Segment Length Southbound 3.26 miles

LM VMT/day 163,426
 HD VMT/day 29,060
 163,698
 30,050

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day		DPM Emissions (lb/day)	Emission Factor	DPM Emissions (lb/day)		No. of Vol Sources	Emissions per Volume Source for 1-mile segment Model	
							Northbound	Southbound			Northbound	Southbound		Northbound	Southbound
Ventura	2040	HHDT	Aggregatec	55	GAS	574.78									
Ventura	2040	HHDT	Aggregatec	55	DSL	40656.62	28654.62	29631.55	0.004456099	0.28	0.29	74	6.22E-06	6.34E-06	
					HHDT Total	41231.40									
Ventura	2040	SBUS	Aggregatec	55	GAS	236.72									
Ventura	2040	SBUS	Aggregatec	55	DSL	216.06	20.64	20.68	0.002368973	0.000	0.000				
Ventura	2040	LDA	Aggregatec	65	GAS	970214.24									
Ventura	2040	LDA	Aggregatec	65	DSL	13436.49	1283.75	1285.89	0.000640157	0.002	0.002				
Ventura	2040	LDT1	Aggregatec	65	GAS	71327.90									
Ventura	2040	LDT1	Aggregatec	65	DSL	39.64	3.79	3.79	0.004119509	0.000	0.000				
Ventura	2040	LDT2	Aggregatec	65	GAS	351421.41									
Ventura	2040	LDT2	Aggregatec	65	DSL	772.46	73.80	73.93	0.003097864	0.001	0.001				
Ventura	2040	LHDT1	Aggregatec	65	GAS	8740.89									
Ventura	2040	LHDT1	Aggregatec	65	DSL	35099.94	3353.53	3359.11	0.006651495	0.049	0.049				
Ventura	2040	LHDT2	Aggregatec	65	GAS	3704.61									
Ventura	2040	LHDT2	Aggregatec	65	DSL	17306.58	1653.51	1656.26	0.005632767	0.021	0.021				
Ventura	2040	MDV	Aggregatec	65	GAS	173106.80									
Ventura	2040	MDV	Aggregatec	65	DSL	4862.35	464.56	465.33	0.000733245	0.001	0.001				
Ventura	2040	MH	Aggregatec	65	GAS	1073.74									
Ventura	2040	MH	Aggregatec	65	DSL	426.61	40.76	40.83	0.04421314	0.004	0.004				
Ventura	2040	MHDT	Aggregatec	65	GAS	3429.98									
Ventura	2040	MHDT	Aggregatec	65	DSL	51809.22	4949.97	4958.22	0.002371846	0.026	0.026				
Ventura	2040	OBUS	Aggregatec	65	GAS	1565.61									
Ventura	2040	OBUS	Aggregatec	65	DSL	1256.95	120.09	120.29	0.003032481	0.001	0.001				
Ventura	2040	UBUS	Aggregatec	65	GAS	226.50									
Ventura	2040	UBUS	Aggregatec	65	DSL	230.13	21.99	22.02	0.002390041	0.000	0.000				
					LM Total	1710504.85									
								Total LIM Diesel Emissions	0.39	0.39	74	2.29E-06	2.26E-06		
								Total Emissions per Volume Source for Modeling	8.51E-06	8.60E-06	74	8.51E-06	8.60E-06		

EMFAC2014 (v1.0.7) Emission Rates

Region: County
 Region: Ventura
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 VENUS-101 in Thousand Oaks Northbound 10.476
 VENUS-101 in Thousand Oaks Southbound 12.661
 * US 101 in Thousand Oaks, east of SR 23
 Total segment length
 Total Segment Length Northbound 0.79 miles
 Total Segment Length Southbound 0.94 miles

Emissions per Volume Source for 1-mile segment/Model

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day		PM10_RUNEX		DPM Emissions (lb/day)		No. of Vol Sources		Emissions per Volume Source for 1-mile segment/Model	
							Northbound	Southbound	Emission Factor	Northbound	Southbound	DPM Emissions (lb/day)	Southbound	Northbound	Southbound	Northbound	Southbound
Ventura	2040	HHDT	Aggregatec	55	GAS	574.78	10330.18	12484.63	0.004456099	0.10	0.12	36	36	1.48E-05	1.79E-05	
Ventura	2040	HHDT	Aggregatec	55	DSL	40656.62	41231.40									
Ventura	2040	SBUS	Aggregatec	55	GAS	236.72	8.56	10.25	0.002368973	0.000	0.000					
Ventura	2040	LDA	Aggregatec	65	GAS	216.06										
Ventura	2040	LDA	Aggregatec	65	DSL	970214.24										
Ventura	2040	LDT1	Aggregatec	65	GAS	13436.49	532.08	637.22	0.000640157	0.001	0.001					
Ventura	2040	LDT1	Aggregatec	65	DSL	71327.90										
Ventura	2040	LDT1	Aggregatec	65	DSL	39.64	1.57	1.88	0.004119509	0.000	0.000					
Ventura	2040	LDT2	Aggregatec	65	GAS	351421.41										
Ventura	2040	LDT2	Aggregatec	65	DSL	772.46	30.59	36.63	0.003097864	0.000	0.000					
Ventura	2040	LHDT1	Aggregatec	65	GAS	8740.89										
Ventura	2040	LHDT1	Aggregatec	65	DSL	35099.94	1389.96	1664.59	0.006651495	0.020	0.024					
Ventura	2040	LHDT2	Aggregatec	65	GAS	3704.61										
Ventura	2040	LHDT2	Aggregatec	65	DSL	17306.58	685.34	820.75	0.005632767	0.009	0.010					
Ventura	2040	MDV	Aggregatec	65	GAS	173106.80										
Ventura	2040	MDV	Aggregatec	65	DSL	4862.35	192.55	230.59	0.000733245	0.000	0.000					
Ventura	2040	MH	Aggregatec	65	GAS	1073.74										
Ventura	2040	MH	Aggregatec	65	DSL	426.61	16.89	20.23	0.04421314	0.002	0.002					
Ventura	2040	MHDT	Aggregatec	65	GAS	3429.98										
Ventura	2040	MHDT	Aggregatec	65	DSL	51809.22	2051.64	2457.02	0.002371846	0.011	0.013					
Ventura	2040	OBUS	Aggregatec	65	GAS	1565.61										
Ventura	2040	OBUS	Aggregatec	65	DSL	1256.95	49.78	59.61	0.003032481	0.000	0.000					
Ventura	2040	UBUS	Aggregatec	65	GAS	226.50										
Ventura	2040	UBUS	Aggregatec	65	DSL	230.13	9.11	10.91	0.002390041	0.000	0.000					
Ventura	2040	UBUS	Aggregatec	65	DSL	1710504.85										
							Total LM Diesel Emissions		Total LM Diesel Emissions		Total Emissions per Volume Source for Modeling		Total Emissions per Volume Source for Modeling		Total Emissions per Volume Source for Modeling	
							10.91		10.91		36		36		6.7E-06	
							0.14		0.14		36		36		2.5E-05	
							0.17		0.17		36		36		7.5E-06	

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Imperial
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMB and PMTW

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day		Emission Factor		DPM Emissions		No. of Vol Sources		Emissions per Volume Source for 1-mile segment Model	
							Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
Imperial	2040	HHDT	Aggregatec	55	GAS	344.61	11329.68	11483.86	0.00444601	0.11	0.11	74	74	5.22E-06	9.45E-07	
Imperial	2040	HHDT	Aggregatec	55	HHDT Total	112881.97										
Imperial	2040	SBUS	Aggregatec	55	GAS	106.81										
Imperial	2040	SBUS	Aggregatec	55	DSL	133.56	2.88	2.98	0.002371209	0.000	0.000					
Imperial	2040	LDA	Aggregatec	65	GAS	652537.91										
Imperial	2040	LDA	Aggregatec	65	DSL	9049.41	194.98	201.69	0.000607682	0.000	0.000					
Imperial	2040	LDT1	Aggregatec	65	GAS	40817.67										
Imperial	2040	LDT1	Aggregatec	65	DSL	23.04	0.50	0.51	0.004422653	0.000	0.000					
Imperial	2040	LDT2	Aggregatec	65	GAS	231016.98										
Imperial	2040	LDT2	Aggregatec	65	DSL	506.71	10.92	11.29	0.003155957	0.000	0.000					
Imperial	2040	LHDT1	Aggregatec	65	GAS	9623.67										
Imperial	2040	LHDT1	Aggregatec	65	DSL	23096.13	497.64	514.75	0.007196915	0.008	0.008					
Imperial	2040	LHDT2	Aggregatec	65	GAS	3638.16										
Imperial	2040	LHDT2	Aggregatec	65	DSL	11199.01	241.30	249.59	0.005588946	0.003	0.003					
Imperial	2040	MDV	Aggregatec	65	GAS	131010.07										
Imperial	2040	MDV	Aggregatec	65	DSL	3580.16	77.14	79.79	0.000845033	0.000	0.000					
Imperial	2040	MH	Aggregatec	65	GAS	1208.45										
Imperial	2040	MH	Aggregatec	65	DSL	380.40	8.20	8.48	0.02146537	0.000	0.000					
Imperial	2040	MHDT	Aggregatec	65	GAS	8871.92										
Imperial	2040	MHDT	Aggregatec	65	DSL	50973.55	1098.29	1136.05	0.002559514	0.006	0.006					
Imperial	2040	OBUS	Aggregatec	65	GAS	3105.57										
Imperial	2040	OBUS	Aggregatec	65	DSL	10460.70	225.39	233.14	0.002730687	0.001	0.001					
Imperial	2040	UBUS	Aggregatec	65	GAS	340.65										
Imperial	2040	UBUS	Aggregatec	65	DSL	336.86	7.26	7.51	0.008915933	0.000	0.000					
Imperial	2040	UBUS	Aggregatec	65	DSL	1192017.37										
							Total LM Diesel Emissions	Total LM Diesel Emissions				Total Emissions per Volume Source for Modeling	Total Emissions per Volume Source for Modeling			
												74	74	9.14E-07	9.45E-07	
														6.13E-06	6.23E-06	

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Imperial
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTTW

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	Emission Factor	DPM Emissions (lb/day)		DPM Emissions (lb/day)		No. of Vol Sources	No. of Vol Sources	Emissions per Volume Source for 1-mile segment / Model	
										Eastbound	Westbound	Eastbound	Westbound			Eastbound	Westbound	Eastbound	Westbound
Imperial	2040	HHDT	Aggregatec	55	GAS	344.61											
Imperial	2040	HHDT	Aggregatec	55	DSL	112537.37	2256.25	2410.12	0.00444601	0.02	0.02	0.02	0.02	81	81	1.43E-06	1.53E-06
						HHDT Total											
Imperial	2040	SRUS	Aggregatec	55	GAS	106.81											
Imperial	2040	SRUS	Aggregatec	55	DSL	133.56	1.54	0.92	0.002371209	0.000	0.000	0.000	0.000				
Imperial	2040	LDA	Aggregatec	65	GAS	652537.91											
Imperial	2040	LDA	Aggregatec	65	DSL	9049.41	104.23	62.41	0.000607682	0.000	0.000	0.000	0.000				
Imperial	2040	LDT1	Aggregatec	65	GAS	40817.67											
Imperial	2040	LDT1	Aggregatec	65	DSL	23.04	0.27	0.16	0.00422653	0.000	0.000	0.000	0.000				
Imperial	2040	LDT2	Aggregatec	65	GAS	231016.98											
Imperial	2040	LDT2	Aggregatec	65	DSL	506.71	5.84	3.49	0.003155957	0.000	0.000	0.000	0.000				
Imperial	2040	LHDT1	Aggregatec	65	GAS	9623.67											
Imperial	2040	LHDT1	Aggregatec	65	DSL	23096.13	266.01	159.29	0.007196915	0.004	0.003	0.003	0.003				
Imperial	2040	LHDT2	Aggregatec	65	GAS	3638.16											
Imperial	2040	LHDT2	Aggregatec	65	DSL	11199.01	128.99	77.24	0.005588946	0.002	0.001	0.001	0.001				
Imperial	2040	MDV	Aggregatec	65	GAS	131010.07											
Imperial	2040	MDV	Aggregatec	65	DSL	3580.16	41.24	24.69	0.000845033	0.000	0.000	0.000	0.000				
Imperial	2040	MH	Aggregatec	65	GAS	1208.45											
Imperial	2040	MH	Aggregatec	65	DSL	380.40	4.38	2.62	0.02146537	0.000	0.000	0.000	0.000				
Imperial	2040	MHDT	Aggregatec	65	GAS	8871.92											
Imperial	2040	MHDT	Aggregatec	65	DSL	50973.55	587.10	351.56	0.002559514	0.003	0.002	0.002	0.002				
Imperial	2040	OBUS	Aggregatec	65	GAS	3105.57											
Imperial	2040	OBUS	Aggregatec	65	DSL	10460.70	120.48	72.15	0.002730687	0.001	0.000	0.000	0.000				
Imperial	2040	UBUS	Aggregatec	65	GAS	340.65											
Imperial	2040	UBUS	Aggregatec	65	DSL	336.86	3.88	2.32	0.008915933	0.000	0.000	0.000	0.000				
						LM Total								81	81	6.74E-07	4.04E-07
										Total LM Diesel Emissions		Total LM Diesel Emissions		Total Emissions per Volume Source for Modelling			
										0.03		0.03		2.11E-06		1.93E-06	

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Los Angeles
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUXEX, PMBW and PMTW

Additional Segment
 LA I-110 Northbound 23,539
 LA I-110 Southbound 20,874
 *LA I-110 in the LA County area, Carson
 Total segment length 1.98 miles
 Total Segment Length Northbound 1.92 miles
 Total Segment Length Southbound

Emissions per Volume Source for 1-mile segment Model

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	PM10_RUXEX	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	g/sec	g/sec
Los Angeles	2040	HHDT	Aggregatec	55	GAS	8784.56	20739.59	0.004705303	0.24	0.22	45	45	1.43E-05	1.31E-05	
Los Angeles	2040	HHDT	Aggregatec	55	DSL	1353513.34	23387.00	0.004705303	0.24	0.22	45	45	1.43E-05	1.31E-05	
						HHDT Total	1362297.90								
Los Angeles	2040	SBUS	Aggregatec	55	GAS	3729.05			0.000	0.000					
Los Angeles	2040	SBUS	Aggregatec	55	DSL	4974.29	87.12	0.002363056	0.000	0.000					
Los Angeles	2040	LDA	Aggregatec	65	GAS	3710930.24			0.001	0.001					
Los Angeles	2040	LDA	Aggregatec	65	DSL	51247.27	897.59	0.000638477	0.001	0.001					
Los Angeles	2040	LDT1	Aggregatec	65	GAS	357689.74			0.000	0.000					
Los Angeles	2040	LDT1	Aggregatec	65	DSL	203.88	3.57	0.005414579	0.000	0.000					
Los Angeles	2040	LDT2	Aggregatec	65	GAS	1717339.22			0.000	0.000					
Los Angeles	2040	LDT2	Aggregatec	65	DSL	3767.19	65.87	0.003206373	0.000	0.000					
Los Angeles	2040	LHDT1	Aggregatec	65	GAS	79906.68			0.068	0.068					
Los Angeles	2040	LHDT1	Aggregatec	65	DSL	333048.29	5833.33	0.005312212	0.068	0.068					
Los Angeles	2040	LHDT2	Aggregatec	65	GAS	34998.09			0.036	0.036					
Los Angeles	2040	LHDT2	Aggregatec	65	DSL	170083.04	2979.00	0.005548914	0.036	0.036					
Los Angeles	2040	MDV	Aggregatec	65	GAS	925711.09			0.001	0.001					
Los Angeles	2040	MDV	Aggregatec	65	DSL	25939.59	454.33	0.000810979	0.001	0.001					
Los Angeles	2040	MH	Aggregatec	65	GAS	8959.81			0.003	0.003					
Los Angeles	2040	MH	Aggregatec	65	DSL	3546.36	62.11	0.019049327	0.003	0.003					
Los Angeles	2040	MHDT	Aggregatec	65	GAS	35781.07			0.037	0.037					
Los Angeles	2040	MHDT	Aggregatec	65	DSL	406327.01	7116.81	0.002356509	0.037	0.037					
Los Angeles	2040	OBUS	Aggregatec	65	GAS	15205.64			0.005	0.005					
Los Angeles	2040	OBUS	Aggregatec	65	DSL	40072.26	701.86	0.003145968	0.005	0.005					
Los Angeles	2040	UBUS	Aggregatec	65	GAS	2408.08			0.015	0.015					
Los Angeles	2040	UBUS	Aggregatec	65	DSL	2618.07	45.86	0.008638593	0.015	0.015					
						LM Total	7934485.95		0.40	0.37	45	45	2.33E-05	2.24E-05	
												Total Emissions per Volume Source for Modeling			
												9.02E-06	9.29E-06		

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Los Angeles
 Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Region	CalYr	VehClass	MidYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	Emission Factor	DPM Emissions (lb/day)		DPM Emissions (lb/day)		No. of Vol Sources	Emissions per Volume Source for 1-mile segment Model	
										Northbound	Southbound	Northbound	Southbound		Northbound	Southbound	Northbound	Southbound
Los Angeles	2040	HHDT	Aggregatec	55	GAS	8784.56										
Los Angeles	2040	HHDT	Aggregatec	55	DSL	1353513.34	24518.18	21469.48	0.004705303	0.25	0.22	34	2.93E-05	34	2.10E-05	2.57E-05
					HHDT Total	1362297.90										
Los Angeles	2040	SBUS	Aggregatec	55	GAS	3729.05										
Los Angeles	2040	SBUS	Aggregatec	55	DSL	4974.29	103.80	99.52	0.002363056	0.001	0.001					
Los Angeles	2040	LDA	Aggregatec	65	GAS	3710930.24										
Los Angeles	2040	LDA	Aggregatec	65	DSL	51247.27	1069.41	1025.33	0.000638477	0.002	0.001					
Los Angeles	2040	LDT1	Aggregatec	65	GAS	357689.74										
Los Angeles	2040	LDT1	Aggregatec	65	DSL	203.88	4.25	4.08	0.005414579	0.000	0.000					
Los Angeles	2040	LDT2	Aggregatec	65	GAS	1717339.22										
Los Angeles	2040	LDT2	Aggregatec	65	DSL	3767.19	78.61	75.37	0.003206373	0.001	0.001					
Los Angeles	2040	LHDT1	Aggregatec	65	GAS	79906.68										
Los Angeles	2040	LHDT1	Aggregatec	65	DSL	333048.29	6949.93	6663.46	0.005312212	0.081	0.078					
Los Angeles	2040	LHDT2	Aggregatec	65	GAS	34998.09										
Los Angeles	2040	LHDT2	Aggregatec	65	DSL	170083.04	3549.23	3402.94	0.005548914	0.043	0.042					
Los Angeles	2040	MDV	Aggregatec	65	GAS	925711.09										
Los Angeles	2040	MDV	Aggregatec	65	DSL	25939.59	541.30	518.99	0.000810979	0.001	0.001					
Los Angeles	2040	MH	Aggregatec	65	GAS	8959.81										
Los Angeles	2040	MH	Aggregatec	65	DSL	3546.36	74.00	70.95	0.019049327	0.003	0.003					
Los Angeles	2040	MHDT	Aggregatec	65	GAS	35781.07										
Los Angeles	2040	MHDT	Aggregatec	65	DSL	406327.01	8479.08	8129.59	0.002356509	0.044	0.042					
Los Angeles	2040	OBUS	Aggregatec	65	GAS	15205.64										
Los Angeles	2040	OBUS	Aggregatec	65	DSL	40072.26	836.21	801.75	0.003145968	0.006	0.006					
Los Angeles	2040	UBUS	Aggregatec	65	GAS	2408.08										
Los Angeles	2040	UBUS	Aggregatec	65	DSL	2618.07	54.63	52.38	0.008638593	0.001	0.001					
					LM Total	7934485.95										
								Total LM Diesel Emissions	0.44	0.18	0.17	34	5.03E-05	34	2.02E-05	4.58E-05
								Total LM Diesel Emissions for Modeling	0.40	0.40						

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County

Region: Los Angeles

Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Additional Segment

LA SR-60 SEM, El Monte Eastbound 182,089 14,039

LA SR-60 SEM, El Monte Westbound 196,074 16,103

*LA SR-60 in the El Monte / Peck Rd area

Total segment length

Total Segment Length Eastbound 1.52 miles

Total Segment Length Westbound 1.50 miles

Emissions per Volume Source for
1-mile segment Model

Northbound	Southbound
1.28E-05	1.49E-05

Region	CallYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	PM10_RUNEX	DPM Emissions (lb/day)	DPM Emissions (lb/day)	Emission Factor	Northbound	Southbound	Northbound	Southbound	No. of Vol Sources	No. of Vol Sources	Emissions per Volume Source for 1-mile segment Model	Emissions per Volume Source for 1-mile segment Model	
Los Angele	2040	HHDT	Aggregatec	55	GAS	8784.56	15998.74	0.004705303	0.14	0.17	0.17	0.17	39	39	1.28E-05	1.49E-05	39	39	1.78E-05	1.94E-05	
Los Angele	2040	HHDT	Aggregatec	55	DSL	1353513.34	13948.19	0.004705303	0.14	0.17	0.17	0.17	39	39	1.28E-05	1.49E-05	39	39	1.78E-05	1.94E-05	
Los Angele	2040	HHDT	Aggregatec	55	DSL	1362297.90															
					HHDT Total																
Los Angele	2040	SBUS	Aggregatec	55	GAS	3729.05															
Los Angele	2040	SBUS	Aggregatec	55	DSL	4974.29	114.16	0.002363056	0.001	0.001	0.001	0.001									
Los Angele	2040	LDA	Aggregatec	65	GAS	3710930.24															
Los Angele	2040	LDA	Aggregatec	65	DSL	51247.27	1176.08	0.000638477	0.002	0.002	0.002	0.002									
Los Angele	2040	LDT1	Aggregatec	65	GAS	357689.74															
Los Angele	2040	LDT1	Aggregatec	65	DSL	203.88	4.68	0.005414579	0.000	0.000	0.000	0.000									
Los Angele	2040	LDT2	Aggregatec	65	GAS	1717339.22															
Los Angele	2040	LDT2	Aggregatec	65	DSL	3767.19	86.45	0.003206373	0.001	0.001	0.001	0.001									
Los Angele	2040	LHDT1	Aggregatec	65	GAS	79906.68															
Los Angele	2040	LHDT1	Aggregatec	65	DSL	333048.29	7643.14	0.005312212	0.090	0.096	0.096	0.096									
Los Angele	2040	LHDT2	Aggregatec	65	GAS	34998.09															
Los Angele	2040	LHDT2	Aggregatec	65	DSL	170083.04	3903.25	0.005548914	0.048	0.051	0.051	0.051									
Los Angele	2040	MIDV	Aggregatec	65	GAS	925711.09															
Los Angele	2040	MIDV	Aggregatec	65	DSL	25939.59	595.29	0.000810979	0.001	0.001	0.001	0.001									
Los Angele	2040	MH	Aggregatec	65	GAS	8959.81															
Los Angele	2040	MH	Aggregatec	65	DSL	3546.36	81.39	0.019049327	0.003	0.004	0.004	0.004									
Los Angele	2040	MHDT	Aggregatec	65	GAS	35781.07															
Los Angele	2040	MHDT	Aggregatec	65	DSL	406327.01	9324.82	0.002356509	0.048	0.052	0.052	0.052									
Los Angele	2040	OBUS	Aggregatec	65	GAS	15205.64															
Los Angele	2040	OBUS	Aggregatec	65	DSL	40072.26	919.62	0.003145968	0.006	0.007	0.007	0.007									
Los Angele	2040	UBUS	Aggregatec	65	GAS	2408.08															
Los Angele	2040	UBUS	Aggregatec	65	DSL	2618.07	60.08	0.008638593	0.001	0.001	0.001	0.001									
Los Angele	2040	UBUS	Aggregatec	65	DSL	7934465.95															
					LM Total																
					LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					LM Total																
					LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					LM Total																
					LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					LM Total																
					LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					LM Total																
					LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					LM Total																
					LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total LM Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									
					Total Diesel Emissions		64.70	0.008638593	0.001	0.001	0.001	0.001									

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Orange
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 ORA I-5 Northbound 19,018
 ORA I-5 Southbound 12,045
 *ORA I-5 in Orange County, near intersection of SR 57 and SR 22

Total segment length 1.32 miles
 Total Segment Length Northbound 0.81 miles
 Total Segment Length Southbound

Emissions per Volume Source for 1-mile segment Model
 Northbound Southbound

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Southbound	Emission Factor	Northbound	Southbound	Northbound	Southbound	No. of Vol Sources	No. of Vol Sources	DPM Emissions (lb/day)	DPM Emissions (lb/day)	g/sec	g/sec
Orange	2040	HHDT	Aggregatec	55	GAS	2257.31	18777.75	11893.16	0.004511043	0.19	0.12	26	26	26	26	0.12	0.19	2.86E-05	2.39E-05
Orange	2040	HHDT	Aggregatec	55	DSL	176773.19													
					HHDT Total	179030.51													
Orange	2040	SBUS	Aggregatec	55	GAS	1129.72													
Orange	2040	SBUS	Aggregatec	55	DSL	1458.16	68.55	41.83	0.002362087	0.000	0.000								
Orange	2040	LDA	Aggregatec	65	GAS	2230959.18													
Orange	2040	LDA	Aggregatec	65	DSL	30932.11	1454.10	887.37	0.000592181	0.002	0.001								
Orange	2040	LDT1	Aggregatec	65	GAS	197767.78													
Orange	2040	LDT1	Aggregatec	65	DSL	109.07	5.13	3.13	0.003645739	0.000	0.000								
Orange	2040	LDT2	Aggregatec	65	GAS	973824.14													
Orange	2040	LDT2	Aggregatec	65	DSL	2140.08	100.60	61.39	0.003112028	0.001	0.000								
Orange	2040	LHDT1	Aggregatec	65	GAS	18088.63													
Orange	2040	LHDT1	Aggregatec	65	DSL	69687.29	3275.95	1999.17	0.005689391	0.041	0.025								
Orange	2040	LHDT2	Aggregatec	65	GAS	7858.38													
Orange	2040	LHDT2	Aggregatec	65	DSL	35192.00	1654.35	1009.58	0.005579285	0.020	0.012								
Orange	2040	MDV	Aggregatec	65	GAS	466835.18													
Orange	2040	MDV	Aggregatec	65	DSL	13123.32	616.92	376.48	0.000770465	0.001	0.001								
Orange	2040	MH	Aggregatec	65	GAS	2227.68													
Orange	2040	MH	Aggregatec	65	DSL	861.58	40.50	24.72	0.027778475	0.002	0.002								
Orange	2040	MHDT	Aggregatec	65	GAS	7648.92													
Orange	2040	MHDT	Aggregatec	65	DSL	138331.51	6502.88	3968.42	0.002357575	0.034	0.021								
Orange	2040	OBUS	Aggregatec	65	GAS	3771.10													
Orange	2040	OBUS	Aggregatec	65	DSL	5834.17	274.26	167.37	0.003107651	0.002	0.001								
Orange	2040	UBUS	Aggregatec	65	GAS	542.98													
Orange	2040	UBUS	Aggregatec	65	DSL	558.15	26.24	16.01	0.005885378	0.000	0.000								
					LM Total	4208881.13			Total LM Diesel Emissions	0.29	0.18	26	26	26	26	0.18	0.29	1.59E-05	1.28E-05
									Total Diesel Emissions	0.10	0.06	Total Emissions per Volume Source for Modelling						4.45E-05	3.67E-05

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County

Region: Orange

Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 ORA I-405 Seal Beach, Corona Northbound
 ORA I-405 Seal Beach, Corona Southbound
 *I-405 in Seal Beach, east of the I-605 interchange
 Total Segment Length Northbound 1.09 miles
 Total Segment Length Southbound 1.02 miles

LM VMT/day 217,162
 HD VMT/day 33,790
 200,359 31,149

Emissions per Volume Source for 1-
 mile segment Model
 Northbound Southbound

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Emission Factor		DPM Emissions		No. of Vol Sources		Emissions per Volume Source for 1- mile segment Model	
							Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
Orange	2040	HHDT	Aggregatec	55	GAS	2257.31								
Orange	2040	HHDT	Aggregatec	55	DSL	176773.19	30756.34	0.004511043	0.33	0.31	28	28	5.71E-05	5.62E-05
					HHDT Total	179030.51								
Orange	2040	SBUS	Aggregatec	55	GAS	1129.72								
Orange	2040	SBUS	Aggregatec	55	DSL	1458.16	69.41	0.002362087	0.000	0.000				
Orange	2040	LDA	Aggregatec	65	GAS	2230959.18								
Orange	2040	LDA	Aggregatec	65	DSL	30932.11	1472.49	0.000592181	0.002	0.002				
Orange	2040	LDT1	Aggregatec	65	GAS	197767.78								
Orange	2040	LDT1	Aggregatec	65	DSL	109.07	5.19	0.003645739	0.000	0.000				
Orange	2040	LDT2	Aggregatec	65	GAS	973824.14								
Orange	2040	LDT2	Aggregatec	65	DSL	2140.08	101.88	0.003112028	0.001	0.001				
Orange	2040	LHDT1	Aggregatec	65	GAS	18088.63								
Orange	2040	LHDT1	Aggregatec	65	DSL	69687.29	3317.39	0.005689391	0.045	0.042				
Orange	2040	LHDT2	Aggregatec	65	GAS	7858.38								
Orange	2040	LHDT2	Aggregatec	65	DSL	35192.00	1675.28	0.005579285	0.022	0.021				
Orange	2040	MDV	Aggregatec	65	GAS	466835.18								
Orange	2040	MDV	Aggregatec	65	DSL	13123.32	624.72	0.000770465	0.001	0.001				
Orange	2040	MH	Aggregatec	65	GAS	2227.68								
Orange	2040	MH	Aggregatec	65	DSL	861.58	41.01	0.027778475	0.003	0.003				
Orange	2040	MHDT	Aggregatec	65	GAS	7648.92								
Orange	2040	MHDT	Aggregatec	65	DSL	138331.51	6585.13	0.002357575	0.037	0.034				
Orange	2040	OBUS	Aggregatec	65	GAS	3771.10								
Orange	2040	OBUS	Aggregatec	65	DSL	5834.17	277.73	0.003107651	0.002	0.002				
Orange	2040	UBUS	Aggregatec	65	GAS	542.98								
Orange	2040	UBUS	Aggregatec	65	DSL	558.15	26.57	0.005885378	0.000	0.000				
Orange					LM Total	4208891.13	Total LM Diesel Emissions		0.45	0.41	28	28	1.96E-05	1.94E-05
							Total Diesel Emissions		0.41	0.41			7.67E-05	7.56E-05

Total Emissions per Volume Source for Modelling

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Riverside
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Additional Segment
 RIV I-10 in the Banning area Eastbound
 RIV I-10 in the Banning area Westbound
 *RIV I-10 in the Banning area

LM VMT/day 309,956
 HD VMT/day 143,499

LM VMT/day 365,219
 HD VMT/day 141,836

Total segment length 5.01 miles
 Total Segment Length Eastbound 4.98 miles
 Total Segment Length Westbound

Emissions per Volume Source for 1-mile segment Model

Eastbound Westbound Eastbound Westbound

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	PM10_RUNEX	PM10_RUNEX	Emission Factor	Eastbound	Westbound	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	g/sec	g/sec	
Riverside	2040	HHDT	Aggregate	55	GAS	3201.47	142795.75	141140.91	0.004476464	1.41	1.39	45	45	3.28E-05	3.26E-05					
Riverside	2040	HHDT	Aggregate	55	DSL	649756.47														
						652957.96														
						HHDT Total														
Riverside	2040	SBUS	Aggregate	55	GAS	776.58														
Riverside	2040	SBUS	Aggregate	55	DSL	1690.78	81.22	95.70	0.00236367	0.000	0.000									
Riverside	2040	LDA	Aggregate	65	GAS	3501914.18														
Riverside	2040	LDA	Aggregate	65	DSL	48508.09	2330.24	2745.71	0.000623643	0.003	0.004									
Riverside	2040	LDT1	Aggregate	65	GAS	248324.94														
Riverside	2040	LDT1	Aggregate	65	DSL	137.00	6.58	7.75	0.003565448	0.000	0.000									
Riverside	2040	LDT2	Aggregate	65	GAS	1414362.82														
Riverside	2040	LDT2	Aggregate	65	DSL	3103.14	149.07	175.65	0.003153393	0.001	0.001									
Riverside	2040	LHDT1	Aggregate	65	GAS	39326.39														
Riverside	2040	LHDT1	Aggregate	65	DSL	115060.74	5527.32	6512.81	0.006306578	0.077	0.091									
Riverside	2040	LHDT2	Aggregate	65	GAS	14891.48														
Riverside	2040	LHDT2	Aggregate	65	DSL	57609.46	2767.46	3260.88	0.005487154	0.033	0.039									
Riverside	2040	MDV	Aggregate	65	GAS	719958.26														
Riverside	2040	MDV	Aggregate	65	DSL	20002.70	960.90	1132.22	0.000795775	0.002	0.002									
Riverside	2040	MH	Aggregate	65	GAS	4466.36														
Riverside	2040	MH	Aggregate	65	DSL	1592.49	76.50	90.14	0.036584456	0.006	0.007									
Riverside	2040	MHDT	Aggregate	65	GAS	24915.11														
Riverside	2040	MHDT	Aggregate	65	DSL	212366.83	10201.74	12020.64	0.002461834	0.055	0.065									
Riverside	2040	OBUS	Aggregate	65	GAS	9566.87														
Riverside	2040	OBUS	Aggregate	65	DSL	11315.88	543.60	640.52	0.002890411	0.003	0.004									
Riverside	2040	UBUS	Aggregate	65	GAS	1194.26														
Riverside	2040	UBUS	Aggregate	65	DSL	1183.27	56.84	66.98	0.001999034	0.000	0.000									
						LM Total														
						6465267.66														
									Total Diesel Emissions	1.59	1.61	45	45	4.24E-06	5.02E-06					
									Total LM Diesel Emissions	0.18	0.21			3.71E-05	3.77E-05					
									Total Diesel Emissions	1.59	1.61									
									Total Diesel Emissions	1.59	1.61									
									Total Diesel Emissions	1.59	1.61									
									Total Diesel Emissions	1.59	1.61									
									Total Diesel Emissions	1.59	1.61									
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									Total Diesel Emissions	1.59	1.61									
									Total Diesel Emissions	1.59	1.61									
									Total Diesel Emissions	1.59	1.61				</					

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Riverside
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Additional Segment
 RIV I-15, Riverside Northbound 75.882
 RIV I-15, Riverside Southbound 90.864
 *RIV I-15, Riverside County, near Temecula
 Total segment length 4.81 miles
 Total Segment Length Northbound 5.83 miles
 Total Segment Length Southbound

Emissions per Volume Source for 1-
 mile segment Model
 Eastbound Westbound

Region	CalYr	VehClass	MedYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	Westbound	Emission Factor	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	g/sec	g/sec
Riverside	2040	HHDT	Aggregate	55	GAS	3201.49	75510.30	90418.23	0.004476464	0.75	0.89	45	45	1.81E-05	1.79E-05	
Riverside	2040	HHDT	Aggregate	55	DSL	649756.47										
					HHDT Total	652957.96										
Riverside	2040	SBUS	Aggregate	55	GAS	776.58										
Riverside	2040	SBUS	Aggregate	55	DSL	1690.78	122.39	145.07	0.00236367	0.001	0.001					
Riverside	2040	LDA	Aggregate	65	GAS	3501914.18										
Riverside	2040	LDA	Aggregate	65	DSL	48508.09	3511.29	4161.93	0.000623643	0.005	0.006					
Riverside	2040	LDT1	Aggregate	65	GAS	248324.94										
Riverside	2040	LDT1	Aggregate	65	DSL	137.00	9.92	11.75	0.003565448	0.000	0.000					
Riverside	2040	LDT2	Aggregate	65	GAS	1414362.82										
Riverside	2040	LDT2	Aggregate	65	DSL	3103.14	224.62	266.25	0.003153393	0.002	0.002					
Riverside	2040	LHDT1	Aggregate	65	GAS	39326.39										
Riverside	2040	LHDT1	Aggregate	65	DSL	115060.74	8328.76	9872.07	0.006306578	0.116	0.137					
Riverside	2040	LHDT2	Aggregate	65	GAS	14891.48										
Riverside	2040	LHDT2	Aggregate	65	DSL	57609.46	4170.10	4942.82	0.005487154	0.050	0.060					
Riverside	2040	MDV	Aggregate	65	GAS	719958.26										
Riverside	2040	MDV	Aggregate	65	DSL	20002.70	1447.91	1716.21	0.000795775	0.003	0.003					
Riverside	2040	MH	Aggregate	65	GAS	4466.36										
Riverside	2040	MH	Aggregate	65	DSL	1592.49	115.27	136.63	0.036584456	0.009	0.011					
Riverside	2040	MHDT	Aggregate	65	GAS	24915.11										
Riverside	2040	MHDT	Aggregate	65	DSL	212366.83	15372.34	18220.82	0.002461834	0.083	0.099					
Riverside	2040	OBUS	Aggregate	65	GAS	9566.87										
Riverside	2040	OBUS	Aggregate	65	DSL	11315.88	819.11	970.89	0.002890411	0.005	0.006					
Riverside	2040	UBUS	Aggregate	65	GAS	1194.26										
Riverside	2040	UBUS	Aggregate	65	DSL	1183.27	85.65	101.52	0.001999034	0.000	0.000					
					LM Total	6452267.66										
									Total LM Diesel Emissions	1.02	1.22	45	45	6.65E-06	6.50E-06	
									Total LM Diesel Emissions	0.27	0.33	Total Emissions per Volume Source for Modeling		2.47E-05	2.44E-05	

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Riverside
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 RIV SR-91 in Corona Eastbound 43,468
 RIV SR-91 in Corona Westbound 45,686
 *SR 91 in Corona, east of the intersection with SR 71
 Total Segment Length Eastbound 2.01 miles
 Total Segment Length Westbound 1.74 miles

Emissions per Volume Source for 1-mile segment
 Eastbound Westbound

Region	CalYr	VehClass	MedVr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	Emission Factor	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	g/sec	g/sec
							Eastbound	Westbound		Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
Riverside	2040	HHDT	Aggregatec	55	GAS	3201.49									
Riverside	2040	HHDT	Aggregatec	55	DSL	649756.47	43254.63	45461.53	0.004476464	0.43	0.45	35	35	3.19E-05	3.87E-05
					HHDT Total	652957.96									
Riverside	2040	SBUS	Aggregatec	55	GAS	776.58									
Riverside	2040	SBUS	Aggregatec	55	DSL	1690.78	73.12	68.57	0.00236367	0.000	0.000				
Riverside	2040	LDA	Aggregatec	65	GAS	3501914.18									
Riverside	2040	LDA	Aggregatec	65	DSL	48508.09	2097.76	1967.39	0.000623643	0.003	0.003				
Riverside	2040	LDT1	Aggregatec	65	GAS	248324.94									
Riverside	2040	LDT1	Aggregatec	65	DSL	137.00	5.92	5.56	0.003565448	0.000	0.000				
Riverside	2040	LDT2	Aggregatec	65	GAS	1414362.82									
Riverside	2040	LDT2	Aggregatec	65	DSL	3103.14	134.20	125.86	0.003153393	0.001	0.001				
Riverside	2040	LHDT1	Aggregatec	65	GAS	39326.39									
Riverside	2040	LHDT1	Aggregatec	65	DSL	115060.74	4975.88	4666.64	0.006306578	0.069	0.065				
Riverside	2040	LHDT2	Aggregatec	65	GAS	14891.48									
Riverside	2040	LHDT2	Aggregatec	65	DSL	57609.46	2491.36	2336.53	0.005487154	0.030	0.028				
Riverside	2040	MDV	Aggregatec	65	GAS	719958.26									
Riverside	2040	MDV	Aggregatec	65	DSL	20002.70	865.03	811.27	0.000795775	0.002	0.001				
Riverside	2040	MH	Aggregatec	65	GAS	4466.36									
Riverside	2040	MH	Aggregatec	65	DSL	1592.49	68.87	64.59	0.036584456	0.006	0.005				
Riverside	2040	MHDT	Aggregatec	65	GAS	24915.11									
Riverside	2040	MHDT	Aggregatec	65	DSL	212366.83	9183.94	8613.18	0.002461834	0.050	0.047				
Riverside	2040	OBUS	Aggregatec	65	GAS	9566.87									
Riverside	2040	OBUS	Aggregatec	65	DSL	11315.88	489.36	458.95	0.002890411	0.003	0.003				
Riverside	2040	UBUS	Aggregatec	65	GAS	1194.26									
Riverside	2040	UBUS	Aggregatec	65	DSL	1183.27	51.17	47.99	0.001999034	0.000	0.000				
					LM Total	6452267.66									
							Total Diesel Emissions	Total LM Diesel Emissions				Total Emissions per Volume Source for Modeling			
							51.17	47.99	0.001999034	0.000	0.000	35	35	1.22E-05	1.32E-05
										0.16	0.15			4.41E-05	5.19E-05
										0.59	0.60				

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: San Bernardino
 Calendar Year: 2040
 Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, g/mile for RUXEX, PMBW and PMTW

Original Segment
 SB I-15 in Ontario Northbound 56.315
 SB I-15 in Ontario Southbound 58.633
 *SB I-15 in Ontario
 Total Segment Length Northbound 2.95 miles
 Total Segment Length Southbound 2.97 miles

Emissions per Volume Source for 1-mile segment Model
 Northbound Southbound

Region	CalYr	VehClass	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	PM10_RUXEX	DPM Emissions (lb/day)	DPM Emissions (lb/day)	Emission Factor	Northbound	Southbound	Northbound	Southbound	LM VMT/day	HD VMT/day
San Bernar	2040	HHDT	Aggregatec	55 GAS	2082.99	56121.21	58431.20	0.004549501	0.56	0.59		38	38	38	38	242,855	56,315
San Bernar	2040	HHDT	Aggregatec	55 DSL	603502.45	56121.21	58431.20	0.004549501	0.56	0.59		38	38	38	38	226,754	58,633
				HHDT Total	605585.43												
San Bernar	2040	SBUS	Aggregatec	55 GAS	948.29												
San Bernar	2040	SBUS	Aggregatec	55 DSL	1812.51	56.76	52.99	0.002367195	0.000	0.000							
San Bernar	2040	LDA	Aggregatec	65 GAS	4394414.35												
San Bernar	2040	LDA	Aggregatec	65 DSL	60835.08	1904.98	1778.68	0.000628079	0.003	0.002							
San Bernar	2040	LDT1	Aggregatec	65 GAS	297115.98												
San Bernar	2040	LDT1	Aggregatec	65 DSL	166.37	5.21	4.86	0.004148062	0.000	0.000							
San Bernar	2040	LDT2	Aggregatec	65 GAS	1662936.18												
San Bernar	2040	LDT2	Aggregatec	65 DSL	3645.97	114.17	106.60	0.003170803	0.001	0.001							
San Bernar	2040	LHDT1	Aggregatec	65 GAS	49719.79												
San Bernar	2040	LHDT1	Aggregatec	65 DSL	100601.03	3150.20	2941.35	0.006471347	0.045	0.042							
San Bernar	2040	LHDT2	Aggregatec	65 GAS	18595.24												
San Bernar	2040	LHDT2	Aggregatec	65 DSL	49401.15	1546.94	1444.38	0.005641162	0.019	0.018							
San Bernar	2040	MDV	Aggregatec	65 GAS	858133.18												
San Bernar	2040	MDV	Aggregatec	65 DSL	237666.83	744.23	694.89	0.000818397	0.001	0.001							
San Bernar	2040	MH	Aggregatec	65 GAS	6284.92												
San Bernar	2040	MH	Aggregatec	65 DSL	1868.41	58.51	54.63	0.035762098	0.005	0.004							
San Bernar	2040	MHDT	Aggregatec	65 GAS	32168.83												
San Bernar	2040	MHDT	Aggregatec	65 DSL	167377.33	5241.21	4893.74	0.002347392	0.027	0.025							
San Bernar	2040	OBUS	Aggregatec	65 GAS	16247.91												
San Bernar	2040	OBUS	Aggregatec	65 DSL	5941.27	186.04	173.71	0.003061533	0.001	0.001							
San Bernar	2040	UBUS	Aggregatec	65 GAS	1757.59												
San Bernar	2040	UBUS	Aggregatec	65 DSL	1791.14	56.09	52.37	0.005096589	0.001	0.001							
San Bernar	2040	UBUS	Aggregatec	LM Total	7755529.37												

Total LM Diesel Emissions 0.67
 Total LM Diesel Emissions 0.10
 Total LM Diesel Emissions 0.68
 Total Emissions per Volume Source for Modeling 3.17E-05 4.47E-06 3.17E-05

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: San Bernardino
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTWTW

Additional Segment
 SB 1-15 in the Victorville area Northbound 85.605
 SB 1-15 in the Victorville area Southbound 88.343
 *1-15 in the Victorville area
 Total segment length 4.32 miles
 Total Segment Length Northbound 4.39 miles
 Total Segment Length Southbound

Emissions per Volume Source for 1-
 mile segment Model
 Eastbound Westbound

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	PM10_RUNEX	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	g/sec	g/sec
San Bernar	2040	HHDT	Aggregatec	55	GAS	2082.99	88039.57	0.004549501	0.86	0.88	58	58	1.79E-05	1.82E-05	
San Bernar	2040	HHDT	Aggregatec	55	DSL	603502.45	85310.21								
					HHDT Total	605585.43									
San Bernar	2040	SBUS	Aggregatec	55	GAS	948.29									
San Bernar	2040	SBUS	Aggregatec	55	DSL	1812.51	44.84	0.002367195	0.000	0.000					
San Bernar	2040	LDA	Aggregatec	65	GAS	4394414.35									
San Bernar	2040	LDA	Aggregatec	65	DSL	60835.08	1505.12	0.000628079	0.002	0.002					
San Bernar	2040	LDT1	Aggregatec	65	GAS	297115.98									
San Bernar	2040	LDT1	Aggregatec	65	DSL	166.37	4.12	0.004148062	0.000	0.000					
San Bernar	2040	LDT2	Aggregatec	65	GAS	1662936.18									
San Bernar	2040	LDT2	Aggregatec	65	DSL	3645.97	90.21	0.003170803	0.001	0.001					
San Bernar	2040	LHDT1	Aggregatec	65	GAS	49719.79									
San Bernar	2040	LHDT1	Aggregatec	65	DSL	100601.03	2488.98	0.006471347	0.036	0.033					
San Bernar	2040	LHDT2	Aggregatec	65	GAS	18595.24									
San Bernar	2040	LHDT2	Aggregatec	65	DSL	49401.15	1222.24	0.005641162	0.015	0.014					
San Bernar	2040	MDV	Aggregatec	65	GAS	858133.18									
San Bernar	2040	MDV	Aggregatec	65	DSL	23766.83	588.02	0.000818397	0.001	0.001					
San Bernar	2040	MH	Aggregatec	65	GAS	6284.92									
San Bernar	2040	MH	Aggregatec	65	DSL	1868.41	46.23	0.035762098	0.004	0.003					
San Bernar	2040	MHDT	Aggregatec	65	GAS	32168.83									
San Bernar	2040	MHDT	Aggregatec	65	DSL	167377.33	4141.09	0.002347392	0.021	0.020					
San Bernar	2040	OBUS	Aggregatec	65	GAS	16247.91									
San Bernar	2040	OBUS	Aggregatec	65	DSL	5941.27	146.99	0.003061533	0.001	0.001					
San Bernar	2040	UBUS	Aggregatec	65	GAS	1757.59									
San Bernar	2040	UBUS	Aggregatec	65	DSL	1791.14	44.31	0.005096589	0.000	0.000					
San Bernar	2040	UBUS	Aggregatec	65	DSL	775529.37									
										Total LM Diesel Emissions		58		1.70E-06	
										Total LM Diesel Emissions		58		1.98E-05	
										Total Emissions per Volume Source for Modeling		58		1.55E-06	

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Ventura
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 VEN US-101 SB Ventura Freeway Northbound
 VEN US-101 SB Ventura Freeway Southbound
 *US-101 Freeway in San Buenaventura near the Ventura Harbor

LM VMT/day 163,992
 HD VMT/day 28,969
 164,327 30,022

Total segment length 3.21 miles
 Total Segment Length Northbound 3.26 miles
 Total Segment Length Southbound

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Emission Factor		DPM Emissions		DPM Emissions		Emissions per Volume Source for 1-mile segment Model	
							Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
Ventura	2040	HHDT	Aggregatec	55	GAS	574.78								
Ventura	2040	HHDT	Aggregatec	55	DSL	40656.62	29603.05	0.004456099	0.28	0.29	74	74	6.20E-06	6.33E-06
					HHDT Total	41231.40								
Ventura	2040	SBUS	Aggregatec	55	GAS	236.72								
Ventura	2040	SBUS	Aggregatec	55	DSL	216.06	20.76	0.002368973	0.000	0.000				
Ventura	2040	LDA	Aggregatec	65	GAS	970214.24								
Ventura	2040	LDA	Aggregatec	65	DSL	13436.49	1290.84	0.000640157	0.002	0.002				
Ventura	2040	LDT1	Aggregatec	65	GAS	71327.90								
Ventura	2040	LDT1	Aggregatec	65	DSL	39.64	3.81	0.004119509	0.000	0.000				
Ventura	2040	LDT2	Aggregatec	65	GAS	351421.41								
Ventura	2040	LDT2	Aggregatec	65	DSL	772.46	74.21	0.003097864	0.001	0.001				
Ventura	2040	LHDT1	Aggregatec	65	GAS	8740.89								
Ventura	2040	LHDT1	Aggregatec	65	DSL	35099.94	3372.03	0.006651495	0.049	0.049				
Ventura	2040	LHDT2	Aggregatec	65	GAS	3704.61								
Ventura	2040	LHDT2	Aggregatec	65	DSL	17306.58	1662.63	0.005632767	0.021	0.021				
Ventura	2040	MDV	Aggregatec	65	GAS	173106.80								
Ventura	2040	MDV	Aggregatec	65	DSL	4862.35	466.17	0.000733245	0.001	0.001				
Ventura	2040	MH	Aggregatec	65	GAS	1073.74								
Ventura	2040	MH	Aggregatec	65	DSL	426.61	40.98	0.04421314	0.004	0.004				
Ventura	2040	MHDT	Aggregatec	65	GAS	3429.98								
Ventura	2040	MHDT	Aggregatec	65	DSL	51809.22	4977.28	0.002371846	0.026	0.026				
Ventura	2040	OBUS	Aggregatec	65	GAS	1565.61								
Ventura	2040	OBUS	Aggregatec	65	DSL	1256.95	120.75	0.003032481	0.001	0.001				
Ventura	2040	UBUS	Aggregatec	65	GAS	226.50								
Ventura	2040	UBUS	Aggregatec	65	DSL	230.13	22.11	0.002390041	0.000	0.000				
					LM Total	1710504.85					74	74	2.30E-06	2.27E-06
							Total LM Diesel Emissions		0.38	0.40			8.50E-06	8.60E-06
							Total Diesel Emissions							

Total Emissions per Volume Source for Modelling

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County
 Region: Ventura
 Calendar Year: 2040
 Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Original Segment
 VEN US-101 in Thousand Oaks Northbound 10.473
 VEN US-101 in Thousand Oaks Southbound 12.646
 *US 101 in Thousand Oaks, east of SR 23

LM VMT/day 66,450
 HD VMT/day 10,473

0.79 miles
 0.94 miles

Emissions per Volume Source for 1-
 mile segment Model
 Northbound Southbound

1.48E-05 1.79E-05

36 36

0.10 0.12

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

Region	CalYr	VehClass	MedVr	Speed	Fuel	VMT	DieselVMT/day	Diesel VMT/day	Emission Factor	Northbound	Southbound	Northbound	Southbound	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	Emissions per Volume Source for 1- mile segment Model	Emissions per Volume Source for 1- mile segment Model
Ventura	2040	HHDT	Aggregatec	55	GAS	574.78													
Ventura	2040	HHDT	Aggregatec	55	DSL	40656.62	10326.54	12469.90	0.004456099	0.10	0.12	0.000	0.000	0.10	0.12	36	36	1.48E-05	1.79E-05
					HHDT Total	41231.40													
Ventura	2040	SBUS	Aggregatec	55	GAS	236.72													
Ventura	2040	SBUS	Aggregatec	55	DSL	216.06	8.39	10.06	0.002368973	0.000	0.000	0.000	0.000	0.000	0.000				
Ventura	2040	LDA	Aggregatec	65	GAS	970214.24													
Ventura	2040	LDA	Aggregatec	65	DSL	13436.49	521.98	625.58	0.000640157	0.001	0.001	0.001	0.001	0.001	0.001				
Ventura	2040	LDT1	Aggregatec	65	GAS	71327.90													
Ventura	2040	LDT1	Aggregatec	65	DSL	39.64	1.54	1.85	0.004119509	0.000	0.000	0.000	0.000	0.000	0.000				
Ventura	2040	LDT2	Aggregatec	65	GAS	351421.41													
Ventura	2040	LDT2	Aggregatec	65	DSL	772.46	30.01	35.96	0.003097864	0.000	0.000	0.000	0.000	0.000	0.000				
Ventura	2040	LHDT1	Aggregatec	65	GAS	8740.89													
Ventura	2040	LHDT1	Aggregatec	65	DSL	35099.94	1363.57	1634.20	0.006651495	0.020	0.024	0.020	0.024	0.020	0.024				
Ventura	2040	LHDT2	Aggregatec	65	GAS	3704.61													
Ventura	2040	LHDT2	Aggregatec	65	DSL	17306.58	672.33	805.77	0.005632767	0.008	0.010	0.008	0.010	0.008	0.010				
Ventura	2040	MDV	Aggregatec	65	GAS	173106.80													
Ventura	2040	MDV	Aggregatec	65	DSL	4862.35	188.89	226.38	0.000733245	0.000	0.000	0.000	0.000	0.000	0.000				
Ventura	2040	MH	Aggregatec	65	GAS	1073.74													
Ventura	2040	MH	Aggregatec	65	DSL	426.61	16.57	19.86	0.04421314	0.002	0.002	0.002	0.002	0.002	0.002				
Ventura	2040	MHDT	Aggregatec	65	GAS	3429.98													
Ventura	2040	MHDT	Aggregatec	65	DSL	51809.22	2012.70	2412.15	0.002371846	0.011	0.013	0.011	0.013	0.011	0.013				
Ventura	2040	OBUS	Aggregatec	65	GAS	1565.61													
Ventura	2040	OBUS	Aggregatec	65	DSL	1256.95	48.83	58.52	0.003032481	0.000	0.000	0.000	0.000	0.000	0.000				
Ventura	2040	UBUS	Aggregatec	65	GAS	226.50													
Ventura	2040	UBUS	Aggregatec	65	DSL	230.13	8.94	10.71	0.002390041	0.000	0.000	0.000	0.000	0.000	0.000				
					LM Total	1710504.85													
					Total LM Diesel Emissions					0.04	0.05	0.04	0.05	0.04	0.05	36	36	6.15E-06	7.37E-06
					Total Diesel Emissions					0.14	0.17	0.14	0.17	0.14	0.17	Total Emissions per Volume Source for Modelling		2.09E-05	2.52E-05

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County

Region: Imperial

Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CatYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day		Emission Factor		DPM Emissions (lb/day)		No. of Vol Sources		Emissions per Volume Source for 1-mile segment Model	
							Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
Imperial	2040	LDA	Aggregatec	55	GAS	344.61	11304.00	11451.65	0.004460	0.11	0.11	74	74	5.21E-06	5.27E-06	
Imperial	2040	LDA	Aggregatec	55	DSL	112881.97										
Imperial	2040	LDA	Aggregatec	65	GAS	652537.91	195.36	202.03	0.0006077	0.000	0.000					
Imperial	2040	LDT1	Aggregatec	65	GAS	40817.67	0.50	0.51	0.0044227	0.000	0.000					
Imperial	2040	LDT1	Aggregatec	65	DSL	2304										
Imperial	2040	LDT2	Aggregatec	65	GAS	231016.98	10.94	11.31	0.0031560	0.000	0.000					
Imperial	2040	LDT2	Aggregatec	65	DSL	506.71										
Imperial	2040	LHDT1	Aggregatec	65	GAS	9623.67	498.62	515.63	0.0071969	0.008	0.008					
Imperial	2040	LHDT1	Aggregatec	65	DSL	23096.13										
Imperial	2040	LHDT2	Aggregatec	65	GAS	3638.16	241.77	250.02	0.0055889	0.003	0.003					
Imperial	2040	LHDT2	Aggregatec	65	DSL	11199.01										
Imperial	2040	MDV	Aggregatec	65	GAS	131010.07	77.29	79.93	0.0008450	0.000	0.000					
Imperial	2040	MDV	Aggregatec	65	DSL	3580.16										
Imperial	2040	MH	Aggregatec	65	GAS	1208.45	8.21	8.49	0.0214654	0.000	0.000					
Imperial	2040	MH	Aggregatec	65	DSL	380.40										
Imperial	2040	MHDT	Aggregatec	65	GAS	8871.92	1100.45	1138.00	0.025595	0.006	0.006					
Imperial	2040	MHDT	Aggregatec	65	DSL	50973.55										
Imperial	2040	OBUS	Aggregatec	65	GAS	3105.57	225.83	233.54	0.0027307	0.001	0.001					
Imperial	2040	OBUS	Aggregatec	65	DSL	10460.70										
Imperial	2040	SBUS	Aggregatec	55	GAS	106.81	2.88	0.00	0.0023712	0.000	0.000					
Imperial	2040	SBUS	Aggregatec	55	DSL	133.56										
Imperial	2040	UBUS	Aggregatec	65	GAS	340.65	7.27	7.52	0.0089159	0.000	0.000					
Imperial	2040	UBUS	Aggregatec	65	DSL	336.86										
Imperial					LM Total	1192017.37			Total LM Diesel Emissions	0.13	0.13	Total Emissions per Volume Source for Modeling	74	9.16E-07	9.46E-07	
									Total LM Diesel Emissions	0.02	0.02	Total Emissions per Volume Source for Modeling	74	6.12E-06	6.22E-06	

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County
 Region: Imperial
 Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 IMP SR-78 Eastbound 2.287
 IMP SR-78 Westbound 2.427

*IMP SR-78: State Road 78 Freeway in Westmorland

Total Segment Length Eastbound 0.88 miles
 Total Segment Length Westbound 0.88 miles

LM VMT/day 13,731
 HD VMT/day 2,287
 8,225 2,427

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day		DPM Emissions (lb/day)		Emission Factor	DPM Emissions (lb/day)		No. of Vol Sources	Emissions per Volume Source for 1-mile segment Model	
							Eastbound	Westbound	Eastbound	Westbound		Eastbound	Westbound		Eastbound	Westbound
Imperial	2040	HHDT	Aggregatec	55	GAS	344.61										
Imperial	2040	HHDT	Aggregatec	55	DSL	112537.37	2279.86	2420.05	0.02	0.0044460	0.004460	0.02	0.02	81	1.45E-06	1.54E-06
					HHDT Total	112881.97										
Imperial	2040	LDA	Aggregatec	65	GAS	652537.91										
Imperial	2040	LDA	Aggregatec	65	DSL	9049.41	104.24	62.44	0.000	0.0006077	0.0006077	0.000	0.000			
Imperial	2040	LDT1	Aggregatec	65	GAS	40817.67										
Imperial	2040	LDT1	Aggregatec	65	DSL	23.04	0.27	0.16	0.000	0.0044227	0.0044227	0.000	0.000			
Imperial	2040	LDT2	Aggregatec	65	GAS	231016.98										
Imperial	2040	LDT2	Aggregatec	65	DSL	506.71	5.84	3.50	0.000	0.0031560	0.0031560	0.000	0.000			
Imperial	2040	LHDT1	Aggregatec	65	GAS	9623.67										
Imperial	2040	LHDT1	Aggregatec	65	DSL	23096.13	266.05	159.37	0.004	0.0071969	0.0071969	0.004	0.003			
Imperial	2040	LHDT2	Aggregatec	65	GAS	3638.16										
Imperial	2040	LHDT2	Aggregatec	65	DSL	11199.01	129.00	77.28	0.002	0.0055889	0.0055889	0.002	0.001			
Imperial	2040	MDV	Aggregatec	65	GAS	131010.07										
Imperial	2040	MDV	Aggregatec	65	DSL	3580.16	41.24	24.70	0.000	0.0008450	0.0008450	0.000	0.000			
Imperial	2040	MH	Aggregatec	65	GAS	1208.45										
Imperial	2040	MH	Aggregatec	65	DSL	380.40	4.38	2.62	0.000	0.0214654	0.0214654	0.000	0.000			
Imperial	2040	MHDT	Aggregatec	65	GAS	8871.92										
Imperial	2040	MHDT	Aggregatec	65	DSL	50973.55	587.17	351.73	0.003	0.0025595	0.0025595	0.003	0.002			
Imperial	2040	OBUS	Aggregatec	65	GAS	3105.57										
Imperial	2040	OBUS	Aggregatec	65	DSL	10460.70	120.50	72.18	0.001	0.0027307	0.0027307	0.001	0.000			
Imperial	2040	SBUS	Aggregatec	55	GAS	106.81										
Imperial	2040	SBUS	Aggregatec	55	DSL	133.56	1.54	0.00	0.000	0.0023712	0.0023712	0.000	0.000			
Imperial	2040	UBUS	Aggregatec	65	GAS	340.65										
Imperial	2040	UBUS	Aggregatec	65	DSL	336.86	3.88	2.32	0.001	0.0089159	0.0089159	0.000	0.000			
					LM Total	1192017.37								81	6.74E-07	4.04E-07
														81	2.12E-06	1.94E-06

Total Emissions per Volume Source for Modeling

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County
 Region: Los Angeles
 Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 LA I-710 in Compton Northbound
 LA I-710 in Compton Southbound
 *LA I-710 in Compton, north of the intersection with SR 91
 Total Segment Length Northbound 1.34 miles
 Total Segment Length Southbound 1.34 miles

Emissions per Volume Source for 1-mile segment Model
 Northbound Southbound

Region	CalYr	VehClass	MidYr	Speed	Fuel	VMT	Diesel VMT/day	Southbound Diesel VMT/day	Northbound Diesel VMT/day	Emission Factor	PM10_RUNE	DPM Emissions (lb/day)	Southbound DPM Emissions (lb/day)	Northbound DPM Emissions (lb/day)	No. of Vol Sources	Southbound No. of Vol Sources	Northbound No. of Vol Sources	g/sec	Southbound g/sec	Northbound g/sec
Los Angeles	2040	HHDT	Aggregatec	55	GAS	8784.56		23875.38	20999.24	0.004705303	0.25	0.22		34	34		2.85E-05	2.51E-05		
Los Angeles	2040	HHDT	Aggregatec	55	DSL	1353513.34														
					HHDT Total	1362297.90														
Los Angeles	2040	LDA	Aggregatec	65	GAS	3710930.24														
Los Angeles	2040	LDA	Aggregatec	65	DSL	51247.27	2030.03			0.000638477	0.003	0.003								
Los Angeles	2040	LDT1	Aggregatec	65	GAS	357689.74														
Los Angeles	2040	LDT1	Aggregatec	65	DSL	203.88	8.08			0.005414579	0.000	0.000								
Los Angeles	2040	LDT2	Aggregatec	65	GAS	1717339.22														
Los Angeles	2040	LDT2	Aggregatec	65	DSL	3767.19	149.23			0.003206373	0.001	0.001								
Los Angeles	2040	LHDT1	Aggregatec	65	GAS	79906.68														
Los Angeles	2040	LHDT1	Aggregatec	65	DSL	333048.29	13192.83			0.005312212	0.155	0.148								
Los Angeles	2040	LHDT2	Aggregatec	65	GAS	34998.09														
Los Angeles	2040	LHDT2	Aggregatec	65	DSL	170083.04	6737.39			0.005548914	0.082	0.079								
Los Angeles	2040	MDV	Aggregatec	65	GAS	925711.09														
Los Angeles	2040	MDV	Aggregatec	65	DSL	25939.59	1027.53			0.000810979	0.002	0.002								
Los Angeles	2040	MH	Aggregatec	65	GAS	8959.81														
Los Angeles	2040	MH	Aggregatec	65	DSL	3546.36	140.48			0.019049327	0.006	0.006								
Los Angeles	2040	MHDT	Aggregatec	65	GAS	35781.07														
Los Angeles	2040	MHDT	Aggregatec	65	DSL	406327.01	16095.57			0.002356509	0.084	0.080								
Los Angeles	2040	OBUS	Aggregatec	65	GAS	15205.64														
Los Angeles	2040	OBUS	Aggregatec	65	DSL	40072.26	1587.36			0.003145968	0.011	0.011								
Los Angeles	2040	SBUS	Aggregatec	55	GAS	3729.05														
Los Angeles	2040	SBUS	Aggregatec	55	DSL	4974.29	197.04			0.002363056	0.001	0.001								
Los Angeles	2040	UBUS	Aggregatec	65	GAS	2408.08														
Los Angeles	2040	UBUS	Aggregatec	65	DSL	2618.07	103.71			0.008638593	0.002	0.002								
					LM Total	4223555.71				Total LM Diesel Emissions	0.35	0.33								
										Total Diesel Emissions	0.59	0.55								
															34	34		3.99E-05	3.82E-05	
																		6.84E-05	6.33E-05	

Total Emissions per Volume Source for Modeling

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Additional Segment
 LA SR-60 SEMI, El Monte Eastbound 181,977 HD VMT/day 14,103
 LA SR-60 SEMI, El Monte Westbound 197,128 15,975
 *LA SR-60 in the El Monte / Peck Rd area
 Total Segment Length Eastbound 1.52 miles
 Total Segment Length Westbound 1.50 miles

Emissions per Volume Source for 1-mile segment Model
 Northbound Southbound

Region	City	Vehicle Class	MDYr	Speed	Fuel	VMT	Diesel VMT/day	Southbound	Emission Factor	Northbound	Southbound	Northbound	Southbound	No. of Vol Sources	No. of Vol Sources	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	DPM Emissions (lb/day)	DPM Emissions (lb/day)	g/sec	g/sec	
					55 GAS		PM10_RUNEK																	
Los Angeles	2040 HHDT	Aggregatec			55 DSL	1353513.34	14012.33	15872.11	0.004705303	0.15	0.16	0.15	0.16	39	39	0.004705303	0.15	39	0.16	0.004705303	0.15	1.29E-05	1.48E-05	
Los Angeles	2040 HHDT	Aggregatec			HHDT Total	1362297.90																		
Los Angeles	2040 LDA	Aggregatec			65 GAS	3710930.24																		
Los Angeles	2040 LDA	Aggregatec			65 DSL	51247.27	1175.36	1273.21	0.000638477	0.002	0.002	0.002	0.002			0.000638477	0.002			0.000638477	0.002			
Los Angeles	2040 LD11	Aggregatec			65 GAS	357689.74																		
Los Angeles	2040 LD11	Aggregatec			65 DSL	203.88	4.68	5.07	0.005414579	0.000	0.000	0.000	0.000			0.005414579	0.000			0.005414579	0.000			
Los Angeles	2040 LD12	Aggregatec			65 GAS	1717339.22																		
Los Angeles	2040 LD12	Aggregatec			65 DSL	3767.19	86.40	93.59	0.003206373	0.001	0.001	0.001	0.001			0.003206373	0.001			0.003206373	0.001			
Los Angeles	2040 LHDT1	Aggregatec			65 GAS	79906.68																		
Los Angeles	2040 LHDT1	Aggregatec			65 DSL	333048.29	7638.46	8274.41	0.005312212	0.089	0.097	0.089	0.097			0.005312212	0.089			0.005312212	0.089			
Los Angeles	2040 LHDT2	Aggregatec			65 GAS	34998.09																		
Los Angeles	2040 LHDT2	Aggregatec			65 DSL	170083.04	3900.85	4225.62	0.005548914	0.048	0.052	0.048	0.052			0.005548914	0.048			0.005548914	0.052			
Los Angeles	2040 MDV	Aggregatec			65 GAS	925711.09																		
Los Angeles	2040 MDV	Aggregatec			65 DSL	25939.59	594.92	644.46	0.000810979	0.001	0.001	0.001	0.001			0.000810979	0.001			0.000810979	0.001			
Los Angeles	2040 MH	Aggregatec			65 GAS	8959.81																		
Los Angeles	2040 MH	Aggregatec			65 DSL	3546.36	81.34	88.11	0.019049327	0.003	0.004	0.003	0.004			0.019049327	0.003			0.019049327	0.004			
Los Angeles	2040 MHDT	Aggregatec			65 GAS	35781.07																		
Los Angeles	2040 MHDT	Aggregatec			65 DSL	406327.01	9319.10	10094.98	0.002356509	0.048	0.052	0.048	0.052			0.002356509	0.048			0.002356509	0.052			
Los Angeles	2040 OBUS	Aggregatec			65 GAS	15205.64																		
Los Angeles	2040 OBUS	Aggregatec			65 DSL	40072.26	919.06	995.57	0.003145968	0.006	0.007	0.006	0.007			0.003145968	0.006			0.003145968	0.007			
Los Angeles	2040 SBUS	Aggregatec			55 GAS	3729.05																		
Los Angeles	2040 SBUS	Aggregatec			55 DSL	4974.29	114.09	123.58	0.002363056	0.001	0.001	0.001	0.001			0.002363056	0.001			0.002363056	0.001			
Los Angeles	2040 UBUS	Aggregatec			65 GAS	2408.08																		
Los Angeles	2040 UBUS	Aggregatec			65 DSL	2618.07	60.05	65.04	0.008638593	0.001	0.001	0.001	0.001			0.008638593	0.001			0.008638593	0.001			
Los Angeles	2040 UBUS	Aggregatec			LM Total	7934485.95																		
							Total LM Diesel Emissions			0.35	0.38	0.35	0.38	39	39	Total Emissions per Volume Source						1.78E-05	1.95E-05	
							Total Diesel Emissions																3.06E-05	3.43E-05
																						for Modelling		

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County

Region: Orange

Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 ORA I-5 Northbound 195,497 19,319
 ORA I-5 Southbound 119,133 12,062
 *ORA I-5 in Orange County, near intersection of SR 57 and SR 22
 Total Segment Length Northbound 1.32 miles
 Total Segment Length Eastbound 0.81 miles

Emissions per Volume Source
 for 1-mile segment Model
 Northbound Southbound

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day	Northbound	Southbound	Emission Factor	DPM Emissions (lb/day)	Northbound	Southbound	No. of Vol Sources	Northbound	Southbound	No. of Vol Sources	DPM Emissions (lb/day)	Northbound	Southbound	Emissions per Volume Source for 1-mile segment Model	
Orange	Orange	2040 HHDT	Aggregatec	55 GAS	55 DSL	176773.19	19075.73	11910.32	0.004511043	0.19	0.12	0.12	0.12	26	26	26	26	0.12	0.19	0.12	2.90E-05	2.39E-05
Orange	Orange	2040 HHDT	Aggregatec	55 DSL	HHDT Total	179030.51																
Orange	Orange	2040 LDA	Aggregatec	65 GAS	2230959.18																	
Orange	Orange	2040 LDA	Aggregatec	65 DSL	30932.11		1436.76	875.54	0.000592181	0.002	0.001	0.001	0.001									
Orange	Orange	2040 LDT1	Aggregatec	65 GAS	197767.78																	
Orange	Orange	2040 LDT1	Aggregatec	65 DSL	109.07		5.07	3.09	0.003645739	0.000	0.000	0.000	0.000									
Orange	Orange	2040 LDT2	Aggregatec	65 GAS	973824.14																	
Orange	Orange	2040 LDT2	Aggregatec	65 DSL	2140.08		99.40	60.58	0.003112028	0.001	0.000	0.000	0.000									
Orange	Orange	2040 LHDT1	Aggregatec	65 GAS	18088.63																	
Orange	Orange	2040 LHDT1	Aggregatec	65 DSL	69687.29		3236.89	1972.50	0.005689391	0.041	0.025	0.025	0.025									
Orange	Orange	2040 LHDT2	Aggregatec	65 GAS	7858.38																	
Orange	Orange	2040 LHDT2	Aggregatec	65 DSL	35192.00		1634.62	996.11	0.005579285	0.020	0.012	0.012	0.012									
Orange	Orange	2040 MDV	Aggregatec	65 GAS	466835.18																	
Orange	Orange	2040 MDV	Aggregatec	65 DSL	13123.32		609.56	371.46	0.000770465	0.001	0.001	0.001	0.001									
Orange	Orange	2040 MH	Aggregatec	65 GAS	2227.68																	
Orange	Orange	2040 MH	Aggregatec	65 DSL	861.58		40.02	24.39	0.027778475	0.002	0.001	0.001	0.001									
Orange	Orange	2040 MHDT	Aggregatec	65 GAS	7648.92																	
Orange	Orange	2040 MHDT	Aggregatec	65 DSL	138331.51		6425.32	3915.48	0.002357575	0.033	0.020	0.020	0.020									
Orange	Orange	2040 OBUS	Aggregatec	65 GAS	3771.10																	
Orange	Orange	2040 OBUS	Aggregatec	65 DSL	5834.17		270.99	165.14	0.003107651	0.002	0.001	0.001	0.001									
Orange	Orange	2040 SBUS	Aggregatec	55 GAS	1129.72																	
Orange	Orange	2040 SBUS	Aggregatec	55 DSL	1458.16		67.73	41.27	0.002362087	0.000	0.000	0.000	0.000									
Orange	Orange	2040 UBUS	Aggregatec	65 GAS	542.98																	
Orange	Orange	2040 UBUS	Aggregatec	65 DSL	558.15		25.93	15.80	0.005885378	0.000	0.000	0.000	0.000									
Orange	Orange	LM Total			4208881.13																	
										Total LM Diesel Emissions	0.10	0.06	0.18	26	26	26	26	Total Emissions per Volume Source for Modelling	1.57E-05	4.47E-05	1.26E-05	3.66E-05

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County
 Region: Orange
 Calendar Year: 2040
 Season: Annual
 Vehicle Classification: EMFAC2007 Categories
 Units: miles/day for VMT, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 ORA I-405 Seal Beach, Corona Northbound
 ORA I-405 Seal Beach, Corona Southbound
 *I-405 in Seal Beach, east of the I-605 interchange
 Total Segment Length Northbound
 Total Segment Length Southbound

LM VMT/day
 217,036
 199,867
 1.09 miles
 1.02 miles

HD VMT/day
 33,923
 31,326

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day		Emission Factor	DPM Emissions (lb/day)		DPM Emissions (lb/day)	No. of Vol Sources		Emissions per Volume Source for 1-mile segment Model	
							Northbound	Southbound		PM10_RUNEX	PM10_RUNEX		Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
Orange	2040	HHDT	Aggregatec	55	GAS	2257.31										
Orange	2040	HHDT	Aggregatec	55	DSL	176773.19	33495.77	30930.93	0.004511043	0.333	0.308	0.308	28	28	5.73E-05	5.65E-05
						179030.51										
						HHDT Total										
Orange	2040	LDA	Aggregatec	65	GAS	2230959.18										
Orange	2040	LDA	Aggregatec	65	DSL	30932.11	1595.05	1468.87	0.000592181	0.002	0.002	0.002				
Orange	2040	LDT1	Aggregatec	65	GAS	191767.78										
Orange	2040	LDT1	Aggregatec	65	DSL	109.07	5.62	5.18	0.003645739	0.000	0.000	0.000				
Orange	2040	LDT2	Aggregatec	65	GAS	973824.14										
Orange	2040	LDT2	Aggregatec	65	DSL	2140.08	110.36	101.63	0.003112028	0.001	0.001	0.001				
Orange	2040	LHDT1	Aggregatec	65	GAS	18088.63										
Orange	2040	LHDT1	Aggregatec	65	DSL	69687.29	3593.51	3309.23	0.005689391	0.045	0.042	0.042				
Orange	2040	LHDT2	Aggregatec	65	DSL	35192.00	1814.72	1671.16	0.005579285	0.022	0.021	0.021				
Orange	2040	MDV	Aggregatec	65	GAS	466835.18										
Orange	2040	MDV	Aggregatec	65	DSL	13123.32	676.72	623.19	0.000770465	0.001	0.001	0.001				
Orange	2040	MH	Aggregatec	65	GAS	2227.68										
Orange	2040	MH	Aggregatec	65	DSL	861.58	44.43	40.91	0.027778475	0.003	0.003	0.003				
Orange	2040	MHDT	Aggregatec	65	GAS	7648.92										
Orange	2040	MHDT	Aggregatec	65	DSL	138331.51	7133.24	6568.93	0.002357575	0.037	0.034	0.034				
Orange	2040	OBUS	Aggregatec	65	GAS	3771.10										
Orange	2040	OBUS	Aggregatec	65	DSL	5834.17	300.85	277.05	0.003107651	0.002	0.002	0.002				
Orange	2040	SBUS	Aggregatec	55	GAS	1129.72										
Orange	2040	SBUS	Aggregatec	55	DSL	1458.16	75.19	69.24	0.002362087	0.000	0.000	0.000				
Orange	2040	UBUS	Aggregatec	65	GAS	542.98										
Orange	2040	UBUS	Aggregatec	65	DSL	558.15	28.78	26.50	0.005885378	0.000	0.000	0.000				
						LM Total										
						4208881.13										
						Total LM Diesel Emissions										
						0.114052001										
						0.41										
						Total Emissions per Volume										
						28										
						28										
						1.96E-05										
						7.69E-05										
						1.93E-05										
						7.59E-05										

Source for Modeling

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County
Region: Riverside
Calendar Year: 2040
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Additional Segment
RIV I-10 in the Banning area Eastbound
RIV I-10 in the Banning area Westbound
*RIV I-10 in the Banning area
Total Segment Length Eastbound 5.01 miles
Total Segment Length Westbound 4.98 miles

LM VMT/day 307,953
HD VMT/day 141,302
362,630
139,692

Emissions per Volume Source for 1-mile segment Model
Eastbound Westbound

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	Emission Factor	DPM Emissions (lb/day)	DPM Emissions (lb/day)	Westbound	Eastbound	Westbound	Eastbound	No. of Vol Sources	No. of Vol Sources	g/sec	g/sec	
																				Westbound	Eastbound	Westbound	Eastbound
Riverside	2040	HHDT	Aggregatec	55	GAS	3201.49	139007.49	0.004476464	1.39	1.37	45	45	3.21E-05	3.21E-05						
Riverside	2040	HHDT	Aggregatec	55	DSL	649756.47	140608.70	0.004476464	1.39	1.37	45	45	3.21E-05	3.21E-05						
					HHDT Total	652957.96														
Riverside	2040	LDA	Aggregatec	65	GAS	3501914.18														
Riverside	2040	LDA	Aggregatec	65	DSL	48508.09	2315.19	0.000623643	0.003	0.004										
Riverside	2040	LDT1	Aggregatec	65	GAS	248324.94														
Riverside	2040	LDT1	Aggregatec	65	DSL	137.00	6.54	0.003565448	0.000	0.000										
Riverside	2040	LDT2	Aggregatec	65	GAS	1414362.82														
Riverside	2040	LDT2	Aggregatec	65	DSL	3103.14	148.11	0.003153393	0.001	0.001										
Riverside	2040	LHDT1	Aggregatec	65	GAS	39326.39														
Riverside	2040	LHDT1	Aggregatec	65	DSL	115060.74	5491.61	0.0063066578	0.076	0.090										
Riverside	2040	LHDT2	Aggregatec	65	GAS	14891.48														
Riverside	2040	LHDT2	Aggregatec	65	DSL	57609.46	2749.58	0.005487154	0.033	0.039										
Riverside	2040	MDV	Aggregatec	65	GAS	719958.26														
Riverside	2040	MDV	Aggregatec	65	DSL	20002.70	954.69	0.000795775	0.002	0.002										
Riverside	2040	MH	Aggregatec	65	GAS	4466.36														
Riverside	2040	MH	Aggregatec	65	DSL	1592.49	76.01	0.036584456	0.006	0.007										
Riverside	2040	MHDT	Aggregatec	65	GAS	24915.11														
Riverside	2040	MHDT	Aggregatec	65	DSL	212366.83	10135.82	0.002461834	0.055	0.065										
Riverside	2040	OBUS	Aggregatec	65	GAS	9566.87														
Riverside	2040	OBUS	Aggregatec	65	DSL	11315.88	540.08	0.002890411	0.003	0.004										
Riverside	2040	SBUS	Aggregatec	55	GAS	776.58														
Riverside	2040	SBUS	Aggregatec	55	DSL	1690.78	80.70	0.00236367	0.000	0.000										
Riverside	2040	UBUS	Aggregatec	65	GAS	1194.26														
Riverside	2040	UBUS	Aggregatec	65	DSL	1183.27	56.48	0.001999034	0.18	0.21										
					LM Total	6452267.66														
											Total LM Diesel Emissions		66.50		Total Emissions per Volume Source		4.21E-06		4.99E-06	
											Total Diesel Emissions		1.57		Total Emissions per Volume Source		3.65E-05		3.71E-05	

for Modeling

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County
Region: Riverside
Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Additional Segment
RV 1-15, Riverside Northbound 467,016 75,897
RV 1-15, Riverside Southbound 553,334 90,970
*RV 1-15, Riverside County, near Temecula
Total Segment Length Northbound 4.81 miles
Total Segment Length Southbound 5.83 miles

Emissions per Volume Source for 1-
mile segment/Model
Northbound Southbound

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day		Emission Factor	DPM Emissions (lb/day)		No. of Vol Sources		g/sec
							Northbound	Southbound		Northbound	Southbound	Northbound	Southbound	
Riverside	2040	HHDT	Aggregatec	55	GAS	3201.49								
Riverside	2040	HHDT	Aggregatec	55	DSL	649756.47	75524.59	90523.72	0.004476464	0.75	0.89	45	1.81E-05	1.79E-05
					HHDT Total	652957.96								
Riverside	2040	LDA	Aggregatec	65	GAS	3501914.18								
Riverside	2040	LDA	Aggregatec	65	DSL	48508.09	3511.02	4159.96	0.000623643	0.005	0.006			
Riverside	2040	LDT1	Aggregatec	65	GAS	248324.94								
Riverside	2040	LDT1	Aggregatec	65	DSL	137.00	9.92	11.75	0.003565448	0.000	0.000			
Riverside	2040	LDT2	Aggregatec	65	GAS	1414362.82								
Riverside	2040	LDT2	Aggregatec	65	DSL	3103.14	224.61	266.12	0.003153393	0.002	0.002			
Riverside	2040	LHDT1	Aggregatec	65	GAS	39326.39								
Riverside	2040	LHDT1	Aggregatec	65	DSL	115060.74	8328.11	9867.38	0.006306578	0.116	0.137			
Riverside	2040	LHDT2	Aggregatec	65	GAS	14891.48								
Riverside	2040	LHDT2	Aggregatec	65	DSL	57609.46	4169.78	4940.47	0.005487154	0.050	0.060			
Riverside	2040	MDV	Aggregatec	65	GAS	719958.26								
Riverside	2040	MDV	Aggregatec	65	DSL	20002.70	1447.80	1715.39	0.000795775	0.003	0.003			
Riverside	2040	MH	Aggregatec	65	GAS	4466.36								
Riverside	2040	MH	Aggregatec	65	DSL	1592.49	115.26	136.57	0.036584456	0.009	0.011			
Riverside	2040	MHDT	Aggregatec	65	GAS	24915.11								
Riverside	2040	MHDT	Aggregatec	65	DSL	212366.83	15371.13	18212.15	0.002461834	0.083	0.099			
Riverside	2040	OBUS	Aggregatec	65	GAS	9566.87								
Riverside	2040	OBUS	Aggregatec	65	DSL	11315.88	819.04	970.43	0.002890411	0.005	0.006			
Riverside	2040	SBUS	Aggregatec	55	GAS	776.58								
Riverside	2040	SBUS	Aggregatec	55	DSL	1690.78	122.38	145.00	0.00236367	0.001	0.001			
Riverside	2040	UBUS	Aggregatec	65	GAS	1194.26								
Riverside	2040	UBUS	Aggregatec	65	DSL	1183.27	85.65	101.48	0.001999034	0.000	0.000	45	6.65E-06	6.50E-06
					LM Total	64652267.66								
										Total Emissions per Volume Source		for Modeling		
										Total LM Diesel Emissions				
										1.02				
										0.27				
										0.32				
										1.22				
										2.47E-05				
										2.44E-05				

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County
 Region: Riverside
 Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 RIV SR-91 in Corona Eastbound 43,193
 RIV SR-91 in Corona Westbound 45,549
 *SR 91 in Corona, east of the intersection with SR 71
 Total Segment Length Eastbound 2.01 miles
 Total Segment Length Westbound 1.76 miles

Emissions per Volume Source for 1-
 mile segment Model

Eastbound	Westbound
3.17E-05	3.81E-05

Eastbound	Westbound
1.21E-05	1.30E-05
4.38E-05	5.11E-05

Eastbound	Westbound
0.59	0.60
0.16	0.15
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.049	0.046
0.005	0.005
0.005	0.005
0.002	0.001
0.030	0.028
0.068	0.064
0.001	0.001
0.000	0.000
0.000	0.000
0.003	0.003
0.42	0.45

Eastbound	Westbound
0.59	0.60
0.16	0.15
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.049	0.046
0.005	0.005
0.005	0.005
0.002	0.001
0.030	0.028
0.068	0.064
0.001	0.001
0.000	0.000
0.000	0.000
0.003	0.003
0.42	0.45

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	PMT10_RUNEX	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	Westbound	Eastbound	Westbound	Eastbound	LM VMT/day	HD VMT/day
Riverside	2040	HHDT	Aggregatec		55 GAS	3201.49	42981.28	45326.09	0.004476464	0.42	0.45	35	35					276,171	43,193
Riverside	2040	HHDT	Aggregatec		55 DSL	649756.47	2076.25	1951.30	0.000623643	0.003	0.003							259,551	45,549
					HHDT Total	652957.96													
Riverside	2040	LDA	Aggregatec		65 GAS	3501914.18	5.86	5.51	0.003565448	0.000	0.000								
Riverside	2040	LDA	Aggregatec		65 DSL	48508.09	132.82	124.83	0.003153393	0.001	0.001								
Riverside	2040	LDT1	Aggregatec		65 GAS	248324.94	4924.85	4628.47	0.006306578	0.068	0.064								
Riverside	2040	LDT1	Aggregatec		65 DSL	137.00	2465.81	2317.41	0.005487154	0.030	0.028								
Riverside	2040	LDT2	Aggregatec		65 GAS	1414362.82	856.16	804.63	0.000795775	0.002	0.001								
Riverside	2040	LDT2	Aggregatec		65 DSL	3103.14	68.16	64.06	0.036584456	0.005	0.005								
Riverside	2040	LHD1	Aggregatec		65 GAS	39326.39	9089.76	8542.73	0.002461834	0.049	0.046								
Riverside	2040	LHD1	Aggregatec		65 DSL	115060.74	484.34	455.20	0.002890411	0.003	0.003								
Riverside	2040	LHD2	Aggregatec		65 GAS	14891.48	72.37	68.01	0.00236367	0.000	0.000								
Riverside	2040	LHD2	Aggregatec		65 DSL	57609.46	50.65	47.60	0.001999034	0.000	0.000								
Riverside	2040	MDV	Aggregatec		65 GAS	719958.26													
Riverside	2040	MDV	Aggregatec		65 DSL	20002.70													
Riverside	2040	MH	Aggregatec		65 GAS	4466.36													
Riverside	2040	MH	Aggregatec		65 DSL	1592.49													
Riverside	2040	MH	Aggregatec		65 GAS	24915.11													
Riverside	2040	MHDT	Aggregatec		65 DSL	212366.83													
Riverside	2040	MHDT	Aggregatec		65 GAS	9566.87													
Riverside	2040	OBUS	Aggregatec		65 DSL	11315.88													
Riverside	2040	OBUS	Aggregatec		65 GAS	7716.58													
Riverside	2040	SBUS	Aggregatec		55 GAS	1690.78													
Riverside	2040	SBUS	Aggregatec		55 DSL	1194.26													
Riverside	2040	UBUS	Aggregatec		65 GAS	1183.27													
Riverside	2040	UBUS	Aggregatec		65 DSL	645267.66													
					LM Total														

Emissions per Volume Source for 1- mile segment Model			
Eastbound	Westbound	Eastbound	Westbound
1.21E-05	1.30E-05	4.38E-05	5.11E-05
Total Emissions per Volume Source for Modeling			
0.59	0.60	0.16	0.15
0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000
0.049	0.046	0.049	0.046
0.005	0.005	0.005	0.005
0.005	0.005	0.002	0.001
0.030	0.028	0.030	0.028
0.068	0.064	0.068	0.064
0.001	0.001	0.001	0.001
0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000
0.003	0.003	0.003	0.003
0.42	0.45	0.42	0.45

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County
 Region: San Bernardino
 Calendar Year: 2040
 Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 SB I-15 in Ontario Northbound
 SB I-15 in Ontario Southbound
 *SB I-15 in Ontario
 Total Segment Length Northbound
 Total Segment Length Southbound

LM VMT/day
 237,047
 219,210

HD VMT/day
 55,236
 57,152

2.95 miles
 2.97 miles

Emissions per Volume Source for 1-
 mile segment Model
 Northbound Southbound

Region	CalYr	VehClass	MdYr	Speed	Fuel	VMT	Diesel VMT/day	Southbound	Emission Factor	Northbound	DPM Emissions (lb/day)	Southbound	DPM Emissions (lb/day)	No. of Vol Sources	Northbound	No. of Vol Sources	g/sec	Southbound	g/sec
San Bernar	2040	HHDT	Aggregatec	55	GAS	2082.99	55045.89	56955.40	0.004549501	0.55	0.57	38	38	2.59E-05	2.66E-05				
San Bernar	2040	HHDT	Aggregatec	55	DSL	603502.45	1859.42	1719.50	0.000628079	0.003	0.002								
					HHDT Total	605585.43													
San Bernar	2040	LDA	Aggregatec	65	GAS	439414.35	5.09	4.70	0.004148062	0.000	0.000								
San Bernar	2040	LDA	Aggregatec	65	DSL	60835.08	111.44	103.05	0.003170803	0.001	0.001								
San Bernar	2040	LDT1	Aggregatec	65	GAS	297115.98	3074.86	2843.49	0.006471347	0.044	0.041								
San Bernar	2040	LDT1	Aggregatec	65	DSL	166.37	1509.94	1396.32	0.005641162	0.019	0.017								
San Bernar	2040	LDT2	Aggregatec	65	GAS	1662936.18	726.43	671.77	0.000818397	0.001	0.001								
San Bernar	2040	LDT2	Aggregatec	65	DSL	3645.97	57.11	52.81	0.035762098	0.005	0.004								
San Bernar	2040	LHDT1	Aggregatec	65	GAS	49719.79	5115.88	4730.92	0.002347392	0.026	0.024								
San Bernar	2040	LHDT1	Aggregatec	65	DSL	100601.03	181.59	167.93	0.003061533	0.001	0.001								
San Bernar	2040	LHDT2	Aggregatec	65	GAS	18595.24	55.40	51.23	0.002367195	0.000	0.000								
San Bernar	2040	LHDT2	Aggregatec	65	DSL	49401.15	54.75	50.63	0.005096589	0.001	0.001								
San Bernar	2040	MDV	Aggregatec	65	GAS	858133.18	1791.14	Total LM Diesel Emissions	0.66	0.65									
San Bernar	2040	MDV	Aggregatec	65	DSL	23766.83	54.75	Total LM Diesel Emissions	0.66	0.65									
San Bernar	2040	MH	Aggregatec	65	GAS	6284.92	54.75	Total LM Diesel Emissions	0.66	0.65									
San Bernar	2040	MH	Aggregatec	65	DSL	1868.41	54.75	Total LM Diesel Emissions	0.66	0.65									
San Bernar	2040	MHDT	Aggregatec	65	GAS	32168.83	54.75	Total LM Diesel Emissions	0.66	0.65									
San Bernar	2040	MHDT	Aggregatec	65	DSL	167377.33	54.75	Total LM Diesel Emissions	0.66	0.65									
San Bernar	2040	OBUS	Aggregatec	65	GAS	16247.91	54.75	Total LM Diesel Emissions	0.66	0.65									
San Bernar	2040	OBUS	Aggregatec	65	DSL	5941.27	54.75	Total LM Diesel Emissions	0.66	0.65									
San Bernar	2040	SBUS	Aggregatec	55	GAS	948.29	54.75	Total LM Diesel Emissions	0.66	0.65									
San Bernar	2040	SBUS	Aggregatec	55	DSL	1812.51	54.75	Total LM Diesel Emissions	0.66	0.65									
San Bernar	2040	UBUS	Aggregatec	65	GAS	1757.59	54.75	Total LM Diesel Emissions	0.66	0.65									
San Bernar	2040	UBUS	Aggregatec	65	DSL	1791.14	54.75	Total LM Diesel Emissions	0.66	0.65									
San Bernar	2040	UBUS	Aggregatec	65	LM Total	7755529.37	54.75	Total LM Diesel Emissions	0.66	0.65									

38	4.71E-06	4.32E-06
38	3.06E-05	3.09E-05
Total Emissions per Volume Source for Modelling		

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County
 Region: San Bernardino
 Calendar Year: 2040
 Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Additional Segment
 SB I-15 in the Victorville area Northbound 83,910
 SB I-15 in the Victorville area Southbound 86,521
 *I-15 in the Victorville area
 Total Segment Length Northbound 4.32 miles
 Total Segment Length Southbound 4.39 miles

LM VMT/day 186,288
 HD VMT/day 171,351

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day		Emission Factor	DPM Emissions (lb/day)		No. of Vol Sources	Emissions per Volume Source for 1-mile segment Model	
							Northbound	Southbound		Northbound	Southbound		Northbound	Southbound
San Bernar	2040	HHDT	Aggregatec	55	GAS	2082.99								
San Bernar	2040	HHDT	Aggregatec	55	DSL	603502.45	83620.99	86223.17	0.004549501	0.84	0.86	58	1.76E-05	1.78E-05
					HHDT Total	605585.43								
San Bernar	2040	LDA	Aggregatec	65	GAS	4394414.35								
San Bernar	2040	LDA	Aggregatec	65	DSL	60835.08	1461.26	1344.09	0.000628079	0.002	0.002			
San Bernar	2040	LDT1	Aggregatec	65	GAS	297115.98								
San Bernar	2040	LDT1	Aggregatec	65	DSL	166.37	4.00	3.68	0.004148062	0.000	0.000			
San Bernar	2040	LDT2	Aggregatec	65	GAS	1662936.18								
San Bernar	2040	LDT2	Aggregatec	65	DSL	3645.97	87.58	80.55	0.003170803	0.001	0.001			
San Bernar	2040	LHDT1	Aggregatec	65	GAS	49719.79								
San Bernar	2040	LHDT1	Aggregatec	65	DSL	100601.03	2416.44	2222.68	0.006471347	0.034	0.032			
San Bernar	2040	LHDT2	Aggregatec	65	GAS	18595.24								
San Bernar	2040	LHDT2	Aggregatec	65	DSL	49401.15	1186.62	1091.47	0.005641162	0.015	0.014			
San Bernar	2040	MDV	Aggregatec	65	GAS	858133.18								
San Bernar	2040	MDV	Aggregatec	65	DSL	23766.83	570.88	525.10	0.000818397	0.001	0.001			
San Bernar	2040	MH	Aggregatec	65	GAS	6284.92								
San Bernar	2040	MH	Aggregatec	65	DSL	1868.41	44.88	41.28	0.035762098	0.004	0.003			
San Bernar	2040	MHDT	Aggregatec	65	GAS	32168.83								
San Bernar	2040	MHDT	Aggregatec	65	DSL	167377.33	4020.40	3698.03	0.002347392	0.021	0.019			
San Bernar	2040	OBUS	Aggregatec	65	GAS	16247.91								
San Bernar	2040	OBUS	Aggregatec	65	DSL	5941.27	142.71	131.27	0.003061533	0.001	0.001			
San Bernar	2040	SBUS	Aggregatec	55	GAS	948.29								
San Bernar	2040	SBUS	Aggregatec	55	DSL	1812.51	43.54	40.05	0.002367195	0.000	0.000			
San Bernar	2040	UBUS	Aggregatec	65	GAS	1757.59								
San Bernar	2040	UBUS	Aggregatec	65	DSL	1791.14	43.02	39.57	0.005096589	0.000	0.000			
					LM Total	7755529.37	Total LM Diesel Emissions	Total Diesel Emissions		0.92	0.94	58	1.65E-06	1.50E-06
													Total Emissions per Volume Source for Modeling	
													1.92E-05	1.93E-05

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County
 Region: Riverside
 Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 SB SR-60 in Ontario Eastbound 38,446
 SB SR-60 in Ontario Westbound 31,159
 *SR 60 in Ontario, west of the I-15 interchange
 Total Segment Length Eastbound 2.35 miles
 Total Segment Length Westbound 2.22 miles

Emissions per Volume Source for 1-
 mile segment Model
 Eastbound Westbound

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day		Emission Factor		DPM Emissions (lb/day)		No. of Vol Sources		Emissions per Volume Source for 1- mile segment Model	
							Eastbound	Westbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
Riverside	2040	HHDT	Aggregatec	55	GAS	3201.49										
Riverside	2040	HHDT	Aggregatec	55	DSL	649756.47	38257.33	31006.34	0.004549501	0.38	0.31	38	38	2.26E-05	1.94E-05	
					HHDT Total	652957.96										
Riverside	2040	LDA	Aggregatec	65	GAS	3501914.18										
Riverside	2040	LDA	Aggregatec	65	DSL	48508.09	2189.54	1739.54	0.000628079	0.003	0.002					
Riverside	2040	LDT1	Aggregatec	65	GAS	248324.94										
Riverside	2040	LDT1	Aggregatec	65	DSL	137.00	6.18	4.91	0.004148062	0.000	0.000					
Riverside	2040	LDT2	Aggregatec	65	GAS	1414362.82										
Riverside	2040	LDT2	Aggregatec	65	DSL	3103.14	140.07	111.28	0.003170803	0.001	0.001					
Riverside	2040	LHDT1	Aggregatec	65	GAS	39326.39										
Riverside	2040	LHDT1	Aggregatec	65	DSL	115060.74	5193.58	4126.17	0.006471347	0.074	0.059					
Riverside	2040	LHDT2	Aggregatec	65	GAS	14891.48										
Riverside	2040	LHDT2	Aggregatec	65	DSL	57609.46	2600.36	2065.92	0.005641162	0.032	0.026					
Riverside	2040	MDV	Aggregatec	65	GAS	719958.26										
Riverside	2040	MDV	Aggregatec	65	DSL	20002.70	902.88	717.31	0.000818397	0.002	0.001					
Riverside	2040	MH	Aggregatec	65	GAS	4466.36										
Riverside	2040	MH	Aggregatec	65	DSL	1592.49	71.88	57.11	0.035762098	0.006	0.005					
Riverside	2040	MHDT	Aggregatec	65	GAS	24915.11										
Riverside	2040	MHDT	Aggregatec	65	DSL	212366.83	9585.75	7615.65	0.002347392	0.050	0.039					
Riverside	2040	OBUS	Aggregatec	65	GAS	9566.87										
Riverside	2040	OBUS	Aggregatec	65	DSL	11315.88	510.77	405.80	0.003061533	0.003	0.003					
Riverside	2040	SBUS	Aggregatec	55	GAS	776.58										
Riverside	2040	SBUS	Aggregatec	55	DSL	1690.78	76.32	60.63	0.002367195	0.000	0.000					
Riverside	2040	UBUS	Aggregatec	65	GAS	1194.26										
Riverside	2040	UBUS	Aggregatec	65	DSL	1183.27	53.41	42.43	0.005096589	0.001	0.000					
					LM Total	6452267.66			Total LM Diesel Emissions	0.17	0.14	38	38	3.27E-05	8.50E-06	
									Total Diesel Emissions	0.56	0.45			2.79E-05		

Total Emissions per Volume Source for Modelling

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County
 Region: Ventura
 Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Original Segment
 VEN US-101 SB Ventura Freeway Northbound
 VEN US-101 SB Ventura Freeway Southbound
 *US-101 Freeway in San Buenaventura near the Ventura Harbor

Total segment length
 Total Segment Length Northbound 3.21 miles
 Total Segment Length Southbound 3.26 miles

Emissions per Volume Source for 1-mile segment Model
 Northbound Southbound

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Diesel VMT/day	Diesel VMT/day	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	DPM Emissions (lb/day)	DPM Emissions (lb/day)	No. of Vol Sources	No. of Vol Sources	Emissions per Volume Source for 1-mile segment Model	
Ventura	2040	HHDT	Aggregatec	55	GAS	574.78															
Ventura	2040	HHDT	Aggregatec	55	DSL	40656.62	28588.20	29680.70	29680.70	0.004456099	0.28	0.29	74	74	74	0.28	0.29	74	74	6.21E-06	
						HHDT Total															
						41231.40															
Ventura	2040	LDA	Aggregatec	65	GAS	970214.24															
Ventura	2040	LDA	Aggregatec	65	DSL	13436.49	1281.45	1285.73	1285.73	0.000640157	0.002	0.002				0.002	0.002			6.35E-06	
Ventura	2040	LDT1	Aggregatec	65	GAS	71327.90															
Ventura	2040	LDT1	Aggregatec	65	DSL	39.64	3.78	3.79	3.79	0.004119509	0.000	0.000				0.000	0.000				
Ventura	2040	LDT2	Aggregatec	65	GAS	351421.41															
Ventura	2040	LDT2	Aggregatec	65	DSL	772.46	73.67	73.92	73.92	0.003097864	0.001	0.001				0.001	0.001				
Ventura	2040	LHDT1	Aggregatec	65	GAS	8740.89															
Ventura	2040	LHDT1	Aggregatec	65	DSL	35099.94	3347.50	3358.69	3358.69	0.006651495	0.049	0.049				0.049	0.049				
Ventura	2040	LHDT2	Aggregatec	65	GAS	3704.61															
Ventura	2040	LHDT2	Aggregatec	65	DSL	173106.58	1650.54	1656.05	1656.05	0.005632767	0.020	0.021				0.021	0.021				
Ventura	2040	MDV	Aggregatec	65	GAS	173106.80															
Ventura	2040	MDV	Aggregatec	65	DSL	4862.35	463.72	465.27	465.27	0.000733245	0.001	0.001				0.001	0.001				
Ventura	2040	MH	Aggregatec	65	GAS	1073.74															
Ventura	2040	MH	Aggregatec	65	DSL	426.61	102.40	102.75	102.75	0.04421314	0.010	0.010				0.010	0.010				
Ventura	2040	MHDT	Aggregatec	65	GAS	3429.98															
Ventura	2040	MHDT	Aggregatec	65	DSL	51809.22	327.12	328.21	328.21	0.002371846	0.002	0.002				0.002	0.002				
Ventura	2040	OBUS	Aggregatec	65	GAS	1565.61															
Ventura	2040	OBUS	Aggregatec	65	DSL	1256.95	149.31	149.81	149.81	0.003032481	0.001	0.001				0.001	0.001				
Ventura	2040	SBUS	Aggregatec	55	GAS	236.72															
Ventura	2040	SBUS	Aggregatec	55	DSL	216.06	22.58	22.65	22.65	0.002368973	0.000	0.000				0.000	0.000				
Ventura	2040	UBUS	Aggregatec	65	GAS	226.50															
Ventura	2040	UBUS	Aggregatec	65	DSL	230.13	21.60	21.67	21.67	0.002390041	0.000	0.000				0.000	0.000				
						LM Total	1710504.85	Total LM Diesel Emissions	21.67	0.002390041	0.000	0.000	74	74	74	0.09	0.09	Total Emissions per Volume Source for Modeling	Total Emissions per Volume Source for Modeling	1.89E-06	1.87E-06
								Total Diesel Emissions	0.37	0.09	0.38									8.10E-06	8.21E-06

APPENDIX C

Location of Modeled Receptors for Each Transportation Segment



Figure C-1
Modeled Receptors
Segment 1
IMP I-8
Interstate 8 just east of El Centro (Imperial County)

5000 ft

Google earth

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Figure C-2
 Modeled Receptors
 Segment 2
 IMP SR-78
 State Road 78 Freeway in Westmorland (Imperial County)

3000 ft



Google earth

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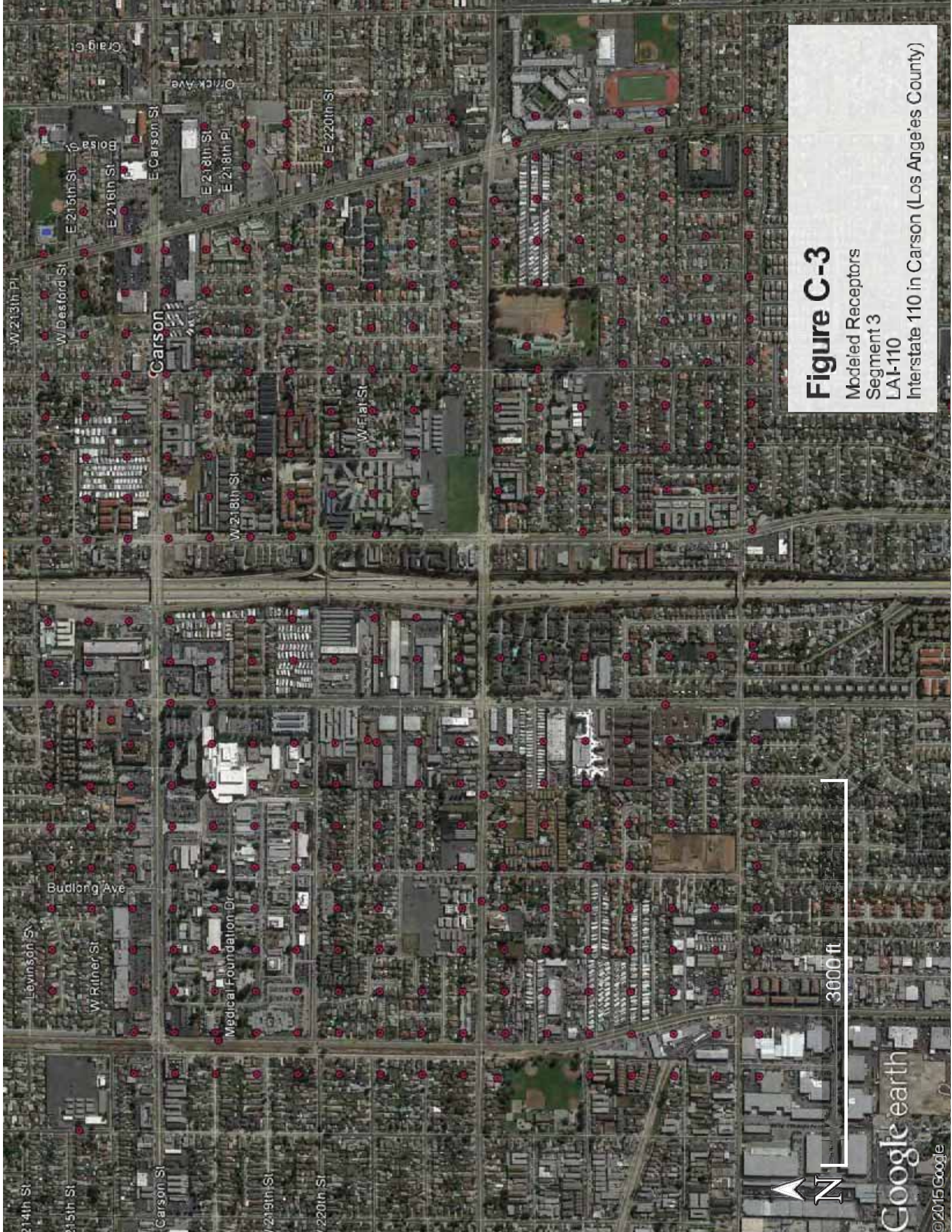


Figure C-3

Modeled Receptors
Segment 3
LA1-110
Interstate 110 in Carson (Los Angeles County)





Figure C-4

Modeled Receptors
 Segment 4
 LAI-710
 Interstate 710 in Compton, north of the
 intersection with SR-91 (Los Angeles County)

4000 ft





Figure C-5

Modeled Receptors
Segment 5
LASR-60 DB
State Road 60 Freeway near Diamond Bar
(Los Angeles County)



1 mi

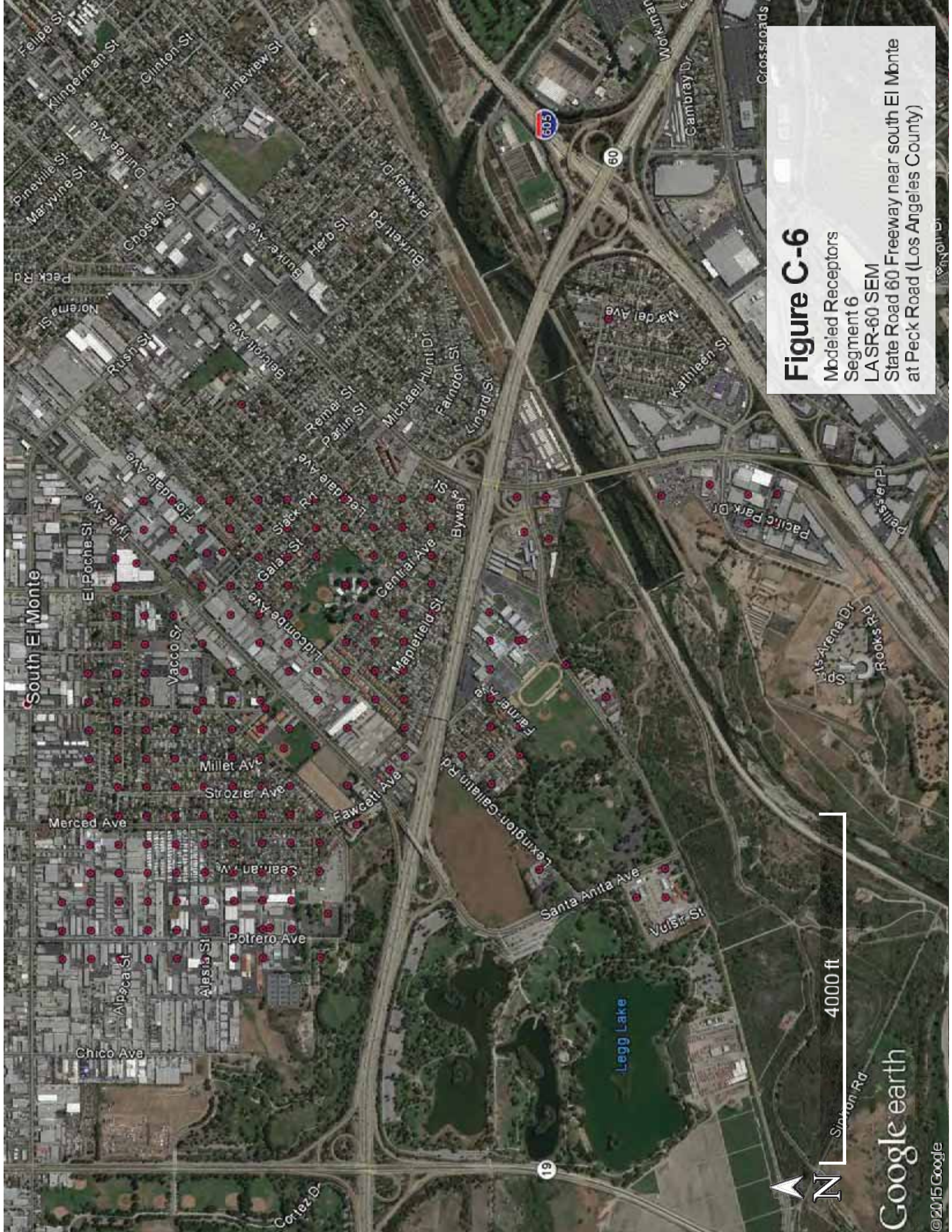


Figure C-6

Modeled Receptors
 Segment 6
 LASR-60 SEM
 State Road 60 Freeway near south El Monte
 at Peck Road (Los Angeles County)

4000 ft



Google earth

© 2015 Google

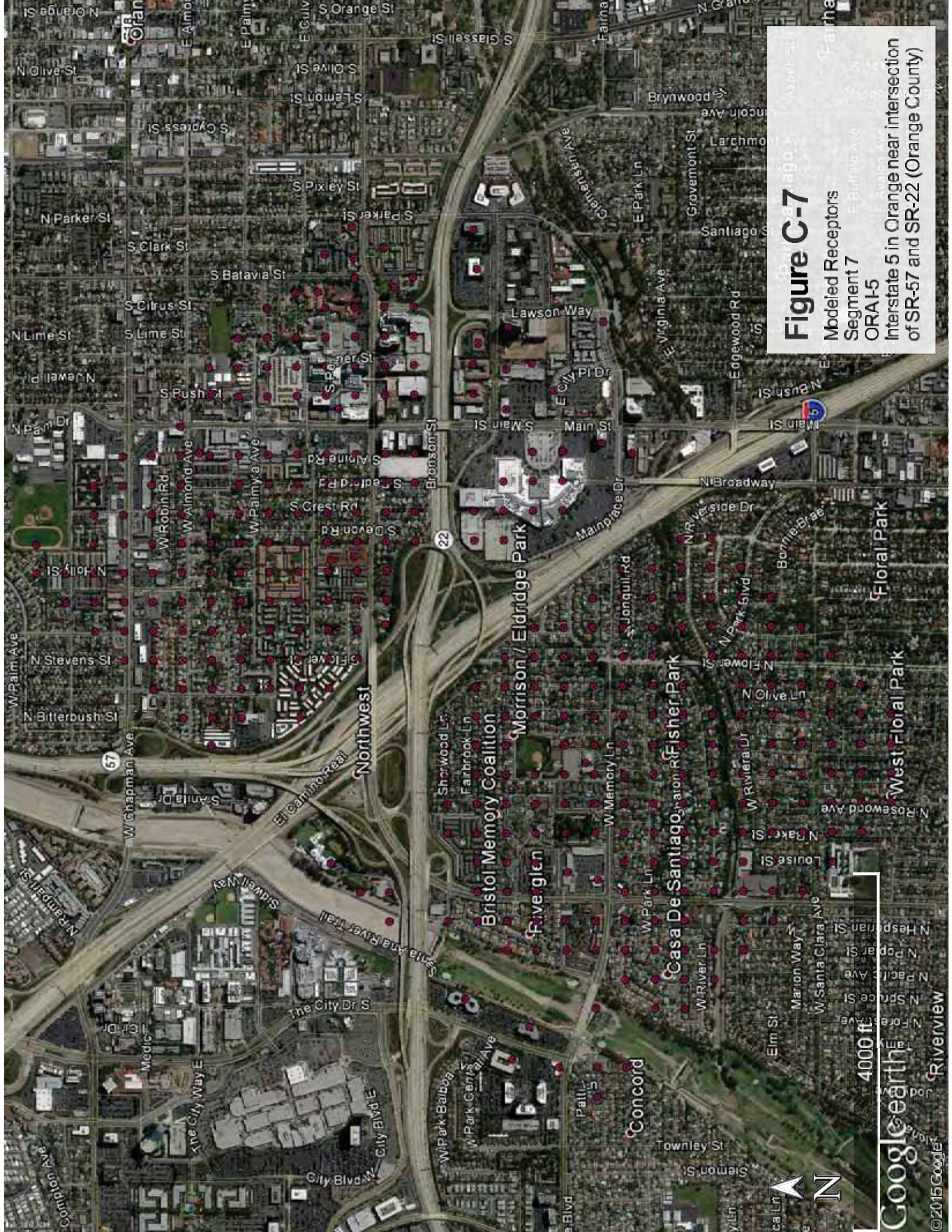


Figure C-7
 Modeled Receptors
 Segment 7
 ORA-I5
 Interstate 5 in Orange near intersection
 of SR-57 and SR-22 (Orange County)

4000 ft



Figure C-8

Modeled Receptors
 Segment 8
 ORA I-405
 Interstate 405 in Seal Beach, east of
 the I-605 interchange (Orange County)



3000 ft

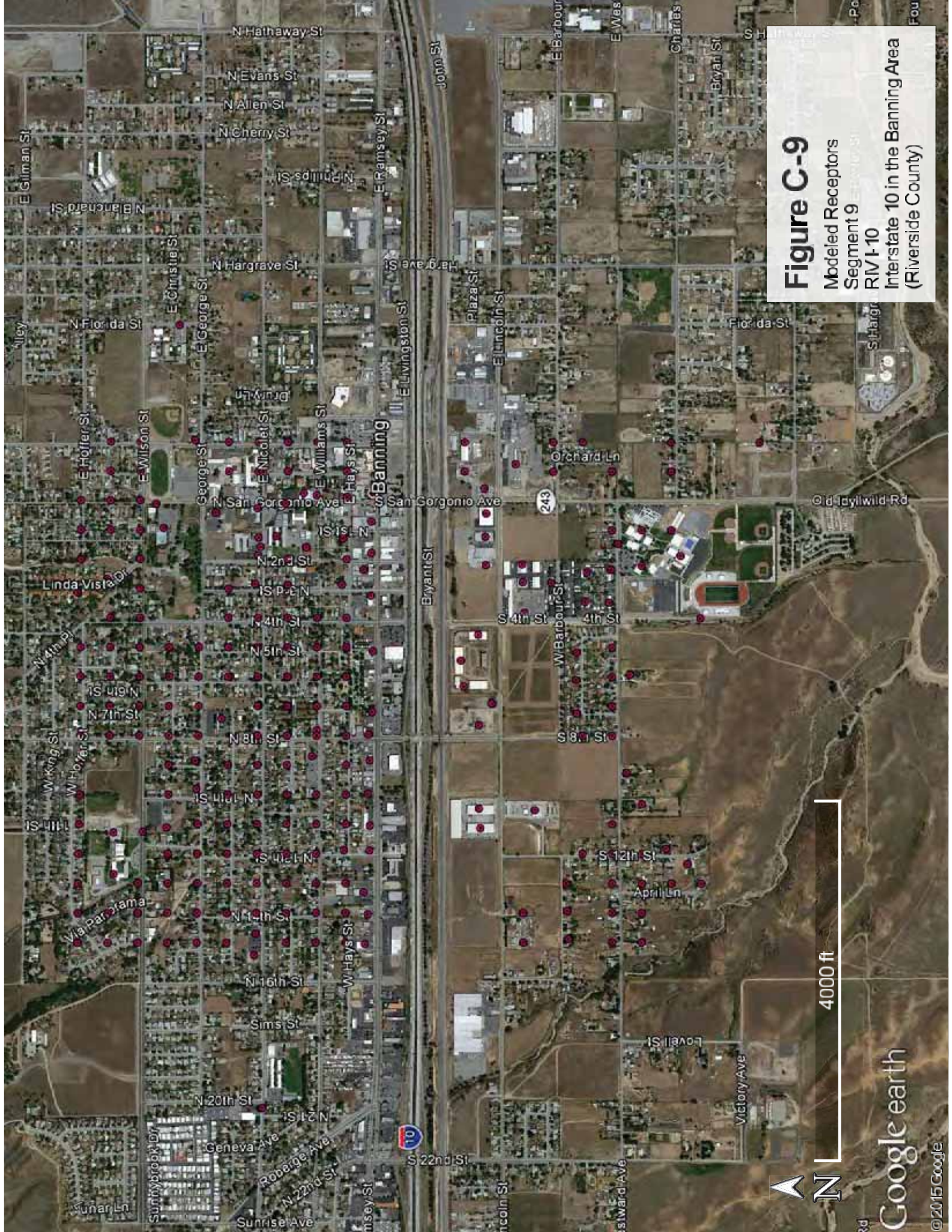


Figure C-9

Modeled Receptors
 Segment 9
 RMI-10
 Interstate 10 in the Banning Area
 (Riverside County)

4000 ft



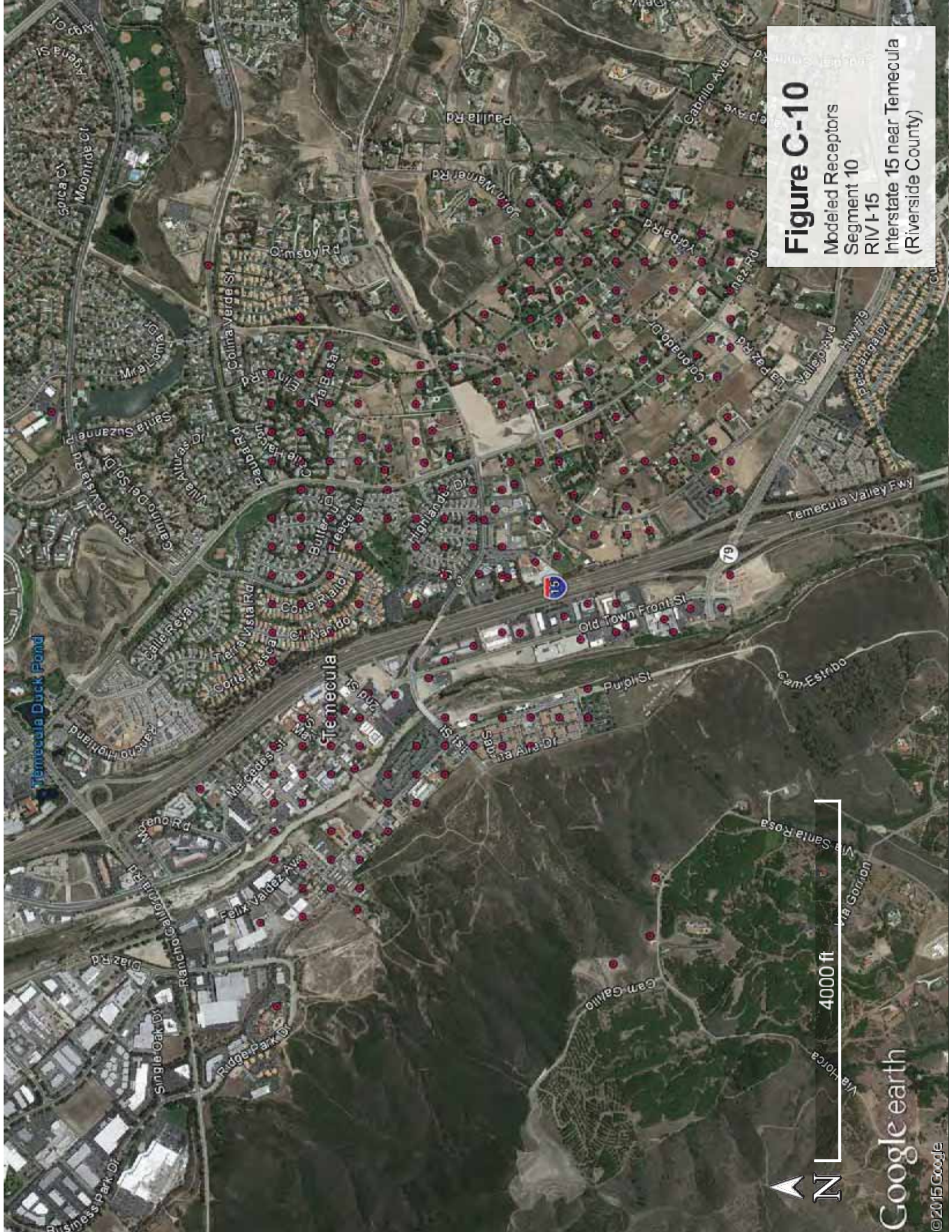


Figure C-10

Modeled Receptors
Segment 10
RVI-15
Interstate 15 near Temecula
(Riverside County)

4000 ft





Figure C-11

Modeled Receptors
 Segment 11
 RIV SR-91
 State Road 91 Freeway in Corona east of the
 intersection with SR-71 (Orange County)

4000 ft

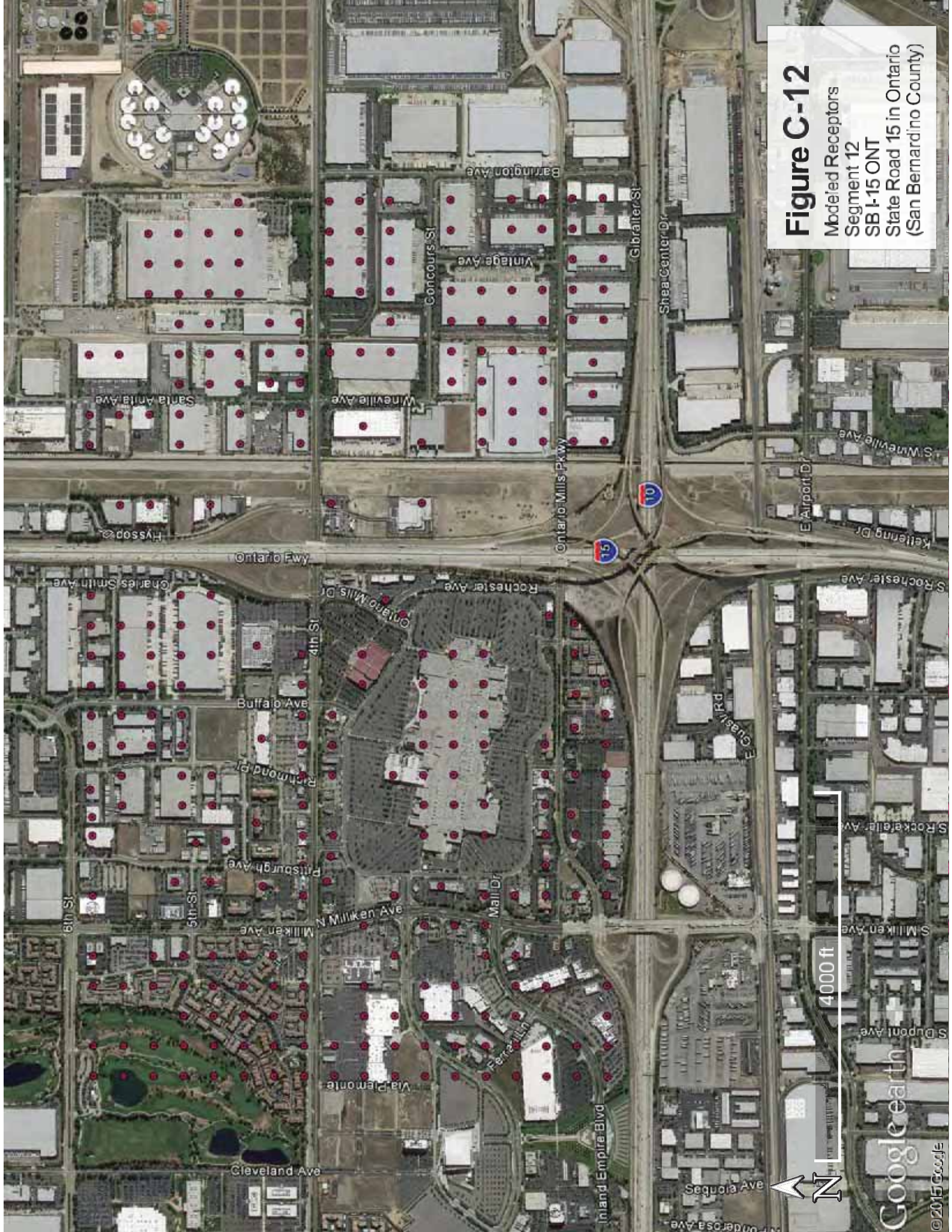


Figure C-12

Modeled Receptors
 Segment 12
 SBI-15 ONT
 State Road 15 in Ontario
 (San Bernardino County)

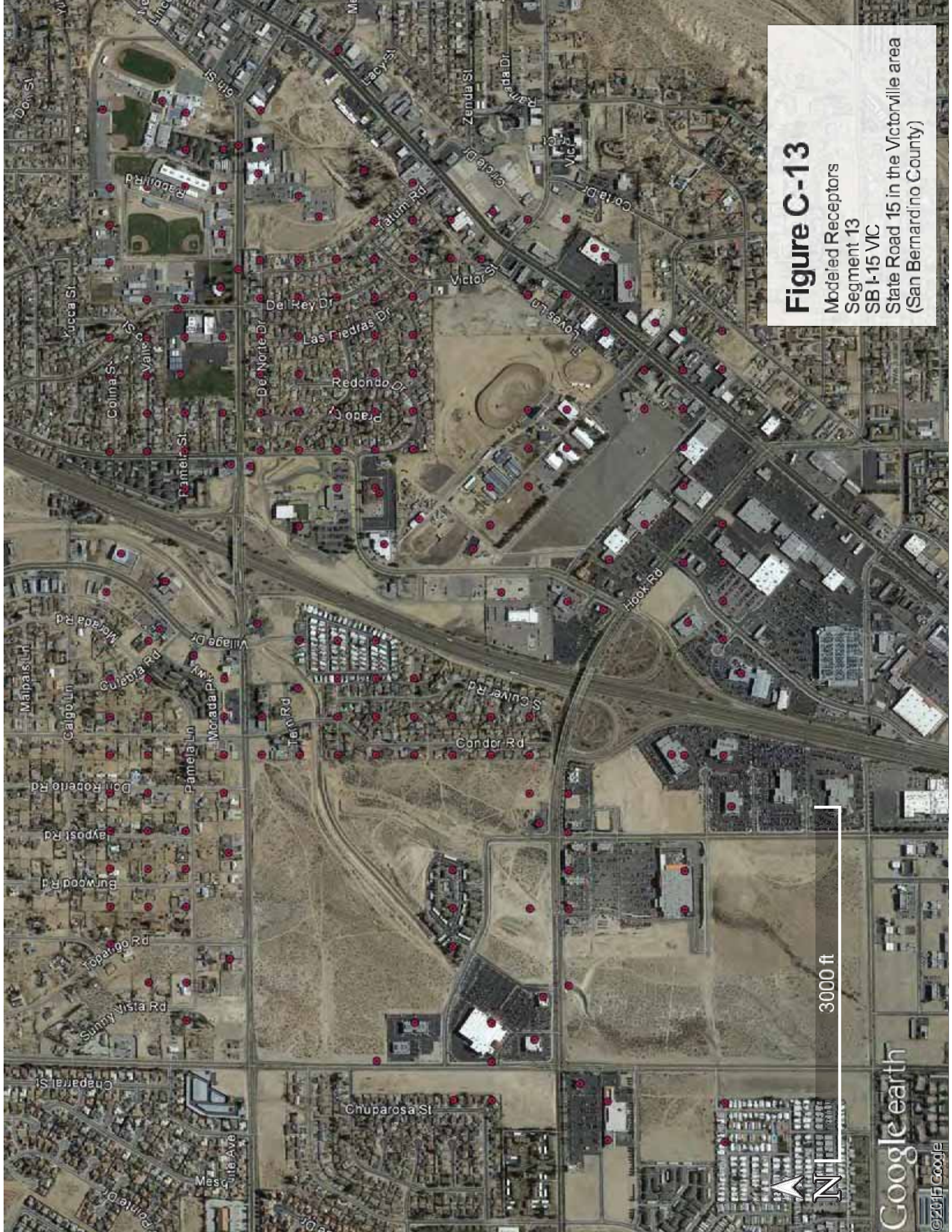


Figure C-13

Modeled Receptors
Segment 13
SB I-15 VIC
State Road 15 in the Victorville area
(San Bernardino County)

3000 ft

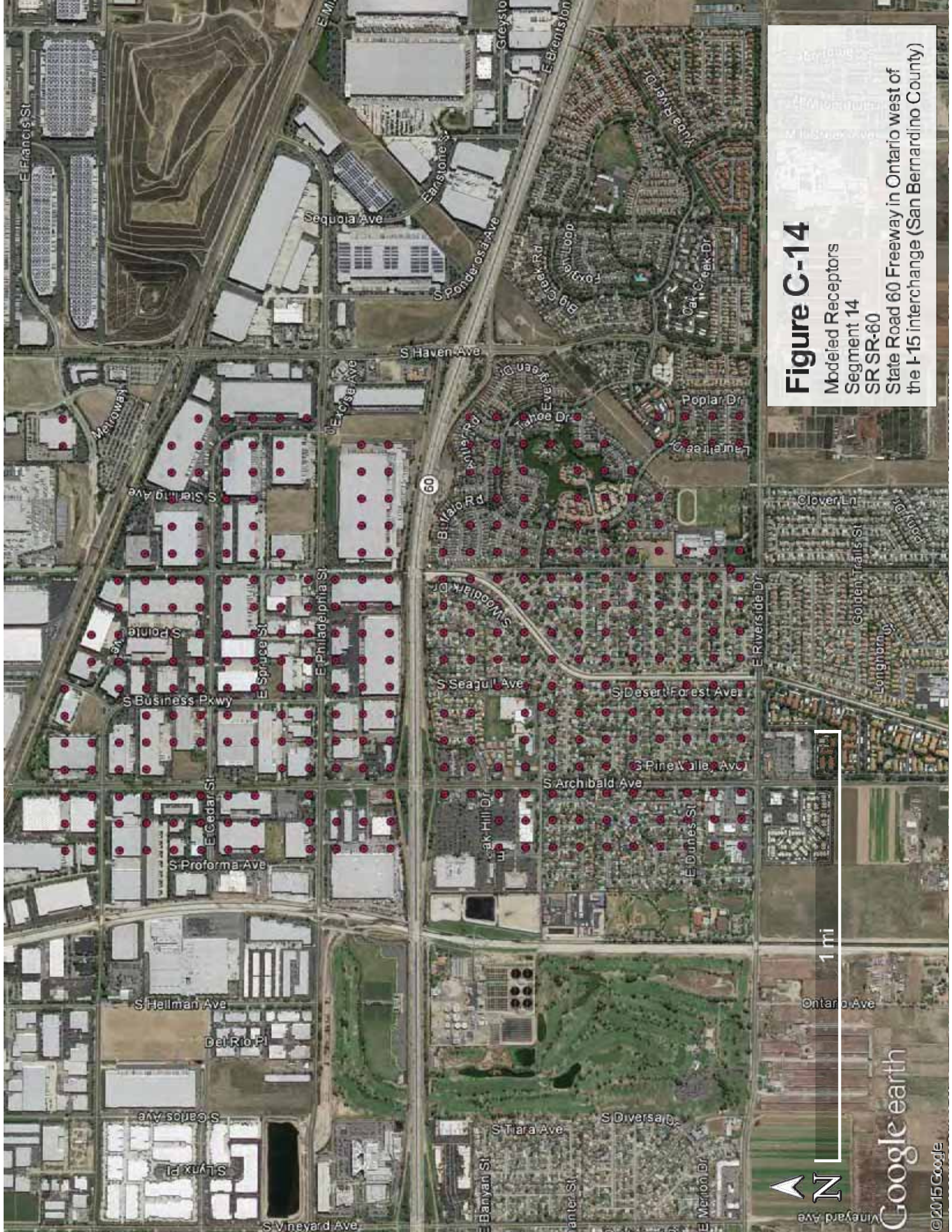


Figure C-14

Modeled Receptors
Segment 14
SR SR-60
State Road 60 Freeway in Ontario west of
the I-15 interchange (San Bernardino County)

1 mi



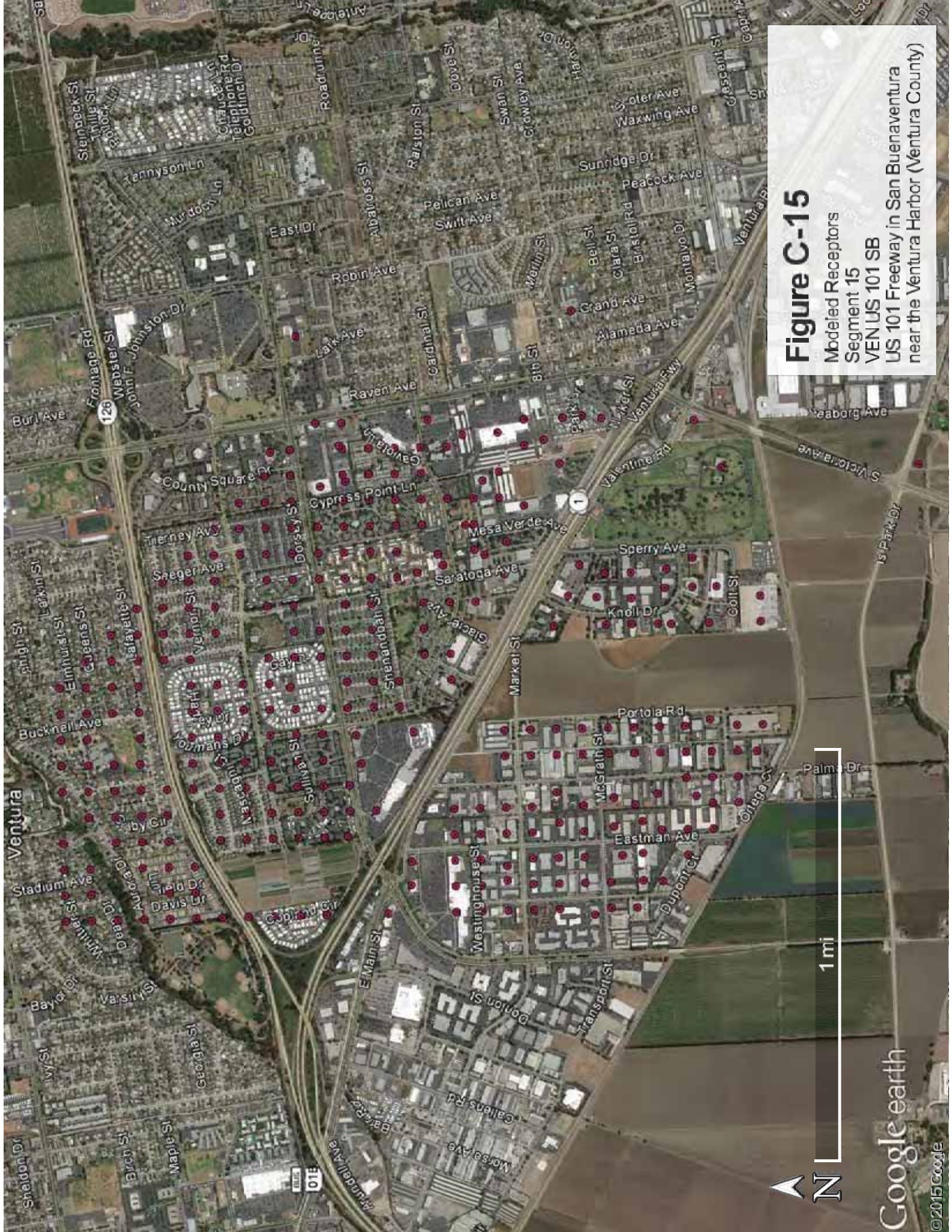


Figure C-15

Modeled Receptors
 Segment 15
 VENUS 101 SB
 US 101 Freeway in San Buenaventura
 near the Ventura Harbor (Ventura County)

1 mi





Figure C-16

Modeled Receptors
Segment 16
VEN US 101 TO
US 101 Freeway in Thousand Oaks
east of SR-23 (Ventura County)

5000 ft



APPENDIX D

Health Risk Calculations for Each Transportation Segment and Evaluation Simulation

References are to the OEHA Air Toxic Hot Spots Program, Risk Assessment Guidelines, February 2015; unless otherwise noted.

1.0 Residential Risk Calculation

PMI Residential Concentration (Conc)	0.0123	ug/m3	MEIR	(Example Concentration)	
DPM Cancer Potency Factor (CPF)	1.1	(mg/kg-day) ⁻¹	from http://oehha.ca.gov/air/hot_spots/2009/AppendixA.pdf		
Breathing Rates are 95th Percentile (Tbl 5.6)					
Breathing Rate 3rd Trimester	361	L/kg-day	Fraction of Time at Home (Tbl 8.4)		
Breathing Rate 0 to <2 yrs	1090	L/kg-day	1 Fraction Home 3rd Trimester		
Breathing Rate 2 to <16 yrs	745	L/kg-day	1 Fraction Home 0 to <2 yrs		
Breathing Rate 16 to <70 yrs	290	L/kg-day	1 Fraction Home 2 to <16 yrs		
			0.73 Fraction Home 16 to <70 yrs		
Breathing Rate 2 to <9 yrs	861	L/kg-day	1 Fraction Home 2 to <9 yrs		
Breathing Rate 16 to <30 yrs	335	L/kg-day	0.73 Fraction Home 16 to <30 yrs		
Cancer Risk 3rd Trimester	1.67E-07	Conc x Breathe Rate x 1E-06 x 350/365 x Fraction Home x CPF x 0.25/70 x Age Sensitivity	Age Sensitivity Factors (Tbl 8.3)		
Cancer Risk 0 to <2yrs	4.04E-06	Conc x Breathe Rate x 1E-06 x 350/365 x Fraction Home x CPF x 2/70 x Age Sensitivity	10		
Cancer Risk 2 to <16 yrs	5.80E-06	Conc x Breathe Rate x 1E-06 x 350/365 x Fraction Home x CPF x 14/70 x Age Sensitivity	10		
Cancer Risk 16 to <70 yrs	2.12E-06	Conc x Breathe Rate x 1E-06 x 350/365 x Fraction Home x CPF x 54/70 x Age Sensitivity	3		
Cancer Risk 2 to <9 yrs	3.35E-06	Conc x Breathe Rate x 1E-06 x 350/365 x Fraction Home x CPF x 7/70 x Age Sensitivity	1		
Cancer Risk 16 to <30 yrs	6.35E-07	Conc x Breathe Rate x 1E-06 x 350/365 x Fraction Home x CPF x 14/70 x Age Sensitivity			
9-year Risk	7.56E-06	3rd Trimester + 0 to 2 year risk + 2 to 9 year risk			
30-year Risk	1.06E-05	3rd Trimester + 0 to 2 year risk + 2 to 16 year risk + 16 to 30 year risk			
70-year Risk	1.21E-05	3rd Trimester + 0 to 2 year risk + 2 to 16 year risk + 16 to 70 year risk			

2.0 Off-Site Worker Risk Calculation

Assumes that there a worker could be pregnant while working.
 25-year working duration at a single location (starting at age 16) per Guidance Section 8.2.4.
 Includes day care, hospital, senior center, school workers.

PMI Worker Concentration (Conc)	0.0741	ug/m3	MEIW	(Example Concentration)	
Breathing Rates are 95th Percentile					
Breathing Rate 3rd Trimester	240	L/kg-day	Age Sensitivity Factors (Tbl 8.3)		
8-hour Breathing Rate 16 to 70 years	230	L/kg-day	10		
			1		
Cancer Risk 3rd Trimester	4.79E-07	Conc x Breathe Rate x 1E-06 x 250/365 x CPF x 0.25/70 x Age Sensitivity [5 days/wk x 50 wk/yr]			
Cancer Risk 16 to <70 yrs	4.59E-06	Conc x Breathe Rate x 1E-06 x 250/365 x CPF x 25/70 x Age Sensitivity [5 days/wk x 50 wk/yr]			
Cancer Risk for 25 working years	5.06E-06	3rd Trimester + 25 years of risk			

3.0 Day Care Center Children

Assumes child is at the Day Care Center for 0 to 6 years.

Day Care Center workers included in Off-Site Worker calculation.

Day Care Concentration (Conc)	0.0532	ug/m3	(Example Concentration)	
Breathing Rates are 95th Percentile				Age Sensitivity Factors (Tbl 8.3)
8-hour Breathing Rate 0 to <2 years	1200	L/kg-day	Tbl 5.8, mod. intensity, Age 0 to <2 per Sect. 5.4.1.3	10
8-hour Breathing Rate 2 to <9 years	640	L/kg-day	Tbl 5.8, mod. intensity, Age 2 to <9 per Sect. 5.4.1.3	3
Cancer Risk 0 to <2 yrs	1.37E-05	Conc x Breathe Rate x 1E-06 x 250/365 x CPF x 2/70 x Age Sensitivity [5 days/wk x 50 wk/yr]		
Cancer Risk 2 to 6 yrs	4.40E-06	Conc x Breathe Rate x 1E-06 x 250/365 x CPF x 4/70 x Age Sensitivity [5 days/wk x 50 wk/yr]		
Cancer Risk for 6 years Day Care	1.81E-05	0 to <2 year risk + 2 to 6 year risk		

4.0 Schools (Elementary, Middle school, High school)

Assumes maximum exposure occurs at an elementary school Kindergarten (Age 5) through 6th Grade, so total 7 years.

School workers included in Off-Site Worker calculation.

School Concentration (Conc)	0.1256	ug/m3	(Example Concentration)	
Breathing Rates are 95th Percentile				Age Sensitivity Factors (Tbl 8.3)
8-hour Breathing Rate 2 to <16 years	520	L/kg-day	Tbl 5.8, mod. intensity, Age 2 to <16 per Sect. 5.4.1.3	3
Cancer Risk K through 6 Grade	9.74E-06	Conc x Breathe Rate x 1E-06 x 165/365 x CPF x 7/70 x Age Sensitivity [5 days/wk x 36 wk/yr minus 3 weeks vacation]		
Cancer Risk for 7 years School	9.74E-06	7 year total risk, Age 5 7 to <12		

5.0 Senior Center Residents

Assume resident is at a Senior Center for 30 years and enters after age 16 and does not bear a child.

Senior Center workers included in Off-Site Worker calculation.

Senior Center Concentration (Conc)	0.0853	ug/m3	(Example Concentration)	
Breathing Rates are 95th Percentile (Tbl 5.6)				Age Sensitivity Factors (Tbl 8.3)
Breathing Rate 16 to <70 yrs	290	L/kg-day		1
Cancer Risk 16 to <70 yrs	1.17E-05	Conc x Breathe Rate x 1E-06 x 365/365 x CPF x 30/70 x Age Sensitivity		
Senior Center 40-year Risk	1.17E-05	30 year total risk		

Age Sensitivity Factors

Fraction of Time at Home

Residential Breathing Rates are 95th Percentile
 Breathing Rate 3rd Trimester 361
 Breathing Rate 0 to <2 yrs 1090
 Breathing Rate 2 to <16 yrs 745
 Breathing Rate 16 to <70 yrs 290
 Breathing Rate 2 to <9 yrs 861
 Breathing Rate 16 to <30 yrs 335
 Offsite Worker Breathing Rates are 95th Percentile
 Breathing Rate 3rd Trimester 240
 Breathing Rate 16 to 70 years 230
 Day Care and School Breathing Rates are 95th Percentile
 8-hour Breathing Rate 0 to <2 years 1200
 8-hour Breathing Rate 2 to <9 years 640
 8-hour Breathing Rate 2 to <16 years 520
 DPM Cancer Potency 1.1
 Percentage Risk Increase over DPM 5%

For additional compounds emitted from vehicles (acetaldehyde, benzene, 1,3-butadiene, formaldehyde)

NR = No Receptor for the category within 1000 m of the freeway.

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting	UTM Northing	Utilized Concentration (ug/m3/g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	DPM 30-year Cancer Risk (per million)	Total 30-year Cancer Risk DPM + Other Chemicals (per million)	DPM 9-year Cancer Risk (per million)	Total 9-year Cancer Risk DPM + Other Chemicals (per million)	DPM 70-year MEIR Cancer Risk (per million)	Total 70-year MEIR Cancer Risk DPM + Other Chemicals (per million)				
1	IMP I-8 Interstate 8 just east of El Centro	2012_2035 PDEIR Segment	Imperial	East	MEIR	635500.00	3627200.00	1298	3.97E-05	5.16E-02	1.38E-01	119.3	125.3	84.8	89.0	136.0	142.8				
					MEIR	635500.00	3627200.00	1985	4.35E-05	8.63E-02											
					MEW	635408.70	3627026.00	1588	3.97E-05	6.31E-02											
					MEW	635408.70	3627026.00	1280	4.35E-05	5.57E-02											
					Day Care	636187.90	3627252.00	455	3.97E-05	1.81E-02											
					Day Care	636187.90	3627252.00	725	4.35E-05	3.15E-02											
					School	635173.30	3627462.00	301	3.97E-05	1.20E-02											
					School	635173.30	3627462.00	334	4.35E-05	1.45E-02											
					Senior Center	NR	NR														
					Senior Center	NR	NR														
2	IMP SR-78 State Road 78 Freeway in Westmorland	Additional Segment	Imperial	East	MEIR	628500.00	3656200.00	2421	1.96E-05	4.74E-02	9.07E-02	78.5	82.4	55.8	58.5	89.4	93.9				
					MEIR	628500.00	3656200.00	2189	1.96E-05	4.33E-02											
					MEW	628138.20	3656220.00	3479	1.96E-05	6.81E-02											
					MEW	628138.20	3656220.00	2936	1.96E-05	5.81E-02											
					Day Care	628837.80	3656150.00	1475	1.96E-05	2.89E-02											
					Day Care	628837.80	3656150.00	1393	1.98E-05	2.76E-02											
					School	628711.80	3656414.00	785	1.96E-05	1.54E-02											
					School	628711.80	3656414.00	830	1.98E-05	1.64E-02											
					Senior Center	628456.30	3656145.00	1447	1.96E-05	2.83E-02											
					Senior Center	628456.30	3656145.00	1361	1.98E-05	2.69E-02											
3	LA I-110 Interstate 110 in Carson	Additional Segment	Los Angeles	North	MEIR	380800.00	3743500.00	950	3.40E-04	3.23E-01	7.30E-01	6320	663.6	448.9	471.4	720.1	756.1				
					MEIR	380800.00	3743500.00	1237	3.30E-04	4.08E-01											
					MEW	380800.00	3743600.00	938	3.40E-04	3.19E-01											
					MEW	380800.00	3743600.00	1221	3.30E-04	4.02E-01											
					Day Care	381383.10	3744323.00	123	3.40E-04	4.18E-02											
					Day Care	381383.10	3744323.00	119	3.30E-04	3.92E-02											
					School	381001.20	3743694.00	667	3.40E-04	2.27E-01											
					School	381001.20	3743694.00	574	3.30E-04	1.89E-01											
					Senior Center	380506.70	3743721.00	210	3.40E-04	7.14E-02											
					Senior Center	380506.70	3743721.00	222	3.30E-04	7.32E-02											

Scenario 1: 2012 Base Year (2012B), Existing Conditions
 Diesel Exhaust HRA for SCAG 2016-2040 RTP/SSC

NR = No Receptor for the category within 1000 m of the freeway.

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting	UTM Northing	Utilized Concentration	Total Emissions	DPM Concentration	Total DPM Concentration	DPM 30-year Cancer Risk	Total 30-year Cancer Risk DPM + Other Chemicals	DPM 9-year Cancer Risk	Total 9-year MEIR Cancer Risk DPM + Other Chemicals	DPM 70-year MEIR Cancer Risk	Total 70-year MEIR Cancer Risk DPM + Other Chemicals					
4	LA I-710 Interstate 710 in Compton north of the intersection with SR 91	2012_2035 PDEIR Segment	Los Angeles	North	MEIR	390000.00	3750700.00	579	8.18E-04	4.73E-01	9.32E-01	806.6	847.0	573.0	601.6	919.1	965.1					
				South	MEIR	390000.00	3750700.00	682	6.73E-04	4.59E-01												
				North	MEIW	390428.00	3751262.00	324	8.18E-04	2.65E-01												
				South	MEIW	390428.00	3751262.00	291	6.73E-04	1.96E-01												
				North	Day Care	389795.00	3751313.00	164	8.18E-04	1.34E-01												
				South	Day Care	389795.00	3751313.00	176	6.73E-04	1.18E-01												
				North	School	389951.66	3751333.90	258	8.18E-04	2.11E-01												
				South	School	389951.66	3751333.90	287	6.73E-04	1.93E-01												
				North	Senior Center	391265.90	3750525.00	44.81	8.18E-04	3.66E-02												
				South	Senior Center	391265.90	3750525.00	43.56	6.73E-04	2.93E-02												
				5	LA SR-60 DB State Road 60 Freeway near Diamond Bar	2012_2035 PDEIR Segment	Los Angeles	East	MEIR	425800.00	3765300.00	1385	5.04E-04	6.97E-01	1.21E+00	1048.7	1101.2	744.9	782.2	1195.0	1254.8	
								West	MEIR	425800.00	3765300.00	974	5.28E-04	5.15E-01								
East	MEIW	425200.00	3765800.00					909	5.04E-04	4.58E-01												
West	MEIW	425200.00	3765800.00					768	5.28E-04	4.06E-01												
East	Day Care	425255.30	3764985.00					679	5.04E-04	3.42E-01												
West	Day Care	425255.30	3764985.00					598	5.28E-04	3.16E-01												
East	School	425626.70	3764800.00					242	5.04E-04	1.22E-01												
West	School	425626.70	3764800.00					225	5.28E-04	1.19E-01												
East	Senior Center	NR	NR					NR	NR	NR												
West	Senior Center	NR	NR					NR	NR	NR												
6	LA SR-60 SEM State Road 60 Freeway near south El Monte at Peck Road	Additional Segment	Los Angeles					East	MEIR	403200.00	3767100.00	628	5.50E-04	3.46E-01	8.40E-01	726.8	763.1	516.2	542.0	828.1	869.5	
								West	MEIR	403200.00	3767100.00	828	5.97E-04	4.94E-01								
				East	MEIW	403700.00	3766800.00	787	5.50E-04	4.33E-01												
				West	MEIW	403700.00	3766800.00	580	5.97E-04	3.46E-01												
				East	Day Care	403733.30	3767584.00	108	5.50E-04	5.94E-02												
				West	Day Care	403733.30	3767584.00	115	5.97E-04	6.87E-02												
				East	School	403685.00	3767262.00	188	5.50E-04	1.03E-01												
				West	School	403685.00	3767262.00	207	5.97E-04	1.24E-01												
				East	Senior Center	403368.40	3767822.00	70.44	5.50E-04	3.88E-02												
				West	Senior Center	403368.40	3767822.00	73.95	5.97E-04	4.41E-02												
				7	ORA I-5 Interstate 5 in Orange near intersection of SR-57 and SR-22	Additional Segment	Orange	North	MEIR	419000.00	3737600.00	409	6.85E-04	2.80E-01	5.01E-01	433.3	455.0	307.8	323.2	493.7	518.4	
								South	MEIR	419000.00	3737600.00	477	4.62E-04	2.20E-01								
North	MEIW	419400.00	3737500.00					290	6.85E-04	1.99E-01												
South	MEIW	419400.00	3737500.00					242	4.62E-04	1.12E-01												
North	Day Care	418639.00	3737429.00					76.2	6.85E-04	5.22E-02												
South	Day Care	418639.00	3737429.00					76.68	4.62E-04	3.54E-02												
North	School	419811.55	3738689.28					33.07	6.85E-04	2.27E-02												
South	School	419811.55	3738689.28					32.34	4.62E-04	1.49E-02												
North	Senior Center	419249.90	3738210.00					111	6.85E-04	7.61E-02												
South	Senior Center	419249.90	3738210.00					106	4.62E-04	4.90E-02												
8	ORA I-405 Interstate 405 in Seal Beach, east of the I-405 interchange	2012_2035 PDEIR Segment	Orange					North	MEIR	402000.00	3737700.00	514	1.13E-03	5.79E-01	1.26E+00	1088.1	1142.5	772.9	811.5	1239.8	1301.8	
								South	MEIR	402000.00	3737700.00	612	1.13E-03	6.79E-01								
				North	MEIW	401576.00	3737798.00	257	1.13E-03	2.90E-01												
				South	MEIW	401576.00	3737798.00	327	1.13E-03	3.63E-01												
				North	Day Care	NR	NR	NR	NR	NR												
				South	Day Care	NR	NR	NR	NR	NR												
				North	School	NR	NR	NR	NR	NR												
				South	School	NR	NR	NR	NR	NR												
				North	Senior Center	NR	NR	NR	NR	NR												
				South	Senior Center	NR	NR	NR	NR	NR												

Scenario 1: 2012 Base Year (2012BV), Existing Conditions
 Diesel Exhaust HRA for SCAG 2016-2040 RTP/SSCS

NR = No Receptor for the category within 1000m of the freeway.

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting	UTM Northing	Utilized Concentration	Total Emissions	DPM Concentration	Total DPM Concentration	DPM 30-year Cancer Risk	Total 30-year Cancer Risk DPM + Other Chemicals	DPM 9-year Cancer Risk	Total 9-year MEIR Cancer Risk DPM + Other Chemicals	DPM 70-year MEIR Cancer Risk	Total 70-year MEIR Cancer Risk DPM + Other Chemicals					
9	RVI-10 Interstate 10 in the Banning Area	Additional Segment	Riverside	East	MEIR	511000.00	3754000.00	199	3.89E-04	7.5E-02	1.67E-01	144.9	152.1	102.9	108.0	165.1	173.3					
					MEIR	511000.00	3754000.00	232	3.89E-04	9.00E-02												
					MEIW	510886.80	3753911.00	367	3.89E-04	1.43E-01												
					MEIW	510886.80	3753911.00	450	3.89E-04	1.75E-01												
					Day Care	510600.00	3754100.00	87.49	3.89E-04	3.41E-02												
					Day Care	510600.00	3754100.00	101	3.89E-04	3.92E-02												
					School	511389.70	3754208.00	81.51	3.89E-04	3.17E-02												
					School	511389.70	3754208.00	89.38	3.89E-04	3.47E-02												
					Senior Center	511164.70	3753944.00	290	3.89E-04	1.13E-01												
					Senior Center	511164.70	3753944.00	351	3.89E-04	1.36E-01												
10	RVI-15 Interstate 15 near Temescula	Additional Segment	Riverside	North	MEIR	486867.30	3705207.00	983	2.40E-04	2.36E-01	4.03E-01	349.0	366.5	247.9	260.3	397.7	417.6					
					MEIR	486867.30	3705207.00	718	2.40E-04	1.68E-01												
					MEIW	486700.00	3705100.00	1070	2.40E-04	2.56E-01												
					MEIW	486700.00	3705100.00	1740	2.40E-04	4.07E-01												
					Day Care	486327.80	3705951.00	412	2.40E-04	9.87E-02												
					Day Care	486327.80	3705951.00	545	2.40E-04	1.27E-01												
					School	486791.50	3705381.00	1179	2.40E-04	2.82E-01												
					School	486791.50	3705381.00	848	2.40E-04	1.98E-01												
					Senior Center	NR	NR	NR	NR	NR	NR											
					Senior Center	NR	NR	NR	NR	NR	NR											
11	RV SR-91 State Road 91 Freeway in Corona, east of the intersection with SR-71	2012_2035 PDEIR Segment	Riverside	East	MEIR	439300.00	3749100.00	594	7.55E-04	4.48E-01	1.03E-00	892.0	936.6	633.6	665.3	1016.5	1067.3					
					MEIR	439300.00	3749100.00	687	7.55E-04	5.83E-01												
					MEIW	439864.00	3749063.00	761	7.55E-04	5.74E-01												
					MEIW	439864.00	3749063.00	613	7.55E-04	5.20E-01												
					Day Care	NR	NR	NR	NR	NR												
					Day Care	NR	NR	NR	NR	NR	NR											
					School	NR	NR	NR	NR	NR	NR											
					School	NR	NR	NR	NR	NR	NR											
					Senior Center	NR	NR	NR	NR	NR	NR											
					Senior Center	NR	NR	NR	NR	NR	NR											
12	SB-15 ONT Interstate 15 in Ontario	2012_2035 PDEIR Segment	San Bernardino	North	MEIR	449500.00	3771200.00	389	2.95E-04	1.15E-01	2.60E-01	224.8	236.0	159.6	167.6	256.1	268.9					
					MEIR	449500.00	3771200.00	487	2.95E-04	1.45E-01												
					MEIW	449500.00	3771200.00	389	2.95E-04	1.15E-01												
					MEIW	449500.00	3771200.00	487	2.95E-04	1.45E-01												
					Day Care	NR	NR	NR	NR	NR												
					Day Care	NR	NR	NR	NR	NR	NR											
					School	NR	NR	NR	NR	NR	NR											
					School	NR	NR	NR	NR	NR	NR											
					Senior Center	NR	NR	NR	NR	NR	NR											
					Senior Center	NR	NR	NR	NR	NR	NR											
13	SB-15 VIC Interstate 15 in the Victorville area	Additional Segment	San Bernardino	North	MEIR	470800.00	3820500.00	1443	1.65E-04	2.38E-01	5.77E-01	499.4	524.3	354.7	372.4	569.0	597.5					
					MEIR	470800.00	3820500.00	2122	1.60E-04	3.39E-01												
					MEIW	471100.00	3820700.00	1021	1.65E-04	1.68E-01												
					MEIW	471100.00	3820700.00	852	1.60E-04	1.36E-01												
					Day Care	471186.20	3820489.00	460	1.65E-04	7.58E-02												
					Day Care	471186.20	3820489.00	419	1.60E-04	6.70E-02												
					School	470957.20	3821055.00	635	1.65E-04	1.05E-01												
					School	470957.20	3821055.00	763	1.60E-04	1.22E-01												
					Senior Center	NR	NR	NR	NR	NR	NR											
					Senior Center	NR	NR	NR	NR	NR	NR											

Scenario 1: 2012 Base Year (2012BY), Existing Conditions
 Diesel Exhaust HRA for SCAG 2016-2040 RTP/SSC

NR = No Receptor for the category within 1000m of the freeway.

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting	UTM Northing	Utilized Concentration	Total Emissions	DPM Concentration	Total DPM Concentration	DPM 30-year Cancer Risk	Total 30-year Cancer Risk DPM + MEIR Cancer Risk Other Chemicals	DPM 9-year Cancer Risk	Total 9-year MEIR Cancer Risk DPM + MEIR Cancer Risk Other Chemicals	DPM 70-year Cancer Risk	Total 70-year MEIR Cancer Risk DPM + MEIR Cancer Risk Other Chemicals				
14	SB SR-60 State Road 60 Freeway in Ontario, west of the I-15 interchange	2012_2035 PDEIR Segment	San Bernardino	East	MEIR	446200.00	3765600.00	1005	5.30E-04	5.30E-04	8.92E-01	771.7	810.3	548.1	575.5	879.3	923.3				
				West	MEIR	446200.00	3765600.00	673	5.30E-04	5.30E-04	8.78E-01	60.0	63.0	60.0	63.0	63.0	60.0	60.0	63.0		
				East	MEIW	445700.00	3765800.00	698	5.30E-04	3.70E-01	5.08E-01	5.30E-04	5.08E-01	1.58E-01	54.0	56.7	54.0	54.0	54.0	56.7	
				West	MEIW	445700.00	3765800.00	952	5.30E-04	3.70E-01	5.08E-01	5.30E-04	5.08E-01	1.58E-01	54.0	56.7	54.0	54.0	54.0	56.7	
				East	Day Care	445523.30	3765239.00	155	5.30E-04	3.70E-01	7.63E-02	5.30E-04	7.63E-02	1.58E-01	12.3	12.9	12.3	12.3	12.3	12.9	
				West	Day Care	445523.30	3765239.00	143	5.30E-04	3.70E-01	7.63E-02	5.30E-04	7.63E-02	1.58E-01	12.3	12.9	12.3	12.3	12.3	12.9	
				East	School	445523.30	3765239.00	155	5.30E-04	3.70E-01	7.63E-02	5.30E-04	7.63E-02	1.58E-01	12.3	12.9	12.3	12.3	12.3	12.9	
				West	School	445523.30	3765239.00	143	5.30E-04	3.70E-01	7.63E-02	5.30E-04	7.63E-02	1.58E-01	12.3	12.9	12.3	12.3	12.3	12.9	
				East	Senior Center	NR	NR	NR	NR	NR	NR	5.30E-04	5.30E-04	NR	NR	NR	NR	NR	NR	NR	NR
				West	Senior Center	NR	NR	NR	NR	NR	NR	5.30E-04	5.30E-04	NR	NR	NR	NR	NR	NR	NR	NR
15	VEN US-101 SB US 101 Freeway in San Buenaventura near the Ventura Harbor	Additional Segment	Ventura	North	MEIR	295200.00	3793400.00	741	1.28E-04	9.47E-02	1.82E-01	157.3	165.2	111.7	117.3	179.2	188.2				
				South	MEIR	295200.00	3793400.00	676	1.28E-04	8.71E-02	1.82E-01	157.3	165.2	111.7	117.3	117.3	117.3	117.3	117.3		
				North	MEIW	295300.00	3793200.00	1645	1.28E-04	2.10E-01	1.67E-01	1.28E-04	1.67E-01	3.77E-01	25.8	27.0	25.8	25.8	25.8	27.0	
				South	MEIW	295300.00	3793200.00	1293	1.28E-04	1.67E-01	1.67E-01	1.28E-04	1.67E-01	3.77E-01	25.8	27.0	25.8	25.8	25.8	27.0	
				North	Day Care	296212.80	3793611.00	143	1.28E-04	1.83E-02	1.83E-02	1.28E-04	1.83E-02	3.54E-02	12.1	12.7	12.1	12.1	12.1	12.7	
				South	Day Care	296212.80	3793611.00	133	1.28E-04	1.71E-02	1.71E-02	1.28E-04	1.71E-02	3.54E-02	12.1	12.7	12.1	12.1	12.1	12.7	
				North	School	295785.70	3793241.00	448	1.28E-04	5.73E-02	5.73E-02	1.28E-04	5.73E-02	1.09E-01	8.4	8.9	8.4	8.4	8.4	8.9	
				South	School	295785.70	3793241.00	400	1.28E-04	5.15E-02	5.15E-02	1.28E-04	5.15E-02	1.09E-01	8.4	8.9	8.4	8.4	8.4	8.9	
				North	Senior Center	295781.00	3793062.00	790	1.28E-04	1.01E-01	1.01E-01	1.28E-04	1.01E-01	1.87E-01	25.6	26.8	25.6	25.6	25.6	26.8	
				South	Senior Center	295781.00	3793062.00	667	1.28E-04	8.59E-02	8.59E-02	1.28E-04	8.59E-02	1.87E-01	25.6	26.8	25.6	25.6	25.6	26.8	
16	VEN US-101 TO US 101 Freeway in Thousand Oaks, east of SR-23	2012_2035 PDEIR Segment	Ventura	North	MEIR	330000.00	3782700.00	1365	3.66E-04	5.00E-01	9.16E-01	792.9	832.5	563.2	591.4	903.5	948.7				
				South	MEIR	330000.00	3782700.00	943	4.42E-04	4.16E-01	4.16E-01	4.42E-04	4.16E-01	9.16E-01	792.9	832.5	591.4	591.4	591.4	591.4	
				North	MEIW	329800.00	3782600.00	693	3.66E-04	2.54E-01	2.54E-01	3.66E-04	2.54E-01	6.39E-01	43.7	45.9	43.7	43.7	43.7	45.9	
				South	MEIW	329800.00	3782600.00	872	4.42E-04	3.85E-01	3.85E-01	4.42E-04	3.85E-01	6.39E-01	43.7	45.9	43.7	43.7	43.7	45.9	
				North	Day Care	329921.90	3782934.00	493	3.66E-04	1.81E-01	1.81E-01	3.66E-04	1.81E-01	3.67E-01	125.3	131.5	125.3	125.3	125.3	131.5	
				South	Day Care	329921.90	3782934.00	423	4.42E-04	1.87E-01	1.87E-01	4.42E-04	1.87E-01	3.67E-01	125.3	131.5	125.3	125.3	125.3	131.5	
				North	School	330108.20	3782369.00	459	3.66E-04	1.68E-01	1.68E-01	3.66E-04	1.68E-01	4.93E-01	38.2	40.1	38.2	38.2	38.2	40.1	
				South	School	330108.20	3782369.00	735	4.42E-04	3.25E-01	3.25E-01	4.42E-04	3.25E-01	4.93E-01	38.2	40.1	38.2	38.2	38.2	40.1	
				North	Senior Center	329368.20	3783515.00	158	3.66E-04	5.79E-02	5.79E-02	3.66E-04	5.79E-02	1.21E-01	16.6	17.4	16.6	16.6	16.6	17.4	
				South	Senior Center	329368.20	3783515.00	144	4.42E-04	6.36E-02	6.36E-02	4.42E-04	6.36E-02	1.21E-01	16.6	17.4	16.6	16.6	16.6	17.4	

Notes:

- The I-15 MEIR is an assumed residential receptor at about 100 meters from the freeway because although there are no residential receptors near the segment modeled, there are a number of nearby residential receptors only 2 miles north of the modeled segment and traffic volumes are expected to be similar on I-15 where there are nearby residents.

Age Sensitivity Factors

Fraction of Time at Home

1 10
L/kg-day
Breathing Rate 3rd Trimester 361
Breathing Rate 0 to <2 yrs 1090
Breathing Rate 2 to <16 yrs 745
Breathing Rate 16 to <70 yrs 290
Breathing Rate 2 to <9 yrs 861
Breathing Rate 16 to <30 yrs 335
L/kg-day

Off-site Worker Breathing Rates are 95th Percentile

240
L/kg-day
Breathing Rate 3rd Trimester
230
L/kg-day

Day Care and School Breathing Rates are 95th Percentile

1200
L/kg-day
8-hour Breathing Rate 0 to <2 years
640
L/kg-day
8-hour Breathing Rate 2 to <9 years
520
L/kg-day
8-hour Breathing Rate 2 to <16 years
1.1
(mg/kg/day)⁻¹

5%
Percentage Risk Increase over DPM

For additional compounds emitted from vehicles (acetaldehyde, benzene, 1,3-butadiene, formaldehyde)

NR = No Receptor for the category within 1000 m of the freeway.

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Utilized Concentration (ug/m3 / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	DPM 30-year Cancer Risk (per million)	Total 30-year Cancer Risk DPM + Other Chemicals (per million)	DPM 9-year Cancer Risk (per million)	Total 9-year Cancer Risk DPM + Other Chemicals (per million)	DPM 70-year Cancer Risk (per million)	Total 70-year Cancer Risk DPM + Other Chemicals (per million)					
1	IMP 18 Interstate 8 just east of El Centro	2012_2035 PDEIR Segment	Imperial	East	MEIR	635500.00	3627200.00	1298	2.09E-05	2.71E-02	4.88E-02	42.2	44.3	30.0	31.5	48.1	50.5					
					MEIR	635500.00	3627200.00	1985	2.16E-02	2.16E-02	4.88E-02	42.2	44.3	30.0	31.5	48.1	50.5					
					MEW	635408.70	3627026.00	1588	2.09E-05	3.32E-02	4.71E-02	3.2	3.4	--	--	--	--					
					MEW	635408.70	3627026.00	1280	1.09E-05	1.40E-02	4.71E-02	3.2	3.4	--	--	--	--					
					Day Care	636187.90	3627252.00	455	2.09E-05	9.51E-03	1.74E-02	5.9	6.2	--	--	--	--					
					Day Care	636187.90	3627252.00	725	1.09E-05	7.90E-03	1.74E-02	5.9	6.2	--	--	--	--					
					School	635173.30	3627462.00	301	2.09E-05	6.29E-03	9.93E-03	0.8	0.8	--	--	--	--					
					School	635173.30	3627462.00	334	1.09E-05	3.64E-03	9.93E-03	0.8	0.8	--	--	--	--					
					Senior Center	NR	NR	--	2.09E-05	--	--	--	--	--	--	--	--	--	--	--	--	
					Senior Center	NR	NR	--	1.09E-05	--	--	--	--	--	--	--	--	--	--	--	--	--
					2	IMP SR-78 State Road 78 Freeway in Westmorland	Additional Segment	Imperial	East	MEIR	628500.00	3656200.00	2421	1.52E-05	3.68E-02	7.01E-02	60.6	63.7	43.1	45.2	69.1	72.5
										MEIR	628500.00	3656200.00	2189	1.52E-05	3.33E-02	7.01E-02	60.6	63.7	43.1	45.2	69.1	72.5
										MEW	628138.20	3656220.00	3479	1.52E-05	5.29E-02	9.75E-02	6.7	7.0	--	--	--	--
MEW	628138.20	3656220.00	2936	1.52E-05						4.46E-02	9.75E-02	6.7	7.0	--	--	--	--					
Day Care	628837.80	3656150.00	1475	1.52E-05						2.24E-02	4.36E-02	14.9	15.6	--	--	--	--					
Day Care	628837.80	3656150.00	1393	1.52E-05						2.12E-02	4.36E-02	14.9	15.6	--	--	--	--					
School	628711.80	3656414.00	785	1.52E-05						1.19E-02	2.45E-02	1.9	2.0	--	--	--	--					
School	628711.80	3656414.00	830	1.52E-05						1.26E-02	2.45E-02	1.9	2.0	--	--	--	--					
Senior Center	628456.30	3656145.00	1447	1.52E-05						2.20E-02	4.27E-02	5.8	6.1	--	--	--	--					
Senior Center	628456.30	3656145.00	1361	1.52E-05						2.07E-02	4.27E-02	5.8	6.1	--	--	--	--					
3	LA I-110 Interstate 110 in Carson	Additional Segment	Los Angeles	North						MEIR	380800.00	3743500.00	950	3.71E-05	3.52E-02	6.83E-02	59.1	62.0	42.0	44.1	67.3	70.7
										MEIR	380800.00	3743500.00	1237	2.67E-05	3.30E-02	6.83E-02	59.1	62.0	42.0	44.1	67.3	70.7
										MEW	380800.00	3743600.00	938	3.71E-05	3.48E-02	6.74E-02	4.6	4.8	--	--	--	--
					MEW	380800.00	3743600.00	1221	2.67E-05	3.26E-02	6.74E-02	4.6	4.8	--	--	--	--					
					Day Care	381383.10	3744323.00	123	3.71E-05	4.58E-03	7.74E-03	2.6	2.8	--	--	--	--					
					Day Care	381383.10	3744323.00	119	2.67E-05	3.16E-03	7.74E-03	2.6	2.8	--	--	--	--					
					School	381001.20	3743694.00	667	3.71E-05	2.47E-02	4.01E-02	3.1	3.3	--	--	--	--					
					School	381001.20	3743694.00	574	2.67E-05	1.53E-02	4.01E-02	3.1	3.3	--	--	--	--					
					Senior Center	380506.70	3743721.00	210	3.71E-05	7.79E-03	1.37E-02	1.9	2.0	--	--	--	--					
					Senior Center	380506.70	3743721.00	222	2.67E-05	5.93E-03	1.37E-02	1.9	2.0	--	--	--	--					

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Unitized Concentration (ug/m3 / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	DPM 30-Year Cancer Risk (per million)	Total 30-Year Cancer Risk DPM + Other Chemicals (per million)	DPM 9-year Cancer Risk (per million)	Total 9-year Cancer Risk DPM + Other Chemicals (per million)	DPM 70-Year Cancer Risk (per million)	Total 70-Year Cancer Risk DPM + Other Chemicals (per million)	
4	LA I-710 Interstate 710 in Compton, north of the intersection with SR 91	2012_2035 PDEIR Segment	Los Angeles	North	MEIR	390000.00	3750700.00	579	5.64E-05	3.27E-02	6.37E-02	55.1	57.9	39.1	41.1	62.8	65.9	
						390000.00	3750700.00	682	4.55E-05	3.10E-02	6.37E-02	55.1	57.9	39.1	41.1	62.8	65.9	
						390428.00	3751262.00	324	5.64E-05	1.88E-02	3.15E-02	2.2	2.3	--	--	--	--	
						390428.00	3751262.00	291	4.55E-05	1.32E-02	3.15E-02	2.2	2.3	--	--	--	--	
						389795.00	3751313.00	164	5.64E-05	9.05E-03	1.73E-02	5.9	6.2	--	--	--	--	
						389795.00	3751313.00	176	4.55E-05	8.01E-03	1.73E-02	5.9	6.2	--	--	--	--	
						389951.66	3751333.90	258	5.64E-05	1.46E-02	2.76E-02	2.1	2.2	--	--	--	--	
						389951.66	3751333.90	287	4.55E-05	1.31E-02	2.76E-02	2.1	2.2	--	--	--	--	
						391265.90	3750525.00	44.81	5.64E-05	2.53E-03	4.51E-03	0.6	0.6	--	--	--	--	
						391265.90	3750525.00	43.56	4.55E-05	1.98E-03	4.51E-03	0.6	0.6	--	--	--	--	
5	LA SR-60 DB State Road 60 Freeway near Diamond Bar	2012_2035 PDEIR Segment	Los Angeles	East	MEIR	425800.00	3765300.00	1385	4.12E-05	5.71E-02	1.03E-01	88.7	93.2	63.0	66.2	101.1	106.2	
						425800.00	3765300.00	974	4.67E-05	4.55E-02	1.03E-01	88.7	93.2	63.0	66.2	101.1	106.2	
						425200.00	3765000.00	909	4.12E-05	3.75E-02	7.33E-02	5.0	5.3	--	--	--	--	
						425200.00	3765000.00	768	4.67E-05	3.59E-02	7.33E-02	5.0	5.3	--	--	--	--	
						425255.30	3764985.00	679	4.12E-05	2.80E-02	5.59E-02	19.1	20.0	--	--	--	--	
						425255.30	3764985.00	598	4.67E-05	2.79E-02	5.59E-02	19.1	20.0	--	--	--	--	
						425626.70	3764800.00	242	4.12E-05	9.97E-03	2.05E-02	1.6	1.7	--	--	--	--	
						425626.70	3764800.00	225	4.67E-05	1.05E-02	2.05E-02	1.6	1.7	--	--	--	--	
						NR	NR	--	4.12E-05	--	--	--	--	--	--	--	--	--
						NR	NR	--	4.67E-05	--	--	--	--	--	--	--	--	--
6	LA SR-60 SEM State Road 60 Freeway near south El Monte at Peck Road	Additional Segment	Los Angeles	East	MEIR	403200.00	3767100.00	628	3.95E-05	2.48E-02	6.05E-02	52.3	55.0	37.2	39.0	59.6	62.6	
						403200.00	3767100.00	828	3.95E-05	3.57E-02	6.05E-02	52.3	55.0	37.2	39.0	59.6	62.6	
						403700.00	3766800.00	787	3.95E-05	3.11E-02	5.61E-02	3.8	4.0	--	--	--	--	
						403700.00	3766800.00	580	4.31E-05	2.50E-02	5.61E-02	3.8	4.0	--	--	--	--	
						403373.30	3767584.00	108	3.95E-05	4.27E-03	9.22E-03	3.1	3.3	--	--	--	--	
						403373.30	3767584.00	115	4.31E-05	4.96E-03	9.22E-03	3.1	3.3	--	--	--	--	
						403685.00	3767262.00	188	3.95E-05	7.43E-03	1.63E-02	1.3	1.3	--	--	--	--	
						403685.00	3767262.00	207	4.31E-05	8.92E-03	1.63E-02	1.3	1.3	--	--	--	--	
						403368.40	3767822.00	70.44	3.95E-05	2.78E-03	5.97E-03	0.8	0.9	--	--	--	--	
						403368.40	3767822.00	73.95	4.31E-05	3.19E-03	5.97E-03	0.8	0.9	--	--	--	--	
7	ORA I-5 Interstate 5 in Orange near intersection of SR-57 and SR-22	Additional Segment	Orange	North	MEIR	419000.00	3737600.00	409	4.27E-05	1.75E-02	4.40E-02	38.1	40.0	27.1	28.4	43.4	45.6	
						419000.00	3737600.00	477	5.57E-05	2.66E-02	4.40E-02	38.1	40.0	27.1	28.4	43.4	45.6	
						419400.00	3737500.00	290	4.27E-05	1.24E-02	2.59E-02	1.8	1.9	--	--	--	--	
						419400.00	3737500.00	242	5.57E-05	1.35E-02	2.59E-02	1.8	1.9	--	--	--	--	
						418539.00	3737429.00	76.2	4.27E-05	3.25E-03	7.52E-03	2.6	2.7	--	--	--	--	
						418539.00	3737429.00	76.68	5.57E-05	4.27E-03	7.52E-03	2.6	2.7	--	--	--	--	
						419811.55	3738689.28	33.07	4.27E-05	1.41E-03	3.21E-03	0.2	0.3	--	--	--	--	
						419811.55	3738689.28	32.34	5.57E-05	1.80E-03	3.21E-03	0.2	0.3	--	--	--	--	
						419249.90	3738210.00	111	4.27E-05	4.74E-03	1.06E-02	1.5	1.5	--	--	--	--	
						419249.90	3738210.00	106	5.57E-05	5.90E-03	1.06E-02	1.5	1.5	--	--	--	--	
8	ORA I-405 Interstate 405 in Seal Beach, east of the I-605 interchange	2012_2035 PDEIR Segment	Orange	North	MEIR	402000.00	3737700.00	514	7.41E-05	3.81E-02	8.96E-02	77.5	81.4	55.1	57.8	88.3	92.8	
						402000.00	3737700.00	612	8.42E-05	5.15E-02	8.96E-02	77.5	81.4	55.1	57.8	88.3	92.8	
						401576.00	3737798.00	257	7.41E-05	1.90E-02	4.66E-02	3.2	3.3	--	--	--	--	
						401576.00	3737798.00	327	8.42E-05	2.75E-02	4.66E-02	3.2	3.3	--	--	--	--	
						NR	NR	--	7.41E-05	--	--	--	--	--	--	--	--	--
						NR	NR	--	8.42E-05	--	--	--	--	--	--	--	--	--
						NR	NR	--	7.41E-05	--	--	--	--	--	--	--	--	--
						NR	NR	--	8.42E-05	--	--	--	--	--	--	--	--	--
						NR	NR	--	7.41E-05	--	--	--	--	--	--	--	--	--
						NR	NR	--	8.42E-05	--	--	--	--	--	--	--	--	--

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Unitized Concentration (ug/m3 / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	DPM 30-Year Cancer Risk (per million)	Total 30-Year Cancer Risk DPM + Other Chemicals (per million)	DPM 9-year Cancer Risk (per million)	Total 9-year Cancer Risk DPM + Other Chemicals (per million)	DPM 70-Year Cancer Risk (per million)	Total 70-Year Cancer Risk DPM + Other Chemicals (per million)						
9	RIV I-10 Interstate 10 in the Banning Area	Additional Segment	Riverside	East	MEIR	511000.00	3754000.00	199	3.74E-05	7.44E-03	1.64E-02	14.2	14.9	10.1	10.6	16.2	17.0						
						511000.00	3754000.00	232	3.88E-05	9.00E-03	3.12E-02	2.1	2.2	--	--	--	--						
						510886.80	3753911.00	367	3.74E-05	1.75E-02	3.12E-02	2.1	2.2	--	--	--	--						
						510886.80	3753911.00	450	3.88E-05	1.75E-02	3.12E-02	2.1	2.2	--	--	--	--						
						510600.00	3754100.00	87.49	3.74E-05	3.27E-03	7.19E-03	2.5	2.6	--	--	--	--						
						510600.00	3754100.00	101	3.88E-05	3.92E-03	7.19E-03	2.5	2.6	--	--	--	--						
						511389.70	3754208.00	81.51	3.74E-05	3.05E-03	6.52E-03	0.5	0.5	--	--	--	--						
						511389.70	3754208.00	89.38	3.88E-05	3.47E-03	6.52E-03	0.5	0.5	--	--	--	--						
						511164.70	3753944.00	290	3.74E-05	1.08E-02	2.45E-02	3.3	3.5	--	--	--	--						
						511164.70	3753944.00	351	3.88E-05	1.36E-02	2.45E-02	3.3	3.5	--	--	--	--						
						10	RIV I-15 Interstate 15 near Temecula	Additional Segment	Riverside	North	MEIR	486867.30	3705207.00	983	1.76E-05	1.73E-02	2.94E-02	25.5	26.7	18.1	19.0	29.0	30.5
												486867.30	3705207.00	718	1.69E-05	1.21E-02	4.82E-02	3.3	3.5	--	--	--	--
486700.00	3705100.00	1070	1.76E-05	1.88E-02	4.82E-02							3.3	3.5	--	--	--	--						
486700.00	3705100.00	1740	1.69E-05	2.94E-02	4.82E-02							3.3	3.5	--	--	--	--						
486327.80	3705951.00	412	1.76E-05	7.25E-03	1.65E-02							5.6	5.9	--	--	--	--						
486327.80	3705951.00	545	1.69E-05	9.21E-03	1.65E-02							5.6	5.9	--	--	--	--						
486791.50	3705381.00	1179	1.76E-05	2.08E-02	3.51E-02							2.7	2.9	--	--	--	--						
486791.50	3705381.00	848	1.69E-05	1.43E-02	3.51E-02							2.7	2.9	--	--	--	--						
NR	NR	--	1.76E-05	--	--							--	--	--	--	--	--	--					
NR	NR	--	1.69E-05	--	--							--	--	--	--	--	--	--					
11	RIV SR-91 State Road 91 Freeway in Corona, east of the intersection with SR 71	2012_2035 PDEIR Segment	Riverside	East	MEIR							439300.00	3749100.00	594	2.97E-05	1.76E-02	7.05E-02	61.0	64.0	43.3	45.5	69.5	72.9
												439300.00	3749100.00	687	7.69E-05	5.28E-02	6.97E-02	4.8	5.0	--	--	--	--
						439864.00	3749063.00	761	2.97E-05	2.28E-02	6.97E-02	4.8	5.0	--	--	--	--						
						439864.00	3749063.00	613	7.69E-05	4.71E-02	6.97E-02	4.8	5.0	--	--	--	--						
						NR	NR	--	2.97E-05	--	--	--	--	--	--	--	--	--					
						NR	NR	--	7.69E-05	--	--	--	--	--	--	--	--	--					
						NR	NR	--	2.97E-05	--	--	--	--	--	--	--	--	--					
						NR	NR	--	7.69E-05	--	--	--	--	--	--	--	--	--					
						NR	NR	--	2.97E-05	--	--	--	--	--	--	--	--	--					
						NR	NR	--	7.69E-05	--	--	--	--	--	--	--	--	--					
						12	SB I-15 ONT ¹ Interstate 15 in Ontario	2012_2035 PDEIR Segment	San Bernardino	North	MEIR	449500.00	3771200.00	389	4.03E-05	1.57E-02	5.02E-02	43.4	45.6	30.9	32.4	49.5	52.0
												449500.00	3771200.00	487	7.09E-05	3.45E-02	5.02E-02	3.4	3.6	--	--	--	--
449500.00	3771200.00	389	4.03E-05	1.57E-02	5.02E-02							3.4	3.6	--	--	--	--						
449500.00	3771200.00	487	7.09E-05	3.45E-02	5.02E-02							3.4	3.6	--	--	--	--						
NR	NR	--	4.03E-05	--	--							--	--	--	--	--	--	--					
NR	NR	--	7.09E-05	--	--							--	--	--	--	--	--	--					
NR	NR	--	4.03E-05	--	--							--	--	--	--	--	--	--					
NR	NR	--	7.09E-05	--	--							--	--	--	--	--	--	--					
NR	NR	--	4.03E-05	--	--							--	--	--	--	--	--	--					
NR	NR	--	7.09E-05	--	--							--	--	--	--	--	--	--					
13	SB I-15 VIC Interstate 15 in the Victorville area	Additional Segment	San Bernardino	North	MEIR							470800.00	3820500.00	1443	1.09E-05	1.57E-02	5.29E-02	45.7	48.0	32.5	34.1	52.1	54.7
												470800.00	3820500.00	2122	1.75E-05	3.71E-02	2.68E-02	1.8	1.9	--	--	--	--
						471100.00	3820700.00	1021	1.09E-05	1.11E-02	2.68E-02	1.8	1.9	--	--	--	--						
						471100.00	3820700.00	852	1.75E-05	1.49E-02	2.68E-02	1.8	1.9	--	--	--	--						
						471186.20	3820489.00	460	1.09E-05	5.01E-03	1.23E-02	4.2	4.4	--	--	--	--						
						471186.20	3820489.00	419	1.75E-05	7.33E-03	1.23E-02	4.2	4.4	--	--	--	--						
						470957.20	3821055.00	635	1.09E-05	6.92E-03	2.03E-02	1.6	1.7	--	--	--	--						
						470957.20	3821055.00	763	1.75E-05	1.34E-02	2.03E-02	1.6	1.7	--	--	--	--						
						NR	NR	--	1.09E-05	--	--	--	--	--	--	--	--	--					
						NR	NR	--	1.75E-05	--	--	--	--	--	--	--	--	--					

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Unitized Concentration (ug/m ³ / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m ³)	Total DPM Concentration (ug/m ³)	DPM 30-Year Cancer Risk (per million)	Total 30-Year Cancer Risk DPM + Other Chemicals (per million)	DPM 9-year Cancer Risk (per million)	Total 9-year Cancer Risk DPM + Other Chemicals (per million)	DPM 70-Year Cancer Risk (per million)	Total 70-Year Cancer Risk DPM + Other Chemicals (per million)				
14	SB SR-60 State Road 60 Freeway in Ontario, west of the I-15 interchange	2012_2035 PDEIR Segment	San Bernardino	East	MEIR	446200.00	3765600.00	1005	3.13E-05	3.15E-02	4.89E-02	42.3	44.4	30.0	31.5	48.2	50.6				
				West	MEIR	446200.00	3765600.00	673	2.59E-05	1.74E-02	4.89E-02	3.2	4.65E-02	3.3	3.3	--	--	--	--		
				East	MEIW	445700.00	3765800.00	698	3.13E-05	2.18E-02	4.89E-02	2.9	8.58E-03	2.9	3.1	--	--	--	--		
				West	MEIW	445700.00	3765800.00	952	2.59E-05	2.47E-02	4.89E-02	2.9	8.58E-03	2.9	3.1	--	--	--	--		
				East	Day Care	445523.30	3765239.00	155	3.13E-05	4.85E-03	3.70E-03	143	3.70E-03	143	0.7	0.7	--	--	--	--	
				West	Day Care	445523.30	3765239.00	143	2.59E-05	3.70E-03	3.70E-03	143	3.70E-03	143	0.7	0.7	--	--	--	--	
				East	School	445523.30	3765239.00	155	3.13E-05	4.85E-03	3.70E-03	143	3.70E-03	143	0.7	0.7	--	--	--	--	
				West	School	445523.30	3765239.00	143	2.59E-05	3.70E-03	3.70E-03	143	3.70E-03	143	0.7	0.7	--	--	--	--	
				East	Senior Center	NR	NR	--	3.13E-05	--	--	--	--	--	--	--	--	--	--	--	--
				West	Senior Center	NR	NR	--	2.59E-05	--	--	--	--	--	--	--	--	--	--	--	--
15	VEN US-101 SB US 101 Freeway in San Buenaventura near the Ventura Harbor	Additional Segment	Ventura	North	MEIR	295200.00	3793400.00	741	1.36E-05	1.01E-02	1.33E-02	11.5	12.1	8.2	8.6	13.2	13.8				
				South	MEIR	295200.00	3793400.00	676	4.84E-06	3.27E-03	1.33E-02	2.0	2.86E-02	2.0	2.1	--	--	--	--		
				North	MEIW	295300.00	3793200.00	1645	1.36E-05	2.24E-02	2.86E-02	0.9	2.59E-03	0.9	0.9	--	--	--	--		
				South	MEIW	295300.00	3793200.00	1293	4.84E-06	6.26E-03	2.86E-02	0.9	2.59E-03	0.9	0.9	--	--	--	--		
				North	Day Care	296212.80	3793611.00	143	1.36E-05	1.94E-03	2.59E-03	400	6.09E-03	8.03E-03	0.6	0.7	--	--	--	--	
				South	Day Care	296212.80	3793611.00	133	4.84E-06	6.44E-04	2.59E-03	400	6.09E-03	8.03E-03	0.6	0.7	--	--	--	--	
				North	School	295785.70	3793241.00	448	1.36E-05	1.94E-03	1.94E-03	790	1.36E-05	1.07E-02	1.9	2.0	--	--	--	--	
				South	School	295785.70	3793241.00	400	4.84E-06	1.94E-03	1.94E-03	790	1.36E-05	1.07E-02	1.9	2.0	--	--	--	--	
				North	Senior Center	295781.00	3793062.00	790	1.36E-05	1.07E-02	1.40E-02	667	4.84E-06	3.23E-03	1.9	2.0	--	--	--	--	
				South	Senior Center	295781.00	3793062.00	667	4.84E-06	3.23E-03	1.40E-02	667	4.84E-06	3.23E-03	1.9	2.0	--	--	--	--	
16	VEN US-101 TO US 101 Freeway in Thousand Oaks, east of SR-23	2012_2035 PDEIR Segment	Ventura	North	MEIR	330000.00	3782700.00	1365	2.02E-05	2.76E-02	5.96E-02	51.6	54.2	36.6	38.5	56.8	61.7				
				South	MEIR	330000.00	3782700.00	943	3.40E-05	3.21E-02	5.96E-02	3.0	4.36E-02	3.0	3.1	--	--	--	--		
				North	MEIW	329800.00	3782600.00	693	2.02E-05	1.40E-02	4.36E-02	8.3	2.43E-02	8.3	8.7	--	--	--	--		
				South	MEIW	329800.00	3782600.00	872	3.40E-05	2.96E-02	4.36E-02	8.3	2.43E-02	8.3	8.7	--	--	--	--		
				North	Day Care	329921.90	3782934.00	493	2.02E-05	9.96E-03	2.43E-02	2.7	3.43E-02	2.7	2.8	--	--	--	--		
				South	Day Care	329921.90	3782934.00	423	3.40E-05	1.44E-02	2.43E-02	2.7	3.43E-02	2.7	2.8	--	--	--	--		
				North	School	330108.20	3782369.00	459	2.02E-05	9.27E-03	3.43E-02	1.1	8.09E-03	1.1	1.2	--	--	--	--		
				South	School	330108.20	3782369.00	735	3.40E-05	2.50E-02	3.43E-02	1.1	8.09E-03	1.1	1.2	--	--	--	--		
				North	Senior Center	329368.20	3783515.00	158	2.02E-05	3.19E-03	8.09E-03	1.1	8.09E-03	1.1	1.2	--	--	--	--		
				South	Senior Center	329368.20	3783515.00	144	3.40E-05	4.90E-03	8.09E-03	1.1	8.09E-03	1.1	1.2	--	--	--	--		

Notes:
 1. The I-15 MEIR is an assumed residential receptor at about 100 meters from the freeway because although there are no residential receptors near the segment modeled, there are a number of nearby residential receptors only 2 miles north of the modeled segment and traffic volumes are expected to be similar on I-15 where there are nearby residents.

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Unitized Concentration (ug/m3 / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	DPM 30-Year Cancer Risk (per million)	Total 30-Year Cancer Risk DPM + Other Chemicals (per million)	DPM 9-year Cancer Risk (per million)	Total 9-year Cancer Risk DPM + Other Chemicals (per million)	DPM 70-Year Cancer Risk (per million)	Total 70-Year Cancer Risk DPM + Other Chemicals (per million)				
4	LA I-710 Interstate 710 in Compton, north of the intersection with SR 91	2012_2035 PDEIR Segment	Los Angeles	North	MEIR	390000.00	3750700.00	579	5.02E-05	2.91E-02	6.04E-02	52.2	54.8	37.1	39.0	59.5	62.5				
						390000.00	3750700.00	682	4.59E-05	3.13E-02	2.96E-02	2.0	2.1	--	--	--	--	--	--		
						390428.00	3751262.00	291	4.59E-05	1.63E-02	1.34E-02	5.6	5.8	1.63E-02	--	--	--	--	--	--	
						389795.00	3751313.00	164	5.02E-05	8.23E-03	8.08E-03	2.0	2.1	2.61E-02	--	--	--	--	--	--	
						389951.66	3751333.90	258	4.59E-05	1.30E-02	1.32E-02	0.6	0.6	4.25E-03	--	--	--	--	--	--	
						391265.90	3750525.00	44.81	5.02E-05	2.25E-03	2.00E-03	--	--	--	--	--	--	--	--	--	--
						391265.90	3750525.00	43.56	4.59E-05	2.00E-03	3.82E-02	2.76E-05	2.76E-05	6.56E-02	6.56E-02	40.3	42.3	64.7	67.9	67.9	
						425800.00	3765300.00	1385	2.81E-05	2.74E-02	4.67E-02	3.2	3.3	--	--	--	--	--	--	--	
						425200.00	3765000.00	909	2.76E-05	2.15E-02	2.16E-02	12.1	12.7	3.55E-02	--	--	--	--	--	--	
						425255.30	3764985.00	679	2.76E-05	1.87E-02	1.87E-02	1.0	1.1	1.30E-02	--	--	--	--	--	--	
5	LA SR-60 DB State Road 60 Freeway near Diamond Bar	2012_2035 PDEIR Segment	Los Angeles	East	MEIR	403200.00	3767100.00	628	3.09E-05	1.94E-02	4.81E-02	41.6	43.7	29.6	31.1	47.5	49.8				
						403200.00	3767100.00	828	3.09E-05	2.87E-02	4.44E-02	3.0	3.2	--	--	--	--	--			
						403700.00	3766800.00	787	3.09E-05	2.43E-02	2.01E-02	2.5	2.6	7.33E-03	--	--	--	--			
						403700.00	3766800.00	580	3.47E-05	3.34E-03	3.34E-03	1.0	1.1	1.30E-02	--	--	--	--			
						403373.30	3767584.00	108	3.47E-05	3.99E-03	3.99E-03	0.6	0.7	4.74E-03	--	--	--	--			
						403373.30	3767584.00	115	3.47E-05	3.99E-03	3.99E-03	0.6	0.7	4.74E-03	--	--	--	--			
						403685.00	3767262.00	188	3.09E-05	5.81E-03	1.30E-02	1.0	1.1	--	--	--	--	--			
						403685.00	3767262.00	207	3.47E-05	7.18E-03	1.30E-02	0.6	0.7	4.74E-03	--	--	--	--			
						403368.40	3767822.00	70.44	3.09E-05	2.18E-03	2.57E-03	--	--	--	--	--	--	--			
						403368.40	3767822.00	73.95	3.47E-05	2.57E-03	1.83E-02	31.0	32.6	3.59E-02	3.59E-02	22.0	23.2	35.4	37.1		
7	ORA I-5 Interstate 5 in Orange near intersection of SR-57 and SR-22	Additional Segment	Orange	North	MEIR	419000.00	3737600.00	409	4.48E-05	1.83E-02	3.59E-02	31.0	32.6	22.0	23.2	35.4	37.1				
						419000.00	3737600.00	477	3.68E-05	1.76E-02	2.19E-02	1.5	1.6	--	--	--	--	--			
						419400.00	3737500.00	290	4.48E-05	1.30E-02	2.19E-02	2.1	2.2	6.24E-03	--	--	--	--			
						418539.00	3737429.00	76.2	4.48E-05	3.41E-03	3.41E-03	0.2	0.2	2.67E-03	--	--	--	--			
						418539.00	3737429.00	76.68	3.68E-05	2.82E-03	2.82E-03	1.2	1.3	8.87E-03	--	--	--	--			
						419811.55	3738689.28	33.07	4.48E-05	1.48E-03	1.48E-03	--	--	--	--	--	--	--			
						419811.55	3738689.28	32.34	3.68E-05	1.19E-03	1.19E-03	--	--	--	--	--	--	--			
						419249.90	3738210.00	111	4.48E-05	4.97E-03	8.87E-03	1.2	1.3	--	--	--	--	--			
						419249.90	3738210.00	106	3.68E-05	3.90E-03	3.90E-03	--	--	--	--	--	--	--			
						419249.90	3738210.00	106	3.68E-05	3.90E-03	3.90E-03	--	--	--	--	--	--	--			
8	ORA I-405 Interstate 405 in Seal Beach, east of the I-605 interchange	2012_2035 PDEIR Segment	Orange	North	MEIR	402000.00	3737700.00	514	7.71E-05	3.96E-02	8.61E-02	74.5	78.3	52.9	55.6	84.9	89.2				
						402000.00	3737700.00	612	7.60E-05	4.65E-02	4.47E-02	3.1	3.2	--	--	--	--	--			
						401576.00	3737798.00	257	7.71E-05	1.98E-02	2.49E-02	--	--	--	--	--	--	--			
						401576.00	3737798.00	327	7.60E-05	2.49E-02	2.49E-02	--	--	--	--	--	--	--			
						NR	NR	--	7.71E-05	--	--	--	--	--	--	--	--	--			
						NR	NR	--	7.60E-05	--	--	--	--	--	--	--	--	--			
						NR	NR	--	7.71E-05	--	--	--	--	--	--	--	--	--			
						NR	NR	--	7.60E-05	--	--	--	--	--	--	--	--	--			
						NR	NR	--	7.71E-05	--	--	--	--	--	--	--	--	--			
						NR	NR	--	7.60E-05	--	--	--	--	--	--	--	--	--			

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Unlited Concentration (ug/m3 / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	DPM 30-Year Cancer Risk (per million)	Total 30-Year Cancer Risk DPM + Other Chemicals (per million)	DPM 9-year Cancer Risk (per million)	Total 9-year Cancer Risk DPM + Other Chemicals (per million)	DPM 70-Year Cancer Risk (per million)	Total 70-Year Cancer Risk DPM + Other Chemicals (per million)					
9	RIV I-10 Interstate 10 in the Banning Area	Additional Segment	Riverside	East	MEIR	511000.00	3754000.00	199	3.75E-05	7.46E-03	1.63E-02	14.1	14.8	10.0	10.5	16.1	16.9					
				West	MEIR	511000.00	3754000.00	232	3.81E-05	8.84E-03												
				East	MEIW	510886.80	3753911.00	367	3.75E-05	1.98E-02					2.1	2.2						
				West	MEIW	510886.80	3753911.00	450	3.81E-05	1.71E-02												
				East	Day Care	510600.00	3754100.00	87.49	3.75E-05	3.28E-03					2.4	2.6						
				West	Day Care	510600.00	3754100.00	101	3.81E-05	3.85E-03												
				East	School	511389.70	3754208.00	81.51	3.75E-05	3.06E-03						0.5	0.5					
				West	School	511389.70	3754208.00	89.38	3.81E-05	3.41E-03												
				East	Senior Center	511164.70	3753944.00	290	3.75E-05	1.09E-02					3.3	3.5						
				West	Senior Center	511164.70	3753944.00	351	3.81E-05	1.34E-02												
10	RIV I-15 Interstate 15 near Temecula	Additional Segment	Riverside	North	MEIR	486867.30	3705207.00	983	2.48E-05	2.44E-02	4.19E-02	36.2	38.1	25.7	27.0	41.3	43.4					
				South	MEIR	486867.30	3705207.00	718	2.44E-05	1.75E-02												
				North	MEIW	486700.00	3705100.00	1070	2.48E-05	2.65E-02					4.7	5.0						
				South	MEIW	486700.00	3705100.00	1740	2.44E-05	4.25E-02												
				North	Day Care	486327.80	3705951.00	412	2.48E-05	1.02E-02					8.0	8.4						
				South	Day Care	486327.80	3705951.00	545	2.44E-05	1.33E-02												
				North	School	486791.50	3705381.00	1179	2.48E-05	2.92E-02					3.9	4.1						
				South	School	486791.50	3705381.00	848	2.44E-05	2.07E-02												
				North	Senior Center	NR	NR	--	2.48E-05	--												
				South	Senior Center	NR	NR	--	2.44E-05	--												
11	RIV SR-91 State Road 91 Freeway in Corona, east of the intersection with SR 71	2012_2035 PDEIR Segment	Riverside	East	MEIR	439300.00	3749100.00	594	4.37E-05	2.60E-02	6.09E-02	52.7	55.3	37.4	39.3	60.0	63.0					
				West	MEIR	439300.00	3749100.00	687	5.08E-05	3.49E-02												
				East	MEIW	439864.00	3749063.00	761	4.37E-05	3.33E-02					4.4	4.6						
				West	MEIW	439864.00	3749063.00	613	5.08E-05	3.11E-02												
				East	Day Care	NR	NR	--	4.37E-05	--												
				West	Day Care	NR	NR	--	5.08E-05	--												
				East	School	NR	NR	--	4.37E-05	--												
				West	School	NR	NR	--	5.08E-05	--												
				East	Senior Center	NR	NR	--	4.37E-05	--												
				West	Senior Center	NR	NR	--	5.08E-05	--												
12	SB I-15 ONT ¹ Interstate 15 in Ontario	2012_2035 PDEIR Segment	San Bernardino	North	MEIR	449500.00	3771200.00	389	3.15E-05	1.23E-02	2.77E-02	24.0	25.2	17.0	17.9	27.3	28.7					
				South	MEIR	449500.00	3771200.00	487	3.18E-05	1.55E-02												
				North	MEIW	449500.00	3771200.00	389	3.15E-05	1.23E-02					1.9	2.0						
				South	MEIW	449500.00	3771200.00	487	3.18E-05	1.55E-02												
				North	Day Care	NR	NR	--	3.15E-05	--												
				South	Day Care	NR	NR	--	3.18E-05	--												
				North	School	NR	NR	--	3.15E-05	--												
				South	School	NR	NR	--	3.18E-05	--												
				North	Senior Center	NR	NR	--	3.15E-05	--												
				South	Senior Center	NR	NR	--	3.18E-05	--												
13	SB I-15 VIC Interstate 15 in the Victorville area	Additional Segment	San Bernardino	North	MEIR	470800.00	3820500.00	1443	1.97E-05	2.84E-02	7.04E-02	60.9	64.0	43.3	45.5	69.4	72.9					
				South	MEIR	470800.00	3820500.00	2122	1.98E-05	4.20E-02												
				North	MEIW	471100.00	3820700.00	1021	1.97E-05	2.01E-02					2.5	2.7						
				South	MEIW	471100.00	3820700.00	852	1.98E-05	1.69E-02												
				North	Day Care	471186.20	3820489.00	460	1.97E-05	9.06E-03					5.9	6.2						
				South	Day Care	471186.20	3820489.00	419	1.98E-05	8.30E-03												
				North	School	470957.20	3821055.00	635	1.97E-05	1.25E-02					2.1	2.2						
				South	School	470957.20	3821055.00	763	1.98E-05	1.51E-02												
				North	Senior Center	NR	NR	--	1.97E-05	--												
				South	Senior Center	NR	NR	--	1.98E-05	--												

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Unitized Concentration (ug/m3 / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	DPM 30-Year Cancer Risk (per million)	Total 30-Year Cancer Risk DPM + Other Chemicals (per million)	DPM 9-year Cancer Risk (per million)	Total 9-year MEIR Cancer Risk DPM + Other Chemicals (per million)	DPM 70-Year Cancer Risk (per million)	Total 70-Year MEIR Cancer Risk DPM + Other Chemicals (per million)				
14	SB SR-60 State Road 60 Freeway in Ontario, west of the I-15 interchange	2012_2035 PDEIR Segment	San Bernardino	East	MEIR	446200.00	3765600.00	1005	2.59E-05	2.60E-02	4.29E-02	37.1	38.9	26.3	27.7	42.2	44.4				
				West	MEIR	446200.00	3765600.00	673	2.50E-05	1.68E-02											
				East	MEIW	445700.00	3765800.00	698	2.59E-05	1.81E-02					2.9	3.0	--	--	--	--	--
				West	MEIW	445700.00	3765800.00	952	2.50E-05	2.38E-02					2.6	2.7	--	--	--	--	--
				East	Day Care	445523.30	3765239.00	155	2.59E-05	4.01E-03					0.6	0.6	--	--	--	--	--
				West	Day Care	445523.30	3765239.00	143	2.50E-05	3.58E-03					0.6	0.6	--	--	--	--	--
				East	School	445523.30	3765239.00	155	2.59E-05	4.01E-03					0.6	0.6	--	--	--	--	--
				West	School	445523.30	3765239.00	143	2.50E-05	3.58E-03					0.6	0.6	--	--	--	--	--
				East	Senior Center	NR	NR	--	--	--					--	--	--	--	--	--	--
				West	Senior Center	NR	NR	--	--	--					--	--	--	--	--	--	--
15	VEN US-101 SB US 101 Freeway in San Buenaventura near the Ventura Harbor	Additional Segment	Ventura	North	MEIR	295200.00	3793400.00	741	8.51E-06	6.31E-03	1.21E-02	10.5	11.0	7.4	7.8	11.9	12.5				
				South	MEIR	295200.00	3793400.00	676	8.60E-06	5.81E-03											
				North	MEIW	295300.00	3793200.00	1645	8.51E-06	1.40E-02					1.7	1.8	--	--	--	--	
				South	MEIW	295300.00	3793200.00	1293	8.60E-06	1.11E-02					0.8	0.8	--	--	--	--	--
				North	Day Care	296212.80	3793611.00	143	8.51E-06	1.22E-03					0.6	0.6	--	--	--	--	--
				South	Day Care	296212.80	3793611.00	133	8.60E-06	1.14E-03					0.6	0.6	--	--	--	--	--
				North	School	295785.70	3793241.00	448	8.51E-06	3.81E-03					1.7	1.8	--	--	--	--	--
				South	School	295785.70	3793241.00	400	8.60E-06	3.44E-03					1.7	1.8	--	--	--	--	--
				North	Senior Center	295781.00	3793062.00	790	8.51E-06	6.72E-03					1.7	1.8	--	--	--	--	--
				South	Senior Center	295781.00	3793062.00	667	8.60E-06	5.74E-03					1.7	1.8	--	--	--	--	--
16	VEN US-101 TO US 101 Freeway in Thousand Oaks, east of SR-23	2012_2035 PDEIR Segment	Ventura	North	MEIR	330000.00	3782700.00	1365	2.11E-05	2.88E-02	5.28E-02	45.6	47.9	32.4	34.0	52.0	54.6				
				South	MEIR	330000.00	3782700.00	943	2.54E-05	2.40E-02											
				North	MEIW	329800.00	3782600.00	693	2.11E-05	1.46E-02					2.5	2.6	--	--	--	--	
				South	MEIW	329800.00	3782600.00	872	2.54E-05	2.21E-02					7.2	7.6	--	--	--	--	--
				North	Day Care	329921.90	3782934.00	493	2.11E-05	1.04E-02					2.2	2.3	--	--	--	--	--
				South	Day Care	329921.90	3782934.00	423	2.54E-05	1.07E-02					2.2	2.3	--	--	--	--	--
				North	School	330108.20	3782369.00	459	2.11E-05	9.68E-03					1.0	1.0	--	--	--	--	--
				South	School	330108.20	3782369.00	735	2.54E-05	1.87E-02					1.0	1.0	--	--	--	--	--
				North	Senior Center	329368.20	3783515.00	158	2.11E-05	3.33E-03					1.0	1.0	--	--	--	--	--
				South	Senior Center	329368.20	3783515.00	144	2.54E-05	3.66E-03					1.0	1.0	--	--	--	--	--

Notes:
 1. The I-15 MEIR is an assumed residential receptor at about 100 meters from the freeway because although there are no residential receptors near the segment modeled, there are a number of nearby residential receptors only 2 miles north of the modeled segment and traffic volumes are expected to be similar on I-15 where there are nearby residents.

Age Sensitivity Factors

Fraction of Time at Home	Age Sensitivity Factors
1	10
L/kg-day	1090
Breathing Rate 3rd Trimester	745
Breathing Rate 0 to <2 yrs	290
Breathing Rate 2 to <16 yrs	861
Breathing Rate 16 to <70 yrs	335
Breathing Rate 2 to <9 yrs	
Breathing Rate 16 to <30 yrs	

Off-site Worker Breathing Rates are 95th Percentile

Breathing Rate 3rd Trimester	240
8-hour Breathing Rate: 16 to 70 years	230

Day Care and School Breathing Rates are 95th Percentile

8-hour Breathing Rate 0 to <2 years	1200
8-hour Breathing Rate 2 to <9 years	640
8-hour Breathing Rate 2 to <16 years	520
DPM Cancer Potency	1.1
Percentage Risk Increase over DPM	5%

For additional compounds emitted from vehicles (acetaldehyde, benzene, 1,3-butadiene, formaldehyde)

NR = No Receptor for the category within 1000 m of the freeway.

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Utilized Concentration (ug/m3 / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	DPM 30-year Cancer Risk (per million)	Total 30-year Cancer Risk (per million)	DPM 9-year Cancer Risk (per million)	Total 9-year Cancer Risk (per million)	DPM 70-year Cancer Risk (per million)	Total 70-year Cancer Risk (per million)									
1	IMP 1-8 Interstate 8 just east of El Centro	2012_2035 PDEIR Segment	Imperial	East	MEIR	635500.00	3627200.00	1298	6.13E-06	7.96E-03	2.03E-02	17.6	18.5	12.5	13.1	20.0	21.0									
					MEIR	635500.00	3627200.00	1985	6.23E-06	1.24E-02																
					MEIW	635408.70	3627026.00	1588	6.13E-06	9.73E-03																
					MEIW	635408.70	3627026.00	1280	6.23E-06	7.97E-03																
					Day Care	636187.90	3627262.00	455	6.13E-06	2.79E-03																
					Day Care	636187.90	3627252.00	725	6.23E-06	4.52E-03																
					School	635173.30	3627462.00	301	6.13E-06	1.85E-03																
					School	635173.30	3627462.00	334	6.23E-06	2.08E-03																
					Senior Center	NR	NR	--	6.13E-06	--																
					Senior Center	NR	NR	--	6.23E-06	--																
					2	IMP SB-78 State Road 78 Freeway in Westmorland	Additional Segment	Imperial	East	MEIR	628500.00	3656200.00	2421	2.11E-06	5.11E-03	9.33E-03	8.1	8.5	5.7	6.0	9.2	9.7				
										MEIR	628500.00	3656200.00	2189	1.93E-06	4.22E-03											
										MEIW	628138.20	3656220.00	3479	2.11E-06	7.34E-03											
MEIW	628138.20	3656220.00	2936	1.93E-06						5.67E-03																
Day Care	628837.80	3656150.00	1475	2.11E-06						3.11E-03																
Day Care	628837.80	3656150.00	1393	1.93E-06						2.69E-03																
School	628711.80	3656414.00	785	2.11E-06						1.66E-03																
School	628711.80	3656414.00	830	1.93E-06						1.60E-03																
Senior Center	628456.30	3656145.00	1447	2.11E-06						3.05E-03																
Senior Center	628456.30	3656145.00	1361	1.93E-06						2.63E-03																
3	LA I-110 Interstate 110 in Carson	Additional Segment	Los Angeles	North						MEIR	380800.00	3743500.00	950	2.33E-05	2.21E-02	4.98E-02	43.1	45.3	30.6	32.2	49.1	51.6				
										MEIR	380800.00	3743500.00	1237	2.24E-05	2.77E-02											
										MEIW	380800.00	3743600.00	938	2.33E-05	2.19E-02											
					MEIW	380800.00	3743600.00	1221	2.24E-05	2.74E-02																
					Day Care	381383.10	3744323.00	123	2.33E-05	2.87E-03																
					Day Care	381383.10	3744323.00	119	2.24E-05	2.67E-03																
					School	381001.20	3743694.00	667	2.33E-05	1.55E-02																
					School	381001.20	3743694.00	574	2.24E-05	1.29E-02																
					Senior Center	380506.70	3743721.00	210	2.33E-05	4.89E-03																
					Senior Center	380506.70	3743721.00	222	2.24E-05	4.97E-03																

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Unitized Concentration (ug/m3 / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	Total 30-year Cancer Risk		Total 9-year Cancer Risk		Total 70-year Cancer Risk																															
												DPM Year Cancer Risk (per million)	Other Chemicals (per million)	DPM 9-year Cancer Risk (per million)	Other Chemicals (per million)	DPM 70-year Cancer Risk (per million)	Other Chemicals (per million)																														
4	LA I-710 Interstate 710 in Compton, north of the intersection with SR 91	2012_2035 PDEIR Segment	Los Angeles	North	MEIR	390000.00	3750700.00	579	5.03E-05	2.91E-02	6.04E-02	52.2	54.8	37.1	38.9	59.5	62.5																														
																		South	MEIR	390000.00	3750700.00	682	4.98E-05	3.12E-02	5.22	2.1	--	--	--																		
																		North	MEIW	390428.00	3751262.00	291	4.98E-05	1.63E-02	2.0	2.1	--	--	--																		
																		South	MEIW	390428.00	3751262.00	291	4.98E-05	1.33E-02	2.0	2.1	--	--	--																		
																		North	Day Care	389795.00	3751313.00	164	5.03E-05	1.63E-02	5.6	5.8	--	--	--																		
																		South	Day Care	389795.00	3751313.00	176	4.98E-05	8.05E-03	5.6	5.8	--	--	--																		
																		North	School	389951.66	3751333.90	258	5.03E-05	1.31E-02	2.0	2.1	--	--	--																		
																		South	School	389951.66	3751333.90	287	4.98E-05	1.31E-02	2.0	2.1	--	--	--																		
																		North	Senior Center	391265.90	3750525.00	44.81	5.03E-05	2.25E-03	0.6	0.6	--	--	--																		
																		South	Senior Center	391265.90	3750525.00	43.56	4.98E-05	2.00E-03	0.6	0.6	--	--	--																		
																		5	LA SR-60 DB State Road 60 Freeway near Diamond Bar	2012_2035 PDEIR Segment	Los Angeles	East	MEIR	425800.00	3765300.00	1385	2.77E-05	3.84E-02	6.60E-02	57.1	60.0	40.6	42.6	65.1	68.3												
																																				West	MEIR	425800.00	3765300.00	974	2.84E-05	2.77E-02	3.2	3.4	--	--	--
																																				East	MEIW	425200.00	3765000.00	909	2.77E-05	2.52E-02	3.2	3.4	--	--	--
																																				West	MEIW	425200.00	3765000.00	768	2.84E-05	2.18E-02	3.2	3.4	--	--	--
East	Day Care	425255.30	3764985.00	679	2.77E-05	1.88E-02	12.2	12.8	--	--	--																																				
West	Day Care	425255.30	3764985.00	598	2.84E-05	1.70E-02	12.2	12.8	--	--	--																																				
East	School	425626.70	3764800.00	242	2.77E-05	6.70E-03	1.0	1.1	--	--	--																																				
West	School	425626.70	3764800.00	225	2.84E-05	6.39E-03	1.0	1.1	--	--	--																																				
East	Senior Center	425626.70	3764800.00	225	2.77E-05	--	--	--	--	--	--																																				
West	Senior Center	425626.70	3764800.00	225	2.84E-05	--	--	--	--	--	--																																				
6	LA SR-60 SEM State Road 60 Freeway near south El Monte at Peck Road	Additional Segment	Los Angeles	East	MEIR	403200.00	3767100.00	628	3.04E-05	1.92E-02	4.76E-02	41.2	43.3	29.3	30.7	46.9	49.3																														
																																				West	MEIR	403200.00	3767100.00	828	3.04E-05	2.84E-02	4.12	4.3	--	--	--
																																				East	MEIW	403700.00	3766800.00	787	3.04E-05	2.41E-02	3.0	3.2	--	--	--
																																				West	MEIW	403700.00	3766800.00	580	3.04E-05	1.99E-02	3.0	3.2	--	--	--
																		East	Day Care	403373.30	3767584.00	108	3.04E-05	3.94E-03	2.5	2.6	--	--	--																		
																		West	Day Care	403373.30	3767584.00	115	3.04E-05	3.94E-03	2.5	2.6	--	--	--																		
																		East	School	403685.00	3767262.00	188	3.04E-05	5.75E-03	1.0	1.0	--	--	--																		
																		West	School	403685.00	3767262.00	207	3.04E-05	1.29E-02	1.0	1.0	--	--	--																		
																		East	Senior Center	403368.40	3767822.00	70.44	3.04E-05	2.16E-03	0.6	0.7	--	--	--																		
																		West	Senior Center	403368.40	3767822.00	73.95	3.04E-05	2.54E-03	0.6	0.7	--	--	--																		
																		7	ORA I-5 Interstate 5 in Orange near intersection of SR-57 and SR-22	Additional Segment	Orange	North	MEIR	419000.00	3737600.00	409	4.45E-05	1.82E-02	3.57E-02	30.9	32.4	21.9	23.0	35.2	37.0												
																																				South	MEIR	419000.00	3737600.00	477	3.67E-05	1.75E-02	3.09	3.2	--	--	--
																																				North	MEIW	419400.00	3737500.00	290	4.45E-05	1.29E-02	1.5	1.6	--	--	--
																																				South	MEIW	419400.00	3737500.00	242	3.67E-05	8.88E-03	1.5	1.6	--	--	--
North	Day Care	418539.00	3737429.00	76.2	4.45E-05	3.39E-03	2.1	2.2	--	--	--																																				
South	Day Care	418539.00	3737429.00	76.68	3.67E-05	2.81E-03	2.1	2.2	--	--	--																																				
North	School	419811.55	3738689.28	33.07	4.45E-05	1.47E-03	0.2	0.2	--	--	--																																				
South	School	419811.55	3738689.28	32.34	3.67E-05	1.19E-03	0.2	0.2	--	--	--																																				
North	Senior Center	419249.90	3738210.00	111	4.45E-05	4.94E-03	1.2	1.3	--	--	--																																				
South	Senior Center	419249.90	3738210.00	106	3.67E-05	3.89E-03	1.2	1.3	--	--	--																																				
8	ORA I-405 Interstate 405 in Seal Beach, east of the I-605 interchange	2012_2035 PDEIR Segment	Orange	North	MEIR	402000.00	3737700.00	514	7.67E-05	3.94E-02	8.57E-02	74.1	77.8	52.7	55.3	84.5	88.7																														
																																				South	MEIR	402000.00	3737700.00	612	7.56E-05	4.63E-02	74.1	77.8	--	--	--
																																				North	MEIW	401576.00	3737798.00	257	7.67E-05	1.97E-02	3.0	3.2	--	--	--
																																				South	MEIW	401576.00	3737798.00	327	7.56E-05	2.47E-02	3.0	3.2	--	--	--
																		North	Day Care	NR	NR	--	7.67E-05	--	--	--	--	--	--	--	--	--	--														
																		South	Day Care	NR	NR	--	7.56E-05	--	--	--	--	--	--	--	--	--	--														
																		North	School	NR	NR	--	7.67E-05	--	--	--	--	--	--	--	--	--	--														
																		South	School	NR	NR	--	7.56E-05	--	--	--	--	--	--	--	--	--	--														
																		North	Senior Center	NR	NR	--	7.67E-05	--	--	--	--	--	--	--	--	--	--														
																		South	Senior Center	NR	NR	--	7.56E-05	--	--	--	--	--	--	--	--	--	--														

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Unitized Concentration (ug/m3 / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	DPM 30-Year Cancer Risk (per million)	Total 30-Year Cancer Risk DPM + Other Chemicals (per million)	DPM 9-year Cancer Risk (per million)	Total 9-year Cancer Risk DPM + Other Chemicals (per million)	DPM 70-Year Cancer Risk (per million)	Total 70-Year Cancer Risk DPM + Other Chemicals (per million)					
9	RIV I-10 Interstate 10 in the Banning Area	Additional Segment	Riverside	East	MEIR	511000.00	3754000.00	199	3.71E-05	7.38E-03	1.61E-02	14.0	14.7	9.9	10.4	15.9	16.7					
					MEIR	511000.00	3754000.00	232	3.71E-05	8.75E-03	1.70E-02	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2		
					MEIW	510886.80	3753911.00	367	3.71E-05	1.36E-02	1.70E-02	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
					MEIW	510886.80	3753911.00	450	3.71E-05	1.70E-02	1.70E-02	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
					Day Care	510600.00	3754100.00	87.49	3.71E-05	3.25E-03	3.81E-03	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
					Day Care	510600.00	3754100.00	101	3.71E-05	3.02E-03	3.02E-03	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
					School	511389.70	3754208.00	81.51	3.71E-05	3.37E-03	3.37E-03	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
					School	511389.70	3754208.00	89.38	3.71E-05	3.37E-03	3.37E-03	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
					Senior Center	511164.70	3753944.00	290	3.71E-05	1.08E-02	2.40E-02	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
					Senior Center	511164.70	3753944.00	351	3.71E-05	1.32E-02	2.40E-02	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
10	RIV I-15 Interstate 15 near Temecula	Additional Segment	Riverside	North	MEIR	486867.30	3705207.00	983	2.47E-05	2.43E-02	4.18E-02	36.2	38.0	25.7	27.0	41.2	43.3	43.3				
					MEIR	486867.30	3705207.00	718	2.44E-05	1.75E-02	2.44E-02	4.7	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9		
					MEIW	486700.00	3705100.00	1070	2.47E-05	2.64E-02	6.89E-02	8.0	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	
					MEIW	486700.00	3705100.00	1740	2.44E-05	4.25E-02	1.02E-02	3.9	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	
					Day Care	486327.80	3705951.00	412	2.47E-05	1.02E-02	1.33E-02	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	
					Day Care	486327.80	3705951.00	545	2.47E-05	1.33E-02	1.33E-02	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	2.47E-05	
					School	486791.50	3705381.00	1179	2.47E-05	2.91E-02	4.98E-02	3.9	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	
					School	486791.50	3705381.00	848	2.44E-05	2.07E-02	2.07E-02	3.9	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	
					Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
					Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
11	RIV SR-91 State Road 91 Freeway in Corona, east of the intersection with SR 71	2012_2035 PDEIR Segment	Riverside	East	MEIR	439300.00	3749100.00	594	4.41E-05	2.62E-02	6.19E-02	53.5	56.2	38.0	39.9	61.0	64.0	64.0				
					MEIR	439300.00	3749100.00	687	5.19E-05	3.57E-02	3.57E-02	4.5	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7		
					MEIW	439864.00	3749063.00	761	4.41E-05	3.38E-02	3.38E-02	4.5	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	
					MEIW	439864.00	3749063.00	613	5.19E-05	3.18E-02	3.18E-02	4.5	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	
					Day Care	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
					Day Care	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
					School	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
					School	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
					Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
					Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
12	SB I-15 ONT ¹ Interstate 15 in Ontario	2012_2035 PDEIR Segment	San Bernardino	North	MEIR	449500.00	3771200.00	389	3.12E-05	1.21E-02	2.76E-02	23.9	25.0	16.9	17.8	27.2	28.5	28.5				
					MEIR	449500.00	3771200.00	487	3.17E-05	1.54E-02	1.54E-02	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
					MEIW	449500.00	3771200.00	389	3.12E-05	1.21E-02	2.76E-02	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
					MEIW	449500.00	3771200.00	487	3.17E-05	1.54E-02	1.54E-02	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
					Day Care	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
					Day Care	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
					School	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
					School	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
					Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
					Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
13	SB I-15 VIC Interstate 15 in the Victorville area	Additional Segment	San Bernardino	North	MEIR	470800.00	3820500.00	1443	1.98E-05	2.83E-02	7.03E-02	60.8	63.9	43.2	45.4	69.3	72.8	72.8				
					MEIR	470800.00	3820500.00	2122	1.98E-05	4.20E-02	4.20E-02	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6		
					MEIW	471100.00	3820700.00	1021	1.96E-05	2.00E-02	2.00E-02	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6		
					MEIW	471100.00	3820700.00	852	1.98E-05	1.69E-02	1.69E-02	5.9	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2		
					Day Care	471186.20	3820489.00	460	1.96E-05	9.02E-03	1.73E-02	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2		
					Day Care	471186.20	3820489.00	419	1.98E-05	8.30E-03	1.73E-02	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	
					School	470957.20	3821055.00	635	1.96E-05	1.24E-02	2.76E-02	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2		
					School	470957.20	3821055.00	763	1.98E-05	1.51E-02	2.76E-02	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2		
					Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
					Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Unitized Concentration (ug/m3 / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	DPM 30-Year Cancer Risk (per million)		DPM 9-year Cancer Risk (per million)		Total 70-Year MEIR Cancer Risk (per million)				
												DPM 30-Year Cancer Risk	Other Chemicals	DPM 9-year Cancer Risk	Other Chemicals	DPM 70-Year Cancer Risk	Other Chemicals			
14	SB SR-60 State Road 60 Freeway in Ontario, west of the I-15 interchange	2012_2035 PDEIR Segment	San Bernardino	East	MEIR	446200.00	3765600.00	1005	2.60E-05	2.61E-02	4.32E-02	37.3	39.2	26.5	27.8	42.5	44.7			
				West	MEIR	446200.00	3765600.00	673	2.53E-05	1.70E-02	4.32E-02	2.9	3.0	--	--	--	--	--	--	
				East	MEIW	445700.00	3765800.00	698	2.60E-05	1.81E-02	4.22E-02	2.6	2.7	--	--	--	--	--	--	
				West	MEIW	445700.00	3765800.00	952	2.53E-05	2.41E-02	4.03E-03	2.6	2.7	--	--	--	--	--	--	
				East	Day Care	445523.30	3765239.00	155	2.60E-05	4.03E-03	3.62E-03	0.6	0.6	--	--	--	--	--	--	
				West	Day Care	445523.30	3765239.00	143	2.53E-05	4.03E-03	3.62E-03	0.6	0.6	--	--	--	--	--	--	
				East	School	445523.30	3765239.00	155	2.60E-05	4.03E-03	3.62E-03	0.6	0.6	--	--	--	--	--	--	
				West	School	445523.30	3765239.00	143	2.53E-05	4.03E-03	3.62E-03	0.6	0.6	--	--	--	--	--	--	
				East	Senior Center	NR	NR	--	2.60E-05	--	--	--	--	--	--	--	--	--	--	--
				West	Senior Center	NR	NR	--	2.53E-05	--	--	--	--	--	--	--	--	--	--	--
15	VEN US-101 SB US 101 Freeway in San Buenaventura near the Ventura Harbor	Additional Segment	Ventura	North	MEIR	295200.00	3793400.00	741	8.50E-06	6.30E-03	1.21E-02	10.5	11.0	7.4	7.8	11.9	12.5			
				South	MEIR	295200.00	3793400.00	676	8.60E-06	5.81E-03	1.21E-02	1.7	1.8	--	--	--	--	--		
				North	MEIW	295300.00	3793200.00	1645	8.50E-06	1.40E-02	2.51E-02	0.8	0.8	--	--	--	--	--		
				South	MEIW	295300.00	3793200.00	1293	8.60E-06	1.11E-02	2.36E-03	0.6	0.6	--	--	--	--	--		
				North	Day Care	296212.80	3793611.00	143	8.50E-06	1.22E-03	1.14E-03	0.6	0.6	--	--	--	--	--		
				South	Day Care	296212.80	3793611.00	133	8.60E-06	1.14E-03	1.14E-03	0.6	0.6	--	--	--	--	--		
				North	School	295785.70	3793241.00	448	8.50E-06	3.81E-03	7.25E-03	1.7	1.8	--	--	--	--	--		
				South	School	295785.70	3793241.00	400	8.60E-06	3.44E-03	7.25E-03	1.7	1.8	--	--	--	--	--		
				North	Senior Center	295781.00	3793062.00	790	8.50E-06	6.72E-03	1.25E-02	45.2	47.5	32.1	33.7	51.6	54.1			
				South	Senior Center	295781.00	3793062.00	667	8.60E-06	5.74E-03	1.25E-02	2.5	2.6	--	--	--	--	--		
16	VEN US-101 TO US 101 Freeway in Thousand Oaks, east of SR-23	2012_2035 PDEIR Segment	Ventura	North	MEIR	330000.00	3782700.00	1365	2.09E-05	2.85E-02	5.23E-02	45.2	47.5	32.1	33.7	51.6	54.1			
				South	MEIR	330000.00	3782700.00	943	2.52E-05	2.38E-02	5.23E-02	2.2	2.3	--	--	--	--			
				North	MEIW	329800.00	3782600.00	693	2.09E-05	1.45E-02	3.65E-02	7.1	7.5	--	--	--	--			
				South	MEIW	329800.00	3782600.00	872	2.52E-05	2.20E-02	2.10E-02	2.2	2.3	--	--	--	--			
				North	Day Care	329921.90	3782934.00	493	2.09E-05	1.03E-02	2.81E-02	0.9	1.0	--	--	--	--			
				South	Day Care	329921.90	3782934.00	423	2.52E-05	1.07E-02	2.81E-02	0.9	1.0	--	--	--	--			
				North	School	330108.20	3782369.00	459	2.09E-05	9.59E-03	1.85E-02	0.9	1.0	--	--	--	--			
				South	School	330108.20	3782369.00	735	2.52E-05	1.85E-02	1.85E-02	0.9	1.0	--	--	--	--			
				North	Senior Center	329368.20	3783515.00	158	2.09E-05	3.30E-03	6.93E-03	0.9	1.0	--	--	--	--			
				South	Senior Center	329368.20	3783515.00	144	2.52E-05	3.65E-03	6.93E-03	0.9	1.0	--	--	--	--			

Notes:
 1. The I-15 MEIR is an assumed residential receptor at about 100 meters from the freeway because although there are no residential receptors near the segment modeled, there are a number of nearby residential receptors only 2 miles north of the modeled segment and traffic volumes are expected to be similar on I-15 where there are nearby residents.

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Unitized Concentration (ug/m3 / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	Total 30-year Cancer Risk DPM + MEIR Cancer Risk Other Chemicals (per million)			Total 9-year MEIR Cancer Risk DPM + MEIR Cancer Risk Other Chemicals (per million)			Total 70-year MEIR Cancer Risk DPM + MEIR Cancer Risk Other Chemicals (per million)																					
												DPM 30-year Cancer Risk (per million)	DPM 9-year MEIR Cancer Risk (per million)	Total 30-year Cancer Risk DPM + MEIR Cancer Risk Other Chemicals (per million)	Total 9-year MEIR Cancer Risk DPM + MEIR Cancer Risk Other Chemicals (per million)	DPM 70-year MEIR Cancer Risk (per million)	Total 70-year MEIR Cancer Risk DPM + MEIR Cancer Risk Other Chemicals (per million)																						
4	LA I-710 Interstate 710 in Compton, north of the intersection with SR 91	2012_2035 PDEIR Segment	Los Angeles	North	MEIR	390000.00	3750700.00	579	4.98E-05	2.88E-02	5.99E-02	51.8	54.4	36.8	38.6	59.0	62.0																						
																				South	MEIR	390000.00	3750700.00	682	4.98E-05	3.10E-02	5.18	54.4	36.8	38.6	59.0	62.0							
																				South	MEIW	390428.00	3751262.00	324	4.98E-05	1.61E-02	2.0	2.1	--	--	--	--	--	--	--	--			
																				South	MEIW	390428.00	3751262.00	291	4.98E-05	1.32E-02	2.0	2.1	--	--	--	--	--	--	--	--	--		
																				North	Day Care	389795.00	3751313.00	164	4.98E-05	8.01E-03	5.5	5.8	--	--	--	--	--	--	--	--	--		
																				North	Day Care	389795.00	3751313.00	176	4.98E-05	8.17E-03	5.5	5.8	--	--	--	--	--	--	--	--	--	--	
																				North	School	389951.66	3751333.90	258	4.98E-05	1.28E-02	2.0	2.1	--	--	--	--	--	--	--	--	--	--	
																				South	School	389951.66	3751333.90	287	4.98E-05	1.31E-02	2.0	2.1	--	--	--	--	--	--	--	--	--	--	
																				North	Senior Center	391265.90	3750525.00	44.81	4.98E-05	2.23E-03	0.6	0.6	--	--	--	--	--	--	--	--	--	--	
																				South	Senior Center	391265.90	3750525.00	43.56	4.98E-05	1.98E-03	0.6	0.6	--	--	--	--	--	--	--	--	--	--	
																				5	LA SR-60 DB State Road 60 Freeway near Diamond Bar	2012_2035 PDEIR Segment	Los Angeles	East	MEIR	425800.00	3765300.00	1385	2.78E-05	3.85E-02	6.62E-02	57.2	60.1	40.7	42.7	65.2	68.5		
East	MEIW	425200.00	3765000.00	909	2.78E-05	2.53E-02	3.2	3.4	--	--	--	--	--	--	--	--	--																						
West	MEIW	425200.00	3765000.00	768	2.84E-05	2.18E-02	3.2	3.4	--	--	--	--	--	--	--	--	--	--																					
East	Day Care	425255.30	3764985.00	679	2.78E-05	1.89E-02	12.2	12.8	--	--	--	--	--	--	--	--	--	--																					
West	Day Care	425255.30	3764985.00	598	2.84E-05	1.70E-02	12.2	12.8	--	--	--	--	--	--	--	--	--	--																					
East	School	425626.70	3764800.00	242	2.78E-05	6.73E-03	1.0	1.1	--	--	--	--	--	--	--	--	--	--																					
West	School	425626.70	3764800.00	225	2.84E-05	6.39E-03	1.0	1.1	--	--	--	--	--	--	--	--	--	--																					
East	Senior Center	NR	NR	--	2.78E-05	--	--	--	--	--	--	--	--	--	--	--	--	--																					
West	Senior Center	NR	NR	--	2.84E-05	--	--	--	--	--	--	--	--	--	--	--	--	--																					
6	LA SR-60 SEM State Road 60 Freeway near south El Monte at Peck Road	Additional Segment	Los Angeles	East	MEIR	403200.00	3767100.00	628	3.04E-05	1.92E-02	4.76E-02	41.2	43.3	29.3	30.7	46.9	49.3																						
																				East	MEIW	403700.00	3766800.00	787	3.08E-05	2.41E-02	3.0	3.2	--	--	--	--	--	--	--	--	--		
																				West	MEIW	403700.00	3766800.00	580	3.43E-05	1.99E-02	3.0	3.2	--	--	--	--	--	--	--	--	--	--	
																				East	Day Care	403373.30	3767584.00	108	3.06E-05	3.30E-03	2.5	2.6	--	--	--	--	--	--	--	--	--	--	
																				West	Day Care	403373.30	3767584.00	115	3.43E-05	3.94E-03	2.5	2.6	--	--	--	--	--	--	--	--	--	--	
																				East	School	403685.00	3767262.00	188	3.06E-05	5.75E-03	1.0	1.0	--	--	--	--	--	--	--	--	--	--	
																				West	School	403685.00	3767262.00	207	3.43E-05	7.10E-03	1.0	1.0	--	--	--	--	--	--	--	--	--	--	
																				East	Senior Center	403368.40	3767822.00	70.44	3.06E-05	2.16E-03	0.6	0.7	--	--	--	--	--	--	--	--	--	--	
																				West	Senior Center	403368.40	3767822.00	73.95	3.43E-05	2.54E-03	0.6	0.7	--	--	--	--	--	--	--	--	--	--	
																				7	ORA I-5 Interstate 5 in Orange near intersection of SR-57 and SR-22	Additional Segment	Orange	North	MEIR	419000.00	3737600.00	409	4.47E-05	1.83E-02	3.57E-02	30.9	32.5	22.0	23.1	35.2	37.0		
North	MEIW	419400.00	3737500.00	290	4.47E-05	1.30E-02	1.5	1.6	--	--	--	--	--	--	--	--	--																						
South	MEIW	419400.00	3737500.00	242	3.66E-05	8.86E-03	1.5	1.6	--	--	--	--	--	--	--	--	--																						
North	Day Care	418539.00	3737429.00	76.2	4.47E-05	3.41E-03	2.1	2.2	--	--	--	--	--	--	--	--	--																						
South	Day Care	418539.00	3737429.00	76.68	3.66E-05	2.81E-03	2.1	2.2	--	--	--	--	--	--	--	--	--	--																					
North	School	419811.55	3738689.28	33.07	4.47E-05	1.48E-03	0.2	0.2	--	--	--	--	--	--	--	--	--																						
South	School	419811.55	3738689.28	32.34	3.66E-05	1.18E-03	0.2	0.2	--	--	--	--	--	--	--	--	--																						
North	Senior Center	419249.90	3738210.00	111	4.47E-05	4.96E-03	1.2	1.3	--	--	--	--	--	--	--	--	--																						
South	Senior Center	419249.90	3738210.00	106	3.66E-05	3.88E-03	1.2	1.3	--	--	--	--	--	--	--	--	--																						
8	ORA I-405 Interstate 405 in Seal Beach, east of the I-605 interchange	2012_2035 PDEIR Segment	Orange	North	MEIR	402000.00	3737700.00	514	7.69E-05	3.95E-02	8.60E-02	74.4	78.1	52.8	55.5	84.8	89.0																						
																				North	MEIW	401576.00	3737798.00	257	7.69E-05	1.98E-02	3.0	3.2	--	--	--	--	--	--	--	--	--		
																				South	MEIW	401576.00	3737798.00	327	7.59E-05	2.48E-02	3.0	3.2	--	--	--	--	--	--	--	--	--		
																				North	Day Care	NR	NR	--	7.69E-05	--	--	--	--	--	--	--	--	--	--	--	--		
																				South	Day Care	NR	NR	--	7.59E-05	--	--	--	--	--	--	--	--	--	--	--	--		
																				North	School	NR	NR	--	7.69E-05	--	--	--	--	--	--	--	--	--	--	--	--		
																				South	School	NR	NR	--	7.59E-05	--	--	--	--	--	--	--	--	--	--	--	--		
																				North	Senior Center	NR	NR	--	7.69E-05	--	--	--	--	--	--	--	--	--	--	--	--		
																				South	Senior Center	NR	NR	--	7.59E-05	--	--	--	--	--	--	--	--	--	--	--	--		

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Unitized Concentration (ug/m3 / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	Total 30-year Cancer Risk DPM + Other Chemicals (per million)		Total 9-year MEIR Cancer Risk DPM + Other Chemicals (per million)		Total 70-year MEIR Cancer Risk DPM + Other Chemicals (per million)																			
												DPM 30-year Cancer Risk (per million)	Total 30-year Cancer Risk DPM + Other Chemicals (per million)	DPM 9-year MEIR Cancer Risk (per million)	Total 9-year MEIR Cancer Risk DPM + Other Chemicals (per million)	DPM 70-year MEIR Cancer Risk (per million)	Total 70-year MEIR Cancer Risk DPM + Other Chemicals (per million)																		
9	RIV I-10 Interstate 10 in the Banning Area	Additional Segment	Riverside									13.7	14.4	9.8	10.2	15.6	16.4																		
																		MEIR	511000.00	3754000.00	199	3.65E-05	7.26E-03	1.59E-02	7.26E-03	13.7	14.4	9.8	10.2	15.6	16.4				
																		MEIR	511000.00	3754000.00	232	3.71E-05	8.61E-03	1.59E-02	8.61E-03	13.7	14.4	9.8	10.2	15.6	16.4				
																		MEIW	510886.80	3753911.00	367	3.65E-05	1.94E-02	3.01E-02	1.94E-02	2.1	2.2	--	--	--	--	--	--		
																		MEIW	510886.80	3753911.00	450	3.71E-05	1.67E-02	3.01E-02	1.67E-02	2.1	2.2	--	--	--	--	--	--		
																		Day Care	510600.00	3754100.00	87.49	3.65E-05	3.19E-03	6.94E-03	3.19E-03	2.4	2.5	--	--	--	--	--	--		
																		Day Care	510600.00	3754100.00	101	3.71E-05	3.75E-03	6.94E-03	3.75E-03	2.4	2.5	--	--	--	--	--	--		
																		School	511389.70	3754208.00	81.51	3.65E-05	2.98E-03	6.29E-03	2.98E-03	0.5	0.5	--	--	--	--	--	--		
																		School	511389.70	3754208.00	89.38	3.71E-05	3.32E-03	6.29E-03	3.32E-03	0.5	0.5	--	--	--	--	--	--		
																		Senior Center	511164.70	3753944.00	290	3.65E-05	1.06E-02	2.36E-02	1.06E-02	3.2	3.4	--	--	--	--	--	--		
																		Senior Center	511164.70	3753944.00	351	3.71E-05	1.30E-02	2.36E-02	1.30E-02	3.2	3.4	--	--	--	--	--	--		
																		10	RIV I-15 Interstate 15 near Temecula	Additional Segment	Riverside									36.2	38.0	25.7	27.0	41.2	43.3
MEIR	486867.30	3705207.00	983	2.47E-05	2.43E-02	4.18E-02	2.43E-02	36.2	38.0	25.7	27.0	41.2	43.3																						
MEIR	486867.30	3705207.00	718	2.44E-05	1.75E-02	4.18E-02	1.75E-02	4.7	4.9	--	--	--	--	--	--																				
MEIW	486700.00	3705100.00	1070	2.47E-05	2.64E-02	6.89E-02	2.64E-02	4.7	4.9	--	--	--	--	--	--																				
MEIW	486700.00	3705100.00	1740	2.44E-05	4.25E-02	6.89E-02	4.25E-02	8.0	8.4	--	--	--	--	--	--																				
Day Care	486327.80	3705951.00	412	2.47E-05	1.02E-02	2.35E-02	1.02E-02	3.9	4.1	--	--	--	--	--	--																				
Day Care	486327.80	3705951.00	545	2.44E-05	1.33E-02	2.35E-02	1.33E-02	3.9	4.1	--	--	--	--	--	--																				
School	486791.50	3705381.00	1179	2.47E-05	2.91E-02	4.98E-02	2.91E-02	3.9	4.1	--	--	--	--	--	--																				
School	486791.50	3705381.00	848	2.44E-05	2.07E-02	4.98E-02	2.07E-02	3.9	4.1	--	--	--	--	--	--																				
Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR																		
Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR																		
11	RIV SR-91 State Road 91 Freeway in Corona, east of the intersection with SR 71	2012_2035 PDEIR Segment	Riverside									52.9	55.5	37.6	39.4	60.3	63.3																		
																		MEIR	439300.00	3749100.00	594	4.38E-05	2.60E-02	6.11E-02	2.60E-02	52.9	55.5	37.6	39.4	60.3	63.3				
																		MEIR	439300.00	3749100.00	687	5.11E-05	3.61E-02	6.11E-02	3.61E-02	4.4	4.6	--	--	--	--	--	--		
																		MEIW	439864.00	3749063.00	761	4.38E-05	3.33E-02	6.47E-02	3.33E-02	4.4	4.6	--	--	--	--	--	--		
																		MEIW	439864.00	3749063.00	613	5.11E-05	3.13E-02	6.47E-02	3.13E-02	4.4	4.6	--	--	--	--	--	--		
																		Day Care	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
																		Day Care	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
																		School	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
																		School	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
																		Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
																		Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
																		12	SB I-15 ONT Interstate 15 in Ontario	2012_2035 PDEIR Segment	San Bernardino									23.3	24.5	16.6	17.4	26.6	27.9
MEIR	449500.00	3771200.00	389	3.06E-05	1.19E-02	2.70E-02	1.19E-02	23.3	24.5	16.6	17.4	26.6	27.9																						
MEIR	449500.00	3771200.00	487	3.09E-05	1.50E-02	2.70E-02	1.50E-02	1.8	1.9	--	--	--	--	--	--																				
MEIW	449500.00	3771200.00	389	3.06E-05	1.19E-02	2.70E-02	1.19E-02	1.8	1.9	--	--	--	--	--	--																				
MEIW	449500.00	3771200.00	487	3.09E-05	1.50E-02	2.70E-02	1.50E-02	1.8	1.9	--	--	--	--	--	--																				
Day Care	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR																			
Day Care	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR																			
School	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR																			
School	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR																			
Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR																			
Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR																			
13	SB I-15 VIC Interstate 15 in the Victorville area	Additional Segment	San Bernardino									59.4	62.4	42.2	44.3	67.7	71.1																		
																		MEIR	470800.00	3820500.00	1443	1.92E-05	2.77E-02	6.87E-02	2.77E-02	59.4	62.4	42.2	44.3	67.7	71.1				
																		MEIR	470800.00	3820500.00	2122	1.93E-05	4.10E-02	6.87E-02	4.10E-02	2.5	2.6	--	--	--	--	--	--		
																		MEIW	471100.00	3820700.00	1021	1.92E-05	1.96E-02	3.60E-02	1.96E-02	2.5	2.6	--	--	--	--	--	--		
																		MEIW	471100.00	3820700.00	852	1.93E-05	1.64E-02	3.60E-02	1.64E-02	5.8	6.1	--	--	--	--	--	--		
																		Day Care	471186.20	3820489.00	460	1.92E-05	8.83E-03	1.69E-02	8.83E-03	2.1	2.2	--	--	--	--	--	--		
																		Day Care	471186.20	3820489.00	419	1.93E-05	8.09E-03	1.69E-02	8.09E-03	2.1	2.2	--	--	--	--	--	--		
																		School	470957.20	3821055.00	635	1.92E-05	1.22E-02	2.69E-02	1.22E-02	2.1	2.2	--	--	--	--	--	--		
																		School	470957.20	3821055.00	763	1.93E-05	1.47E-02	2.69E-02	1.47E-02	2.1	2.2	--	--	--	--	--	--		
																		Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
																		Senior Center	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	

Segment Number	Freeway	Segment Scenario	County	Direction	Receptor Type	UTM Easting (m)	UTM Northing (m)	Unitized Concentration (ug/m3 / g/sec)	Total Emissions (g/sec)	DPM Concentration (ug/m3)	Total DPM Concentration (ug/m3)	DPM 30-Year Cancer Risk (per million)	Total 30-Year Cancer Risk DPM + Other Chemicals (per million)	DPM 9-year Cancer Risk (per million)	Total 9-year Cancer Risk DPM + Other Chemicals (per million)	DPM 70-Year Cancer Risk (per million)	Total 70-Year Cancer Risk DPM + Other Chemicals (per million)			
14	SB SR-60 State Road 60 Freeway in Ontario, west of the I-15 interchange	2012_2035 PDEIR Segment	San Bernardino	East	MEIR	446200.00	3765600.00	1005	3.27E-05	3.29E-02	5.16E-02	44.7	46.9	31.7	33.3	50.9	53.5			
				West	MEIR	446200.00	3765600.00	673	2.79E-05	1.88E-02	5.16E-02	44.7	46.9	31.7	33.3	50.9	53.5			
				East	MEIW	445700.00	3765800.00	698	3.27E-05	2.28E-02	4.94E-02	3.4	3.5	--	--	--	--	--	--	
				West	MEIW	445700.00	3765800.00	952	2.79E-05	2.66E-02	4.94E-02	3.4	3.5	--	--	--	--	--	--	
				East	Day Care	445523.30	3765239.00	155	3.27E-05	5.07E-03	9.06E-03	3.1	3.2	--	--	--	--	--	--	
				West	Day Care	445523.30	3765239.00	143	2.79E-05	3.99E-03	9.06E-03	3.1	3.2	--	--	--	--	--	--	
				East	School	445523.30	3765239.00	155	3.27E-05	5.07E-03	9.06E-03	3.1	3.2	--	--	--	--	--	--	
				West	School	445523.30	3765239.00	143	2.79E-05	3.99E-03	9.06E-03	3.1	3.2	--	--	--	--	--	--	
				East	Senior Center	NR	NR	--	--	--	--	--	--	--	--	--	--	--	--	--
				West	Senior Center	NR	NR	--	--	--	--	--	--	--	--	--	--	--	--	--
15	VEN US-101 SB US 101 Freeway in San Buenaventura near the Ventura Harbor	Additional Segment	Ventura	North	MEIR	295200.00	3793400.00	741	8.10E-06	6.00E-03	1.16E-02	10.0	10.5	7.1	7.5	11.4	12.0			
				South	MEIR	295200.00	3793400.00	676	8.21E-06	5.55E-03	1.16E-02	10.0	10.5	7.1	7.5	11.4	12.0			
				North	MEIW	295300.00	3793200.00	1645	8.10E-06	1.33E-02	2.39E-02	1.6	1.7	--	--	--	--			
				South	MEIW	295300.00	3793200.00	1293	8.21E-06	1.06E-02	2.39E-02	1.6	1.7	--	--	--	--			
				North	Day Care	296212.80	3793611.00	143	8.10E-06	1.16E-03	2.25E-03	0.8	0.8	--	--	--	--			
				South	Day Care	296212.80	3793611.00	133	8.21E-06	1.09E-03	2.25E-03	0.8	0.8	--	--	--	--			
				North	School	295785.70	3793241.00	448	8.10E-06	3.63E-03	6.91E-03	0.5	0.6	--	--	--	--			
				South	School	295785.70	3793241.00	400	8.21E-06	3.28E-03	6.91E-03	0.5	0.6	--	--	--	--			
				North	Senior Center	295781.00	3793062.00	790	8.10E-06	6.40E-03	1.19E-02	1.6	1.7	--	--	--	--			
				South	Senior Center	295781.00	3793062.00	667	8.21E-06	5.48E-03	1.19E-02	1.6	1.7	--	--	--	--			
16	VEN US-101 TO US 101 Freeway in Thousand Oaks, east of SR-23	2012_2035 PDEIR Segment	Ventura	North	MEIR	330000.00	3782700.00	1365	1.98E-05	2.70E-02	4.96E-02	42.9	45.0	30.5	32.0	48.9	51.3			
				South	MEIR	330000.00	3782700.00	943	2.39E-05	2.25E-02	4.96E-02	42.9	45.0	30.5	32.0	48.9	51.3			
				North	MEIW	329800.00	3782600.00	693	1.98E-05	1.37E-02	3.46E-02	2.4	2.5	--	--	--	--			
				South	MEIW	329800.00	3782600.00	872	2.39E-05	2.08E-02	3.46E-02	2.4	2.5	--	--	--	--			
				North	Day Care	329921.90	3782934.00	493	1.98E-05	9.76E-03	1.99E-02	6.8	7.1	--	--	--	--			
				South	Day Care	329921.90	3782934.00	423	2.39E-05	1.01E-02	1.99E-02	6.8	7.1	--	--	--	--			
				North	School	330108.20	3782369.00	459	1.98E-05	9.09E-03	2.67E-02	2.1	2.2	--	--	--	--			
				South	School	330108.20	3782369.00	735	2.39E-05	1.76E-02	2.67E-02	2.1	2.2	--	--	--	--			
				North	Senior Center	329368.20	3783515.00	158	1.98E-05	3.13E-03	6.57E-03	0.9	0.9	--	--	--	--			
				South	Senior Center	329368.20	3783515.00	144	2.39E-05	3.44E-03	6.57E-03	0.9	0.9	--	--	--	--			

Notes:
 1. The I-15 MEIR is an assumed residential receptor at about 100 meters from the freeway because although there are no residential receptors near the segment modeled, there are a number of nearby residential receptors only 2 miles north of the modeled segment and traffic volumes are expected to be similar on I-15 where there are nearby residents.

APPENDIX E

Potential Cancer Risk Summary from MOVES2014



APPENDIX E: POTENTIAL CANCER RISK SUMMARY FROM MOVES2014

Kleinfelder was contracted by Sapphos Environmental, Inc. (Sapphos) through Southern California Association of Governments (SCAG) to prepare the health risk assessment (HRA) for sixteen freeway segments included in the 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/STS) Program Environmental Impact Report (PEIR). Two models are typically used for highway emissions modeling: California Air Resources Board's (CARB's) EMFAC model and United States Environmental Protection Agency's (USEPA's) MOVES model. EMFAC2014 is used for calculating the diesel particulate matter (DPM) emission rates for the freeway traffic, and MOVES2014 is used to calculate the toxic emissions from the additional chemicals of concern. Due to time required to run the simulations required for this analysis and insignificant contributions to the overall risk from the additional chemicals of concern, the following methodology was adopted.

The MOVES2014 model calculates emissions from criteria and toxic pollutants from vehicles to be included as part of the HRA. Toxic air contaminants include the remaining four toxics for this analysis – acetaldehyde, benzene, 1,3-butadiene, and formaldehyde. These toxics account for only about 3.7% of the total risk while DPM makes up the remaining 96.3%, as determined by the HRA performed for the previous PEIR (Sierra Research, 2011). Risk from freeways is relatively large (100's to 1,000's of potential cancer risk per million exposed persons), therefore 3.7% is a relatively small percentage of the total pollutants contributing towards the risk. In addition, the MOVES2014 model is a very resource-intensive model that can take several to tens of hours per model run. For these reasons, Kleinfelder ran a sensitivity analysis involving running MOVES2014 for the cross-section of diesel vehicles traveling the freeway, calculated a potential cancer risk of each toxic pollutant to be analyzed, and demonstrated the similarities to data presented in the previous HRA (which was based on older USEPA emission models, specifically MOBILE6.2a).

The potential cancer risk from travel on the freeways is a function of traffic volume for each vehicle class (miles per year), emission factors per vehicle class (grams/mile), potential exposure of persons to the emissions (concentration and duration), and cancer slope factors (potency) of each chemical the person is exposed to. As discussed above, Sierra Research calculated that DPM was responsible for 96.3% of the total risk (from DPM, acetaldehyde, benzene, 1,3-butadiene, and formaldehyde) on a sample I-15 segment in the previous HRA. That calculation was based on EMFAC2007 and MOBILE6.2a emissions (predecessor models). EMFAC does not give individual toxic emission factors, thus the use of MOBILE6.2a and MOVES2014 is required to provide the toxics breakdown.

Kleinfelder confirmed that the output from MOVES2014 is consistent with the results found in the previous PEIR based on MOBILE6.2a. We did this by obtaining emission factors by vehicle class for DPM, acetaldehyde, benzene, 1,3-butadiene, and formaldehyde, and then calculating a "Potential Risk Factor" for each vehicle class and chemical. The "Potential Risk Factor" accounts for the different chemical potencies and emission factors of each chemical. The "Potential Risk Factor" calculated and shown in Attachment A is the emission factor (g/mile) times the cancer

slope factor (mg/kg-day)⁻¹). Basically, the Potential Risk Factor is a relative measure of risk, assuming that exposure and vehicle miles are constant.

The MOVES2014 data summaries in Attachment A show that DPM is responsible for 96.1% to 96.3% of the total risk for all vehicle classes, and nearly 99% of the total risk for heavy duty diesel fueled vehicles (combination long-haul vehicle class), which is the primary contributor to total cancer risk from all vehicles traveling on the freeway. These results are very consistent with the previous PEIR.

It is recognized that the vehicle miles are not constant for the individual vehicle classes. However, per the tables in Attachment A, the ratio of DPM risk to total risk does not vary much among vehicle classes. Likewise, the ratios of DPM and other toxics risk (acetaldehyde, benzene, 1,3-butadiene, and formaldehyde) to total risk by vehicle class will not change. Also, the relative risk from non-diesel vehicles is one to two orders of magnitude less than the relative risk from diesel-fueled vehicles. Accordingly, even if actual vehicle miles were considered for each vehicle class, the result that DPM is responsible for about 96% or more of the total risk would not change. (Note that the previous PEIR conclusion that DPM was responsible for 96.3% of the risk did account for the different miles traveled per vehicle class. Again, Kleinfelder's relative risk calculations with MOVES2014 are consistent with that result.)

Accordingly, Kleinfelder proceeded with basing the risk calculations on EMFAC2014 DPM (only) emission factors and then increase the DPM-only risk by 5% (conservative) to account for the additional toxic chemicals of acetaldehyde, benzene, 1, 3-butadiene, and formaldehyde, rather than running MOVES2014 for the toxics.

LIMITATIONS

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the Southern California area, under similar conditions and at the date the services are provided. Our conclusions, opinions, and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee, or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

Included:

Attachment A: Potential Cancer Risk Summary from MOVES2014

ATTACHMENT A

POTENTIAL CANCER RISK SUMMARY FROM MOVES2014

SCAG RTP - Potential Cancer Risk Summary from MOVES2014

Summer Months Potential Risk Factor

Vehicle Type	Fuel Type	DPM	Acetaldehyde	Benzene	1,3-Butadiene	Formaldehyde	Total	DPM/Total
Motorcycle	Gasoline	-	4.12E-05	2.08E-03	0.00E+00	1.90E-04	2.31E-03	-
Passenger Car		-	4.84E-07	2.44E-05	0.00E+00	2.23E-06	2.71E-05	-
Passenger Truck		-	8.34E-07	4.21E-05	0.00E+00	3.84E-06	4.68E-05	-
Light Commercial Truck		-	8.22E-07	4.15E-05	0.00E+00	3.79E-06	4.61E-05	-
Transit Bus		-	5.04E-06	2.54E-04	0.00E+00	2.32E-05	2.83E-04	-
School Bus		-	3.94E-06	1.99E-04	0.00E+00	1.81E-05	2.21E-04	-
Refuse Truck		-	1.74E-06	8.79E-05	0.00E+00	8.02E-06	9.76E-05	-
Single Unit Short-haul Truck		-	2.01E-06	1.01E-04	0.00E+00	9.25E-06	1.13E-04	-
Motor Home		-	3.01E-06	1.52E-04	0.00E+00	1.39E-05	1.69E-04	-
Passenger Car		2.16E-03	3.01E-06	5.61E-06	2.11E-06	1.98E-05	2.19E-03	98.6%
Passenger Truck	8.02E-03	1.45E-05	2.71E-05	1.17E-05	9.47E-05	8.17E-03	98.2%	
Light Commercial Truck	7.10E-03	1.28E-05	2.39E-05	1.04E-05	8.36E-05	7.23E-03	98.2%	
Intercity Bus	2.14E-02	2.30E-05	4.39E-05	2.98E-05	1.45E-04	2.17E-02	98.9%	
Transit Bus	1.62E-02	2.17E-05	4.09E-05	2.23E-05	1.39E-04	1.64E-02	98.6%	
School Bus	1.40E-02	2.49E-05	4.76E-05	3.31E-05	1.56E-04	1.43E-02	98.2%	
Refuse Truck	1.43E-02	1.94E-05	3.62E-05	1.39E-05	1.28E-04	1.45E-02	98.6%	
Single Unit Short-haul Truck	7.93E-03	2.09E-05	3.90E-05	1.52E-05	1.37E-04	8.15E-03	97.4%	
Single Unit Long-haul Truck	7.86E-03	2.10E-05	3.91E-05	1.54E-05	1.38E-04	8.07E-03	97.4%	
Motor Home	1.05E-02	2.27E-05	4.28E-05	2.23E-05	1.46E-04	1.07E-02	97.8%	
Combination Short-haul Truck	1.38E-02	1.97E-05	3.67E-05	1.49E-05	1.29E-04	1.40E-02	98.6%	
Combination Long-haul Truck	1.67E-02	2.02E-05	3.79E-05	1.73E-05	1.31E-04	1.69E-02	98.8%	
Potential Risk Factor		1.40E-01	2.83E-04	3.40E-03	2.08E-04	1.72E-03	1.46E-01	96.1%

Winter Months Potential Risk Factor

Vehicle Type	Fuel Type	DPM	Acetaldehyde	Benzene	1,3-Butadiene	Formaldehyde	Total	DPM/Total
Motorcycle	Gasoline	-	3.88E-05	1.74E-03	0.00E+00	1.75E-04	1.95E-03	-
Passenger Car		-	3.81E-07	1.71E-05	0.00E+00	1.71E-06	1.92E-05	-
Passenger Truck		-	6.61E-07	2.96E-05	0.00E+00	2.97E-06	3.32E-05	-
Light Commercial Truck		-	6.52E-07	2.92E-05	0.00E+00	2.93E-06	3.27E-05	-
Transit Bus		-	4.75E-06	2.12E-04	0.00E+00	2.14E-05	2.39E-04	-
School Bus		-	3.71E-06	1.66E-04	0.00E+00	1.67E-05	1.86E-04	-
Refuse Truck		-	1.64E-06	7.34E-05	0.00E+00	7.38E-06	8.24E-05	-
Single Unit Short-haul Truck		-	1.89E-06	8.46E-05	0.00E+00	8.51E-06	9.50E-05	-
Motor Home		-	2.84E-06	1.27E-04	0.00E+00	1.28E-05	1.43E-04	-
Passenger Car		2.16E-03	2.52E-06	4.69E-06	1.76E-06	1.66E-05	2.19E-03	98.8%
Passenger Truck	8.02E-03	1.22E-05	2.28E-05	9.83E-06	7.96E-05	8.15E-03	98.5%	
Light Commercial Truck	7.10E-03	1.08E-05	2.01E-05	8.74E-06	7.03E-05	7.21E-03	98.5%	
Intercity Bus	2.14E-02	2.30E-05	4.39E-05	2.98E-05	1.45E-04	2.17E-02	98.9%	
Transit Bus	1.62E-02	2.17E-05	4.09E-05	2.23E-05	1.39E-04	1.64E-02	98.6%	
School Bus	1.40E-02	2.49E-05	4.76E-05	3.31E-05	1.56E-04	1.43E-02	98.2%	
Refuse Truck	1.43E-02	1.94E-05	3.62E-05	1.39E-05	1.28E-04	1.45E-02	98.6%	
Single Unit Short-haul Truck	7.93E-03	2.09E-05	3.90E-05	1.52E-05	1.37E-04	8.15E-03	97.4%	
Single Unit Long-haul Truck	7.86E-03	2.10E-05	3.91E-05	1.54E-05	1.38E-04	8.07E-03	97.4%	
Motor Home	1.05E-02	2.27E-05	4.28E-05	2.23E-05	1.46E-04	1.07E-02	97.8%	
Combination Short-haul Truck	1.38E-02	1.97E-05	3.67E-05	1.49E-05	1.29E-04	1.40E-02	98.6%	
Combination Long-haul Truck	1.67E-02	2.02E-05	3.79E-05	1.73E-05	1.31E-04	1.69E-02	98.8%	
Potential Risk Factor		1.40E-01	2.74E-04	2.89E-03	2.05E-04	1.67E-03	1.45E-01	96.5%

Potential Risk Factor = Emission Factor * Slope Factor [(g/mi)*(mg/kg-day)^-1]

SCAG RTP - Potential Cancer Risk Summary from MOVES2014

Summer Months Emission Factors (g/mi)

Vehicle Type	Fuel Type	VOC	CO	NOx	PM10	PM2.5	SOx	DPM	Acetaldehyde	Benzene	1,3-Butadiene	Formaldehyde
Motorcycle		0.4612	10.8997	0.7880	0.0231	0.0204	0.0025	-	0.0041	0.0208	0.00000	0.0090
Passenger Car		0.0054	1.1166	0.0331	0.0018	0.0016	0.0011	-	0.0000	0.0002	0.00000	0.0001
Passenger Truck		0.0093	1.6606	0.0582	0.0027	0.0024	0.0016	-	0.0001	0.0004	0.00000	0.0002
Light Commercial Truck		0.0092	1.6658	0.0628	0.0029	0.0025	0.0016	-	0.0001	0.0004	0.00000	0.0002
Transit Bus	Gasoline	0.0564	3.1148	0.5058	0.0235	0.0208	0.0084	-	0.0005	0.0025	0.00000	0.0011
School Bus		0.0441	2.7956	0.4266	0.0159	0.0141	0.0058	-	0.0004	0.0020	0.00000	0.0009
Refuse Truck		0.0195	0.8278	0.1245	0.0223	0.0197	0.0090	-	0.0002	0.0009	0.00000	0.0004
Single Unit Short-haul Truck		0.0225	1.4665	0.2435	0.0096	0.0085	0.0051	-	0.0002	0.0010	0.00000	0.0004
Motor Home		0.0337	2.1518	0.3289	0.0137	0.0121	0.0055	-	0.0003	0.0015	0.00000	0.0007
Passenger Car		0.0044	1.2332	0.0327	0.0020	0.0018	0.0016	0.0020	0.0003	0.0001	0.00000	0.0009
Passenger Truck		0.0214	0.8159	0.2094	0.0073	0.0067	0.0043	0.0073	0.0014	0.0003	0.00002	0.0045
Light Commercial Truck		0.0190	0.9319	0.1792	0.0065	0.0059	0.0039	0.0065	0.0013	0.0002	0.00002	0.0040
Intercity Bus		0.0377	0.3093	1.1806	0.0195	0.0179	0.0143	0.0195	0.0023	0.0004	0.00005	0.0069
Transit Bus		0.0336	0.2910	1.1031	0.0147	0.0135	0.0128	0.0147	0.0022	0.0004	0.00004	0.0066
School Bus		0.0410	0.3049	0.8048	0.0127	0.0117	0.0081	0.0127	0.0025	0.0005	0.00006	0.0074
Refuse Truck	Diesel	0.0282	0.2619	1.0355	0.0130	0.0119	0.0141	0.0130	0.0019	0.0004	0.00002	0.0061
Single Unit Short-haul Truck		0.0304	0.2472	0.4512	0.0072	0.0066	0.0066	0.0072	0.0021	0.0004	0.00003	0.0065
Single Unit Long-haul Truck		0.0306	0.2444	0.4297	0.0071	0.0066	0.0060	0.0071	0.0021	0.0004	0.00003	0.0066
Motor Home		0.0349	0.2754	0.6013	0.0095	0.0088	0.0074	0.0095	0.0023	0.0004	0.00004	0.0070
Combination Short-haul Truck		0.0288	0.2657	1.0543	0.0125	0.0115	0.0143	0.0125	0.0020	0.0004	0.00002	0.0061
Combination Long-haul Truck		0.0302	0.2712	1.1178	0.0152	0.0139	0.0145	0.0152	0.0020	0.0004	0.00003	0.0063
								Cancer Risk Slope Factors [(mg/kg-day) ⁻¹]	1.1	0.01	0.1	0.021

Winter Months Emission Factors (g/mi)

Vehicle Type	Fuel Type	VOC	CO	NOx	PM10	PM2.5	SOx	DPM	Acetaldehyde	Benzene	1,3-Butadiene	Formaldehyde
Motorcycle		0.3853	11.5188	0.9701	0.0218	0.0193	0.0025	-	0.0039	0.0174	0.00000	0.0083
Passenger Car		0.0038	0.6055	0.0308	0.0017	0.0015	0.0010	-	0.0000	0.0002	0.00000	0.0001
Passenger Truck		0.0066	0.9163	0.0545	0.0025	0.0022	0.0014	-	0.0001	0.0003	0.00000	0.0001
Light Commercial Truck		0.0065	0.9193	0.0588	0.0027	0.0024	0.0015	-	0.0001	0.0003	0.00000	0.0001
Transit Bus	Gasoline	0.0471	3.2917	0.6227	0.0221	0.0196	0.0074	-	0.0005	0.0021	0.00000	0.0010
School Bus		0.0368	2.9544	0.5252	0.0150	0.0133	0.0051	-	0.0004	0.0017	0.00000	0.0008
Refuse Truck		0.0163	0.8749	0.1532	0.0210	0.0186	0.0080	-	0.0002	0.0007	0.00000	0.0004
Single Unit Short-haul Truck		0.0188	1.5498	0.2998	0.0091	0.0080	0.0044	-	0.0002	0.0008	0.00000	0.0004
Motor Home		0.0282	2.2741	0.4049	0.0129	0.0114	0.0048	-	0.0003	0.0013	0.00000	0.0006
Passenger Car		0.0036	0.6328	0.0285	0.0020	0.0018	0.0014	0.0020	0.0003	0.0000	0.00000	0.0008
Passenger Truck		0.0180	0.4261	0.1846	0.0073	0.0067	0.0039	0.0073	0.0012	0.0002	0.00002	0.0038
Light Commercial Truck		0.0159	0.4866	0.1580	0.0065	0.0059	0.0035	0.0065	0.0011	0.0002	0.00001	0.0033
Intercity Bus		0.0377	0.3093	1.3639	0.0195	0.0179	0.0127	0.0195	0.0023	0.0004	0.00005	0.0069
Transit Bus		0.0336	0.2910	1.2744	0.0147	0.0135	0.0113	0.0147	0.0022	0.0004	0.00004	0.0066
School Bus		0.0410	0.3049	0.9297	0.0127	0.0117	0.0070	0.0127	0.0025	0.0005	0.00006	0.0074
Refuse Truck	Diesel	0.0282	0.2619	1.1962	0.0130	0.0119	0.0125	0.0130	0.0019	0.0004	0.00002	0.0061
Single Unit Short-haul Truck		0.0304	0.2472	0.5213	0.0072	0.0066	0.0056	0.0072	0.0021	0.0004	0.00003	0.0065
Single Unit Long-haul Truck		0.0306	0.2444	0.4964	0.0071	0.0066	0.0052	0.0071	0.0021	0.0004	0.00003	0.0066
Motor Home		0.0349	0.2754	0.6947	0.0095	0.0088	0.0064	0.0095	0.0023	0.0004	0.00004	0.0070
Combination Short-haul Truck		0.0288	0.2657	1.2179	0.0125	0.0115	0.0126	0.0125	0.0020	0.0004	0.00002	0.0061
Combination Long-haul Truck		0.0302	0.2712	1.2913	0.0152	0.0139	0.0128	0.0152	0.0020	0.0004	0.00003	0.0063
								Cancer Risk Slope Factors [(mg/kg-day) ⁻¹]	1.1	0.01	0.1	0.021

APPENDIX F

Electronic Copies of Dispersion Model and HARP 2 Input and Result Files

APPENDIX E

BIOLOGICAL RESOURCES TECHNICAL REPORT

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The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of SCAG or DOT. This report does not constitute a standard, specification or regulation.

Biological Resources Technical Report

LARGE-SCALE PROTECTED AREAS IN THE SCAG REGION

Name of Protected Area	County	Ownership
Big Morongo Canyon Preserve	Riverside	Bureau of Land Management
Bighorn Mountains Wilderness	San Bernardino	
California Coastal National Monument	Los Angeles	
California Desert National Conservation Area	Los Angeles	
Castaic Lake State Recreation Area	Los Angeles	
Lake Cahuilla ACEC	Imperial	
Last Chance Canyon ACED	San Bernardino	
Little Chuckwalla Mountains Wilderness	Imperial, Riverside	
Little Pichaco Wilderness	Imperial	
Manix ACEC	San Bernardino	
Marble Mountains Wildlife Area	San Bernardino	
Mecca Hills Wilderness	Riverside	
Newberry Mountains Wilderness	San Bernardino	
North Algodones Dunes Wilderness	Imperial	
Old Woman Mountains Wilderness	San Bernardino	
Orocopia Mountains Wilderness	Riverside	
Palen Dry Lake ACED	Riverside	
Palen/McCoy Wilderness	Riverside	
Palo Verde Mountains Wilderness	Imperial, Riverside	
Pichaco Peak Wilderness	Imperial	
Rainbow Basin ACEC	San Bernardino	
Rasor	San Bernardino	
Rodman Mountains Wilderness and ACEC	San Bernardino	
Saddleback Butte State Park	Los Angeles	
Salton Sea State Recreation Area - Federal	Riverside	
San Gorgonio Wilderness	San Bernardino	
San Sebastian Marsh/San Felipe Creek ACEC	Imperial	
Santa Margarita Ecological Reserve	Riverside	
Santa Rosa Mountains Wilderness and National Scenic Area	Riverside	
Santa Rosa and San Jacinto Mountains National Monument	Riverside	
Sheephole Valley Wilderness	San Bernardino	
Singer Geoglyphs ACEC	Imperial	
Trona Pinacles	San Bernardino	
Turtle Mountains Wilderness	San Bernardino	
Upper Johnson Valley Yucca Rings ACEC	San Bernardino	

Biological Resources Technical Appendix

LARGE-SCALE PROTECTED AREAS IN THE SCAG REGION

Name of Protected Area	County	Ownership
West Mesa ACEC	Imperial	
Yuha Basin ACEC	Imperial	
Arroyo Sequit	Los Angeles	National Park Service U.S. Fish and Wildlife Service
Castro Crest	Los Angeles	
Channel Islands National Park	Ventura	
Cheeseboro Canyon Open Space	Ventura	
Circle X Ranch	Ventura	
Death Valley National Park	San Bernardino	
Decker Canyon	Los Angeles	
Deer Creek Open Space	Ventura	
Fryman Canyon Park	Los Angeles	
Gage Open Space	Los Angeles	
Hennesy Property	Los Angeles	
Hondo Canyon Open Space	Los Angeles	
Joshua Tree National Park	Riverside, San Bernardino	
Kelso Peak & Old Dad Mtns. Wildlife Area	San Bernardino	
King Gillette Ranch	Los Angeles	
Lang Ranch - Jordan Ranch	Ventura	
Malibu Springs	Los Angeles	
Mojave National Preserve	San Bernardino	
Palo Comado Canyon	Ventura	
Paramount Ranch	Los Angeles	
Rancho Sierra Vista	Ventura	
Santa Monica Mountains National Recreation Area	Los Angeles, Ventura	
Serrano Valley	Ventura	
Shea Open Space - Las Virgenes	Los Angeles	
SMMNRA - Rocky Oaks Open Space	Los Angeles	
Solstice Canyon	Los Angeles	
Strauss Ranch	Los Angeles	
Whelan	Ventura	
Yellowhill	Ventura	
Zuma/Trancas Canyons	Los Angeles	
Bitter Creek National Wildlife Refuge	Ventura	
Coachella Valley National Wildlife Refuge	Riverside	
Cibola National Wildlife Refuge	Imperial	
Havasu National Wildlife Refuge	San Bernardino	
Hopper Mountain National Wildlife Refuge	Ventura	

Biological Resources Technical Appendix

LARGE-SCALE PROTECTED AREAS IN THE SCAG REGION

Name of Protected Area	County	Ownership
Imperial National Wildlife Refuge	Imperial	
Salton Sea (Sonny Bono) National Wildlife Refuge	Imperial	
Seal Beach National Wildlife Refuge	Orange	
Angeles National Forest	Los Angeles	U.S. Forest Service
Agua Tibia Wilderness	Riverside	
Cleveland National Forest	Orange, Riverside	
Cucamonga Wilderness	San Bernardino	
Eagle Canyon	Riverside	
Los Padres National Forest	Los Angeles, Ventura	
San Bernardino National Forest	Riverside, San Bernardino	
San Dimas Experimental Forest	Los Angeles	
San Gabriel Wilderness	Los Angeles	
San Geronio Wilderness	Riverside, San Bernardino	
San Jacinto Wilderness	Riverside	
Santa Rosa Wilderness	Riverside	
Sespe Wilderness	Ventura	
Sheep Mountain Wilderness	San Bernardino	
Sespe Condor Sanctuary	Ventura	
Alamitos Beach	Orange		California Department of Parks and Recreation
Antelope Valley California Poppy Reserve	Los Angeles	
Anza-Borrego Desert State Park	Imperial, Riverside	
Arthur P. Ripley Desert Woodland	Los Angeles	
Backbone Trail Big Rock Beach	Los Angeles	
Bolsa Chica State Beach	Orange	
Boney Mountain State Wilderness	Ventura	
California Citrus State Historic Park	Riverside	
Castaic Lake State Recreation Area	Los Angeles	
Chino Hills State Park	Orange, San Bernardino	
Corona Del Mar State Beach	Orange	
Crystal Cove State Park	Orange	
Dockweiler State Beach	Los Angeles	
Doheny State Beach	Orange	
Emma Wood State Beach	Ventura	
Freeman Canyon CP	Los Angeles	
Gorman CP	Los Angeles	
Heber dunes State Vehicular Recreation Area	Imperial, Riverside	
Hungry Valley Oak Woodland Natural Preserve	Ventura	

Biological Resources Technical Appendix

LARGE-SCALE PROTECTED AREAS IN THE SCAG REGION

Name of Protected Area	County	Ownership
Hungry Valley State Vehicular Recreation Area	Los Angeles, Ventura	
Huntington State Beach	Orange	
Indio Hills Palms	Riverside	
Kaslow Nature Preserve	Los Angeles	
Kenneth Hahn State Recreation Area	Los Angeles	
La Jolla Valley Nature Preserve	Ventura	
Lake Perris State Recreation Area	Riverside	
Las Tunas State Beach	Los Angeles	
Least Tern Nature Preserve	Orange	
Leo Carillo State Beach	Los Angeles, Ventura	
Liberty Canyon Nature Preserve	Los Angeles	
Los Encinos State Historic Park	Los Angeles	
Malibu Creek State Park	Los Angeles	
Malibu Lagoon State Beach	Los Angeles	
Mandalay State Beach	Ventura	
Manhattan State Beach	Los Angeles	
McGrath State Beach	Ventura	
Mitchell Caverns Nature Preserve	San Bernardino	
Mount San Jacinto State Park	Riverside	
Mount San Jacinto State Wilderness	Imperial, Riverside	
Ocotillo Wells State Vehicular Recreation Area	Imperial, Riverside	
Oxnard State Beach	Ventura	
Pichaco State Recreation Area	Imperial, Riverside	
Pio Pico State Historic Park	Los Angeles	
Placerita Canyon State Park	Los Angeles	
Point Dume Nature Preserve	Los Angeles	
Point Mugu State Park	Ventura	
Providence Mountains State Recreation Area	San Bernardino	
Redrock Canyon State Park	Los Angeles	
Rincon Point State Park	Ventura	
Rio de Los Angeles State Park	Los Angeles	
Robert H. Meyer Memorial State Beach	Los Angeles	
Saddleback Butte State Park	Los Angeles	
Salton Sea State Recreation Area	Imperial, Riverside	
San Buenaventura State Beach	Ventura	
San Clemente State Beach	Orange	
San Timoteo Canyon	Riverside	
Santa Clara Estuary Nature Preserve	Ventura	

Biological Resources Technical Appendix

LARGE-SCALE PROTECTED AREAS IN THE SCAG REGION

Name of Protected Area	County	Ownership
Santa Monica State Beach	Los Angeles	
Santa Susana Mountains	Los Angeles	
Seccombe Lake State Recreation Area	San Bernardino	
Silverwood Lake State Recreation Area	San Bernardino	
Tatavium CP	Los Angeles	
Tomo-Kahni Project	Los Angeles	
Topanga State Beach and State Park	Los Angeles	
Udell Gorge Nature Preserve	Los Angeles	
Verdugo Mountains	Los Angeles	
Watts Towers of Simon Rodia State Historic Park	Los Angeles	
Wildwood Canyon	San Bernardino	
Will Rogers State Beach	Los Angeles	
Will Rogers State Historic Park	Los Angeles	
Baldwin Lake Ecological Reserve	San Bernardino	California Department of Fish and Wildlife
Ballona Wetlands Ecological Reserve	Los Angeles	
Bolsa Chica Ecological Preserve	Los Angeles	
Camp Cady Wildlife Area	San Bernardino	
Carrizo Canyon Ecological Reserve	Riverside	
Chuckwalla Bench	Riverside	
Coachella Valley Ecological Reserve	Riverside	
Coal Canyon Ecological Reserve	Orange	
Coldwater Canyon Ecological Reserve	Ventura	
Estelle Mountain Ecological Reserve	Riverside	
French Valley Wildlife Area	Riverside	
Hidden Palms Ecological Reserve	Riverside	
Hidden Valley	Riverside	
Imperial State Wildlife Area	Imperial	
King Clone Ecological Reserve	San Bernardino	
Laguna Laurel Ecological Reserve	Orange	
Magnesia Spring Ecological Reserve	Riverside	
Mission Creek	San Bernardino	
Mojave River	San Bernardino	
Oasis Spring Ecological Reserve	Riverside	
Old Woman Mountains Bighorn Sheep Range	San Bernardino	
Ord Rodman	San Bernardino	
Palo Verde Ecological Reserve	Riverside	
Peninsular Ranges Ecological Reserve	Riverside	
Piute Creek Ecological Reserve	San Bernardino	

Biological Resources Technical Appendix

LARGE-SCALE PROTECTED AREAS IN THE SCAG REGION

Name of Protected Area	County	Ownership
San Bernardino Mountains Wildlife Corridor	San Bernardino	
San Felipe Creek Ecological Reserve	Imperial	
San Jacinto Wildlife Area	Riverside	
Santa Margarita River	Riverside	
Santa Rosa Plateau Ecological Reserve	Riverside	
Santa Rosa Wildlife Area	Riverside	
Sky Valley Ecological Reserve	Riverside	
Smoketree Valley - Chocolate Mountains	Imperial	
Sycamore Canyon Ecological Reserve	Riverside	
Tabaseca	Orange	
Trabuco Canyon	Orange	
Upper Newport Bay Ecological Reserve	Los Angeles	
West Mojave Desert Ecological Reserve	San Bernardino	
Palo Verde County Park	Imperial	Imperial County
Placerita Canyon Park	Los Angeles	Los Angeles County
Acton Wash Wildlife Sanctuary	Los Angeles	
Apollo Park	Los Angeles	
Bell Canyon Park	Los Angeles	
Carl O. Gerhardy Wildlife Sanctuary	Los Angeles	
Cerritos Regional County Park	Los Angeles	
Deane Dana Friendship Park	Los Angeles	
Deervale-Stone Canyon Park	Los Angeles	
Devil's Punchbowl County Park	Los Angeles	
Eaton Canyon Park and Nature Center	Los Angeles	
El Escorpion Park	Los Angeles	
Frank G Bonelli Regional Park	Los Angeles	
Henderson Canyon Open Space	Los Angeles	
Hopp - Secret Valley	Los Angeles	
Jackrabbit Flats Wildlife Sanctuary	Los Angeles	
Kenneth Hahn State Recreation Area	Los Angeles	
La Mirada Regional Park	Los Angeles	
Manhattan County Beach	Los Angeles	
Marshall Canyon County Park	Los Angeles	
Michael D Antonovich Open Space Preserve	Los Angeles	
Mission Canyon Open Space	Los Angeles	
Neenach Wildlife Preserve	Los Angeles	
Nicholas Canyon County Beach	Los Angeles	
Payne Wildlife Sanctuary	Los Angeles	

Biological Resources Technical Appendix

LARGE-SCALE PROTECTED AREAS IN THE SCAG REGION

Name of Protected Area	County	Ownership
Peter F Schabarum Regional County Park	Los Angeles	
Phacelia Wildlife Sanctuary	Los Angeles	
Redondo County Beach	Los Angeles	
San Dimas Canyon Park and Nature Center	Los Angeles	
Santa Monica Mountains National Recreation Area	Los Angeles	
South Coast Park/Peter Weber Equestrian Center	Los Angeles	
Stephen Sorensen Park	Los Angeles	
Tapia Park	Los Angeles	
Val Verde Community Regional Park	Los Angeles	
Vasquez Rocks Natural Area Park	Los Angeles	
Veterans Memorial Park	Los Angeles	
Walnut Creek Wilderness Park	Los Angeles	
William S. Hart Regional Park	Los Angeles	
Winery Canyon Open Space	Los Angeles	
Zuma County Beach	Los Angeles	
Aliso and Wood Canyons Wilderness Park	Orange	Orange County
Aliso Canyon Community Park	Orange	
Aliso Creek County Beach	Orange	
Aliso Creek Greenbelt	Orange	
Brush Canyon	Orange	
Capistrano Beach Park	Orange	
Carbon Canyon Regional Park	Orange	
Caspers Wilderness Park	Orange	
Chino Hills State Park	Orange	
Craig Regional Park	Orange	
Featherly Regional Park	Orange	
Fremont Canyon	Orange	
Harriett M. Wieder Regional Park	Orange	
Irvine Regional Park	Orange	
Laguna Coast Wilderness Park	Orange	
Laguna Niguel Regional Park	Orange	
Limestone-Whiting Wilderness Park	Orange	
Mile Square Regional Park	Orange	
Modjeska Canyon Nature Preserve	Orange	
Newport Dunes Aquatic Park	Orange	
Olinda Regional Park	Orange	
O'Neill Regional Park	Orange	
Orange County Great Park	Orange	

Biological Resources Technical Appendix

LARGE-SCALE PROTECTED AREAS IN THE SCAG REGION

Name of Protected Area	County	Ownership
Orange County Open Space	Orange	
Peters Canyon Regional Park	Orange	
Ralph B. Clark Regional Park	Orange	
Salt Creek Beach County Park	Orange	
Santa Ana River County Beach	Orange	
Santa Ana River Greenbelt	Orange	
Santiago Oaks Regional Park	Orange	
Sunset County Beach	Orange	
Talbert Nature Preserve	Orange	
Thomas F Riley Wilderness Park	Orange	
Upper Newport Bay Nature Preserve	Orange	
William R Mason Regional Park	Orange	
Yorba Regional Park	Orange	
Alberhill Conservation Area	Riverside	Riverside County
Bogart County Park	Riverside	
Box Springs Mountain Park	Riverside	
Double Butte Park Property	Riverside	
Gilman Historic Ranch Park	Riverside	
Harford Springs Reserve	Riverside	
Herkey Creek Park	Riverside	
Idyllwild Park	Riverside	
Kabian Park Property	Riverside	
Lake Cahuilla Recreation Area	Riverside	
Lake Skinner Recreation Area	Riverside	
Lawler Lodge Park	Riverside	
Martha McLean Anza Narrows Park	Riverside	
North Peak Preserve	Riverside	
Santa Rosa Plateau Ecological Reserve	Riverside	
Triple Creeks Conservation Area	Riverside	
Big Morongo Canyon Preserve	San Bernardino	San Bernardino County
Calico Ghost Town Regional Park	San Bernardino	
Crafton Reservoir	San Bernardino	
Glen Helen Regional Park	San Bernardino	
Lake Gregory Regional Park	San Bernardino	
North Etiwanda Habitat Preserve	San Bernardino	
Prado Basin Park	San Bernardino	
Yucaipa Regional Park	San Bernardino	

Biological Resources Technical Appendix

LARGE-SCALE PROTECTED AREAS IN THE SCAG REGION

Name of Protected Area	County	Ownership
Foster Park	Ventura	Ventura County
Happy Camp Canyon Regional Park	Ventura	
Oak Park	Ventura	
Oakbrook Regional Park	Ventura	
Steckel Park	Ventura	
Sunset Hills - Olsen Road Open Space	Ventura	
Tapo Canyon Park	Ventura	
Toland Park	Ventura	

APPENDIX F

CULTURAL RESOURCE TECHNICAL REPORT

PREPARED FOR:

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
818 WEST 7TH STREET, 12TH FLOOR
LOS ANGELES, CA 90017

PREPARED BY:

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PASADENA, CALIFORNIA 91107

NOVEMBER 24, 2015

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The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of SCAG or DOT. This report does not constitute a standard, specification or regulation.

Cultural Resource Technical Report

CUL-1 National Register Places in SCAG Region

Reference Number	County	City	Resource Name	Address	Listed Date
05001085	Imperial	Calexico	Calexico Carnegie Library	420 Heber Ave.	20050928
80000801	Imperial	Ocotillo	Desert View Tower	SW of Ocotillo	19800829
99001567	Imperial	Salton City	Southwest Lake Cahuilla Recessional Shoreline		
03000120	Imperial	Ocotillo	Archeological District	Address Restricted	19991230
87001026	Imperial	Yuma	Spoke Wheel Rock Alignment	Address Restricted	20030929
91001749	Imperial	Calexico	Stonehead (L-7)	Address Restricted	19870501
85000125	Imperial	El Centro	US Inspection Station--Calexico	12 Heffernan Ave.	19920214
87001025	Imperial	Yuma	US Post Office--El Centro Main	230 S. 5th St.	19850111
85003429	Imperial	Winterhaven	Winterhaven Anthropomorph (L-8)	Address Restricted	19870501
82002185	Imperial	Plaster City	Winterhaven Anthropomorph and Bowknot, L-9	Address Restricted	19851025
09000399	Los Angeles	Los Angeles	Yuha Basin Discontiguous District	Address Restricted	19820524
86000326	Los Angeles	Los Angeles	27th Street Historic District	Along 27th St.	20090611
09000398	Los Angeles	Los Angeles	500 Varas Square--Government Reserve	Address Restricted	19860312
77000298	Los Angeles	Malibu	52nd Place Historic District	Along E. 52nd Pl.	20090611
73000404	Los Angeles	South Pasadena	Adamson House	23200 W. Pacific Coast Highway	19771028
87000577	Los Angeles	Los Angeles	Adobe Flores	1804 Foothill St.	19730618
96000102	Los Angeles	Glendale	Al Malaikah Temple	655 W. Jefferson Blvd.	19870402
84000783	Los Angeles	Los Angeles	Alexander Theatre	216 N. Brand Blvd.	19960216
84000785	Los Angeles	Los Angeles	Alvarado Terrace Historic District	Alvarado Terr., Bonnie Brae and 14th Sts.	19840517
03000775	Los Angeles	Los Angeles	American Trona Corporation Building	Pacific Ave.	19840830
03000987	Los Angeles	Beverly Hills	Andalusia	1471-1475 Havenhurst Dr.	20030821
00001168	Los Angeles	Los Angeles	Anderton Court Shops	332 N.Rodeo Dr.	20040514
09000146	Los Angeles	Los Angeles	Angels Flight Railway	Hill St.	20001013
			Angelus Funeral Home	1010 E. Jefferson Blvd.	20090317

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Reference Number	County	City	Resource Name	Address	Listed Date
87001005	Los Angeles	Los Angeles	Angelus Mesa Branch	2700 W. Fifty-second St.	19870519
92001875	Los Angeles	Los Angeles	Angelus Temple	1100 Glendale Blvd.	19920427
87000509	Los Angeles	Lancaster	Antelope Valley Indian Museum	15701 East Ave.	19870226
06001087	Los Angeles	Glendale	Ard Eevin	851 W. Mountain St. CA 110 from 4-Level Interchange in Los Angeles to East Glenarm St in Pasadena	20061121
10001198	Los Angeles	Los Angeles	Arroyo Seco Parkway Historic District		20110204
82002188	Los Angeles	Claremont	Atchison, Topeka, and Santa Fe Railroad Station	110 W. 1st St.	19820715
00001178	Los Angeles	Los Angeles	Atchison, Topeka, and Santa Fe Railway Steam Locomotive No. 3751	2435 E. Washington Blvd.	20001004
83003499	Los Angeles	Torrance	Auditorium	2200 W. Carson	19831013
05000070	Los Angeles	Los Angeles	Avenel Cooperative Housing Project	2839-2849 Avenel St.	20050227
78000691	Los Angeles	Monrovia	Aztec Hotel	311 W. Foothill Blvd.	19780522
02000034	Los Angeles	Azusa	Azusa Civic Center	213 Foothill Blvd.	20020221
77000304	Los Angeles	Whittier	Bailey, Jonathan, House	13421 E. Camilla St.	19770829
93000269	Los Angeles	Loa Angeles	Baldwin Hills Village	5300 Village Green	19930401
71000160	Los Angeles	Wilmington	Banning House	401 E. M St.	19710506
71000143	Los Angeles	Los Angeles	Barnsdall, Aline, Complex	4800 Hollywood Blvd.	19710506
78000695	Los Angeles	Pasadena	Batchelder House	626 S. Arroyo Blvd.	19781214
82002200	Los Angeles	San Pedro	Battery John Barlow and Saxton	Fort MacArthur Fort MacArthur Upper Reservation	19820504
74000526	Los Angeles	San Pedro	Battery Osgood-Farley		19741016
97001212	Los Angeles	Pasadena	Bekins Storage Co. Roof Sign	511 S. Fair Oaks Ave.	19971015
77000299	Los Angeles	Pasadena	Bentz, Louise C., House	657 Prospect Blvd.	19771202
79000482	Los Angeles	Los Angeles	Bernard, Susana Machado, House and Barn	845 S. Lake St.	19790904
06000914	Los Angeles	Beverly Hills	Beverly Hills Women's Club	1700 Chevy Chase Dr.	20061004
87000908	Los Angeles	Beverly Hills	Beverly Wilshire Hotel	9528 Wilshire Blvd.	19870612
86000147	Los Angeles	Pasadena	Blacker, Robert R., House	1177 Hillcrest Ave.	19860206
01000329	Los Angeles	Pasadena	Blimm, Edmund, House	160 N. Oakland Ave.	20010405

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Reference Number	County	City	Resource Name	Address	Listed Date
07001439	Los Angeles	Los Angeles	Board of Trade Building	111 W. 7th St.	20080124
71000159	Los Angeles	Tujunga	Bolton Hall	10116 Commerce Ave.	19711123
80004491	Los Angeles	Pasadena	Bolton, Dr. W. T., House	370 W. Del Mar Blvd.	19800709
94001325	Los Angeles	Pasadena	Bonnie Court	140 S. Bonnie Ave.	19941115
12000809	Los Angeles	Los Angeles	Boulevard Heights Historic District	658-899 S. Bronson Ave.	20120925
82002194	Los Angeles	Pasadena	Bowen Court	539 E. Villa St.	19820617
13000509	Los Angeles	Los Angeles	Boyle Hotel--Cummings Block	101-105 N. Boyle Ave.	20130723
71000144	Los Angeles	Los Angeles	Bradbury Building	304 S. Broadway	19710714
10000110	Los Angeles	Los Angeles	Bradbury House	102 Ocean Way	20100322
10001119	Los Angeles	Los Angeles	Bricker Building, The	1671 Northern Western Ave	20110107
11000489	Los Angeles	Pasadena	Bristol--Cypress Historic District	438-516 Cypress Ave.,	20110809
79000483	Los Angeles	Los Angeles	Britt, Eugene W., House	2141 W. Adams Blvd.	19790517
79000484	Los Angeles	Los Angeles	Broadway Theater and Commercial District	300--849 S. Broadway	19790509
				242, 248-260, 249-259, 900-	
02000330	Los Angeles	Los Angeles	Broadway Theatre and Commercial District (Boundary Increase)	911,908-910, 921-937, 930-947 S. Broadway	20020412
08001276	Los Angeles	Los Angeles	Brockman Building and New York Cloak and Suit House (annex)	520 W. 7th St. and 708 S. Grand Ave.	20090521
86000790	Los Angeles	Pasadena	Bryan Court	427 S. Morengo Ave.	19860416
83001184	Los Angeles	Los Angeles	Bryson Apartment Hotel	2701 Wilshire Blvd.	19830407
04001075	Los Angeles	Los Angeles	Building at 816 South Grand Avenue	816 S. Grand Ave.	20041202
96000776	Los Angeles	Pasadena	Bullock's Pasadena	401 S. Lake Ave.	19960712
78000685	Los Angeles	Los Angeles	Bullock's Wilshire Building	3050 Wilshire Blvd.	19780525
78000686	Los Angeles	Los Angeles	Bunche, Ralph J., House	1221 E. 40th Pl.	19780522
10000761	Los Angeles	Los Angeles	Bungalow Court at 1516 N. Serrano Ave	1516-1528 1/2 N. Serrano Ave	20100916
10000764	Los Angeles	Los Angeles	Bungalow Court at 1544 N. Serrano Avenue	1544-1552 N Serrano Ave	20100916
10000762	Los Angeles	Los Angeles	Bungalow Court at 1554 N. Serrano Avenue	1554-1576 N. Serrano Ave	20100916
10000763	Los Angeles	Los Angeles	Bungalow Court at 1721 N. Kingsley Drive	1721-1729 1/2 N Kingsley Dr	20100916

Cultural Resource Technical Report

Reference Number	County	City	Resource Name	Address	Listed Date
08000260	Los Angeles	Pasadena	Bungalow Heaven Historic District	Roughly bounded by N. Mentor Ave., E. Orange Grove Blvd., E. Washington Blvd., N. Michigan & N. Chester Aves.	20080410
87001006	Los Angeles	Los Angeles	Cahuenga Branch	4591 W. Santa Monica Blvd.	19870519
12000861	Los Angeles	Canyon Country	CA-LAN-1258	Address Restricted	20121017
12000862	Los Angeles	Azusa	CA-LAN-1302	Address Restricted	20121017
12000860	Los Angeles	Acton	CA-LAN-1946	Address Restricted	20121017
12000863	Los Angeles	Castaic	CA-LAN-441	Address Restricted	20121017
12000859	Los Angeles	Agua Dulce	CA-LAN-540	Address Restricted	20121017
10000425	Los Angeles	Los Angeles	California Club, The	538 S Flower St	20100706
72001602	Los Angeles	Los Angeles	Campo de Cahuenga	3919 Lankershim Blvd.	20031219
76000488	Los Angeles	Los Angeles	Carroll Avenue, 1300 Block	Carroll Ave. between Edgeware and Douglas Sts.	19760422
86000449	Los Angeles	Downey	Casa de Parley Johnson	7749 Florence Ave.	19860320
04000679	Los Angeles	Los Angeles	Casa de Rosas	2600 S. Hoover St.	20040714
13000512	Los Angeles	Los Angeles	Case Study House No. 1	10152 Toluca Lake Ave.	20130724
13000514	Los Angeles	Pasadena	Case Study House No. 10	711 S. San Rafael Ave.	20130724
13000515	Los Angeles	Los Angeles	Case Study House No. 16	1811 Bel Air Rd.	20130724
13000516	Los Angeles	Los Angeles	Case Study House No. 18	199 Chautauqua Blvd.	20130724
13000517	Los Angeles	Los Angeles	Case Study House No. 20	2275 N. Santa Rosa Ave.	20130724
13000518	Los Angeles	Los Angeles	Case Study House No. 21	9038 Wonderland Park Ave.	20130724
13000519	Los Angeles	Los Angeles	Case Study House No. 22	1635 Woods Dr.	20130724
13000513	Los Angeles	Los Angeles	Case Study House No. 9	205 Chautauqua Blvd.	20130724
72000229	Los Angeles	Los Angeles	Catholic-Protestant Chapels, Veterans Administration Center	Eisenhower Ave. 44843 (44855), 44845 and 44851	19720211
93001017	Los Angeles	Lancaster	Cedar Avenue Complex	Cedar Ave., 606 Lancaster Blvd., and Old Jail (no address)	19930930
74000522	Los Angeles	Los Angeles	Centinela Adobe	7634 Midfield Ave.	19740502

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Reference Number	County	City	Resource Name	Address	Listed Date
96000777	Los Angeles	Santa Monica	Charmont Apartments	330 California Ave.	19960725
03000426	Los Angeles	Los Angeles	Chateau Colline	10335 Wilshire Blvd. Santa Rosa Ave. between Woodbury Ave. and Altadena Dr.	20030522
90001444	Los Angeles	Altadena	Christmas Tree Lane		19900913
87000082	Los Angeles	Culver City	Citizens Publishing Company Building	9355 Culver Blvd.	19870212
96000426	Los Angeles	Burbank	City Hall--City of Burbank	275 E. Olive Ave. E. Colorado Blvd. and Marengo Ave.	19960418
82000967	Los Angeles	Pasadena	Civic Center Financial District		19821029
95001152	Los Angeles	Los Angeles	Clark, Mary Andrews, Memorial Home	306--336 S. Loma Dr.	19951005
89002267	Los Angeles	Santa Fe Springs	Clarke Estate	10211 Pioneer Blvd.	19900104
00001169	Los Angeles	Santa Monica	Club Casa Del Mar	1910 Ocean Ave.	20000929
83001185	Los Angeles	Pasadena	Colonial Court	291-301 N. Garfield Ave.	19830711
82002190	Los Angeles	West Hollywood	Colonial House	1416 N. Havenhurst Dr.	19820415
81000156	Los Angeles	Pasadena	Colorado Street Bridge	Colorado Blvd.	19810212
13000510	Los Angeles	West Hollywood	Community Clubhouse	1200 N. Vista St.	20130723
81000154	Los Angeles	Los Angeles	Congregation B'nai B'rith	3663 Wilshire Blvd.	19811221
01001192	Los Angeles	Los Angeles	Congregation Talmud Torah of Los Angeles	247 N. Breed St.	20011104
00001538	Los Angeles	Long Beach	Cooper Arms	455 E. Ocean Blvd.	20001228
11000490	Los Angeles	Pasadena	Cosby, James Fielding, House	510 Locke Haven St.	20110809
83001186	Los Angeles	Pasadena	Cottage Court	642-654 S. Margeno Ave.	19830711
83001187	Los Angeles	Pasadena	Court	497-503 1/2 N. Madison Ave.	19830711
83001188	Los Angeles	Pasadena	Court	744-756 1/2 S. Marengo Ave.	19830711
83001189	Los Angeles	Pasadena	Court	732-744 Santa Barbara St.	19830711
94001315	Los Angeles	Pasadena	Court at 1274--1282 North Raymond Avenue	1274--1282 N. Raymond Ave.	19941115
94001324	Los Angeles	Pasadena	Court at 275 North Chester Avenue	275 N. Chester Ave.	19941115
94001320	Los Angeles	Pasadena	Court at 533--549 North Lincoln Avenue	533--549 N. Lincoln Ave.	19941115
94001319	Los Angeles	Pasadena	Court at 638--650 North Mar Vista Avenue	638--650 N. Mar Vista Ave.	19941115
94001317	Los Angeles	Pasadena	Court at 940--948 North Raymond Avenue	940--948 N. Raymond Ave.	19941115
97000751	Los Angeles	Altadena	Crank House	2186 Cray St.	19970723

Cultural Resource Technical Report

Reference Number	County	City	Resource Name	Address	Listed Date
80000805	Los Angeles	Hollywood	Crossroads of the World	6671 Sunset Blvd.	19800908
85002198	Los Angeles	Pasadena	Culbertson, Cordelia A., House	1188 Hillcrest Ave.	19850912
97000296	Los Angeles	Culver City	Culver Hotel	9400 Culver Blvd.	19970414
83001190	Los Angeles	Pasadena	Cypress Court	623-641 N. Madison Ave.	19830711
87001007	Los Angeles	Los Angeles	Dana, Richard Henry, Branch	3320 Pepper St.	19870519
87001008	Los Angeles	Los Angeles	De Neve, Felipe, Branch	2820 W. Sixth St.	19870519
11000491	Los Angeles	Pasadena	Denham, Mary E., House	297 S. Orange Grove Blvd.,	20110809
78000682	Los Angeles	Glendale	Derby, James Daniel, House	2535 E. Chevy Chase Dr.	19781214
92001559	Los Angeles	La Verne	DeWenter Mansion, Guest House and Grounds	6100 Brydon Rd.	19921105
92000260	Los Angeles	Redondo Beach	Diamond Apartments	321 Diamond St.	19920326
76000485	Los Angeles	Beverly Hills	Doheny Estate/Greystone	905 Loma Vista Dr.	19760423
76000486	Los Angeles	Compton	Dominguez Ranch Adobe	18127 S. Alameda St.	19760528
83001191	Los Angeles	Pasadena	Don Carlos Court	374-386 S. Marengo Ave.	19830711
71000161	Los Angeles	Wilmington	Drum Barracks	1053 Carey St.	19710212
87001004	Los Angeles	Los Angeles	Eagle Rock Branch Library	2224 Colorado Blvd.	19870519
06000978	Los Angeles	Pacific Palisades	Eames House	203 N Chautauqua Blvd.	20060920
94000401	Los Angeles	Los Angeles	Ebell of Los Angeles	743 S. Lucerne Blvd. 611, 637, and 500 blk. of W. Second St.	19940506
86001477	Los Angeles	Pomona	Edison Historic District		19860813
05000211	Los Angeles	Los Angeles	El Cabrillo	1832-1850 N. Grace Ave.	20050330
88002017	Los Angeles	Los Angeles	El Greco Apartment	817 N. Hayworth Ave.	19881103
71000154	Los Angeles	Pasadena	El Molino Viejo	1120 Old Mill Rd.	19710506
10001118	Los Angeles	San Marino	Emery, Katherine Estate	1155 Oak Grove Ave	20110110
85002559	Los Angeles	Los Angeles	Engine Co. No. 27	1355 N. Cahuenga Blvd.	19850924
79000485	Los Angeles	Los Angeles	Engine Company No. 28	644--646 S. Figuara St	19791116
82000968	Los Angeles	Los Angeles	Engine House No. 18	2616 S. Hobart Blvd.	19821029
71000145	Los Angeles	Los Angeles	Ennis House	2607 Glendower Ave.	19711014
77000303	Los Angeles	Sierra Madre	Episcopal Church of the Ascension	25 E. Laurel Ave.	19770819
83001193	Los Angeles	Pasadena	Euclid Court	545 S. Euclid Ave.	19830711

Cultural Resource Technical Report

Reference Number	County	City	Resource Name	Address	Listed Date
84000787	Los Angeles	Pasadena	Evanston Inn Executive Office Building, Old Warner Brothers Studio	385-395 S. Marengo Ave.	19840913
02001257	Los Angeles	Los Angeles	Exposition Park Rose Garden	5800 Sunset Blvd. Exposition Park, jct. of Exposition Blvd. and Vermont Ave.	20021101
91000285	Los Angeles	Los Angeles	Farnsworth, Gen. Charles S., County Park	568 E. Mt. Curve Ave.	19910328
97000027	Los Angeles	Altadena	Federal Reserve Bank of San Francisco	409 W. Olympic Blvd.	19970207
84000843	Los Angeles	Los Angeles	Fenyes Estate	470 W. Walnut St. & 160 N. Orange Grove Blvd.	19840920
85001983	Los Angeles	Pasadena	Fern Avenue School	1314 Fern Ave.	19850905
92000067	Los Angeles	Torrance	Fire Station No. 14	3401 S. Central Ave.	19920220
09000147	Los Angeles	Los Angeles	Fire Station No. 23	225 E. 5th St.	20090317
80000809	Los Angeles	Los Angeles	Fire Station No. 30--Engine Company No. 30	1401 S. Central Ave.	19800609
09000148	Los Angeles	Los Angeles	First Congregational Church of Long Beach	241 Cedar Ave.	20090317
12000810	Los Angeles	Long Beach	First National Bank of Long Beach	101--125 Pine Ave.	20120925
90001432	Los Angeles	Long Beach	First Trust Building and Garage	587--611 E. Colorado Blvd. and 30-44 N. Madison Ave.	19900913
87000941	Los Angeles	Pasadena	Foothill Boulevard Milestone (Mile 11)	S side of E. Colorado Blvd., W of jct. with Holliston Ave.	19870612
96000421	Los Angeles	Pasadena	Ford Place Historic District	110-175 N Oakland Ave; 450-465 Ford Place; 144 N Los Robles Ave	19960419
10000496	Los Angeles	Pasadena	Fox Theatre Inglewood	115 N. Market St.	20100722
12001163	Los Angeles	Inglewood	Fox Wilshire Theatre	8440 Wilshire Blvd.	20130114
12000164	Los Angeles	Beverly Hills	Frank, Richard and Mary Alice, House	919 La Loma Rd.	20120403
09000175	Los Angeles	Pasadena	Freeman, Rose Graham and James Allen, House	1330 Hillcrest Ave.	20090410
11000654	Los Angeles	Pasadena	Freeman, Samuel, House	1962 Glencoe Way	20110915
71000146	Los Angeles	Los Angeles	Fremont, John C., Branch	6121 Melrose Ave.	19711014
87001009	Los Angeles	Los Angeles	Friday Morning Club	938-940 S. Figueroa St.	19870519
84000865	Los Angeles	Los Angeles	Friendship Baptist Church	80 W. Dayton St.	19840517
78000696	Los Angeles	Pasadena	Gamble House	4 Westmoreland Pl.	19781120
71000155	Los Angeles	Pasadena			19710903

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Reference Number	County	City	Resource Name	Address	Listed Date
83001194	Los Angeles	Avalon	Gano, Peter, House	718 Crescent Ave.	19830915
87001174	Los Angeles	Los Angeles	Garbutt House	1809 Apex Ave.	19870722
82002191	Los Angeles	Los Angeles	Garfield Building	403 W. 8th St.	19820625
73000405	Los Angeles	South Pasadena	Garfield House	1001 Buena Vista St.	19730424
10000053	Los Angeles	Los Angeles	Garment Capitol Building	217 E. 8th St.	20100308
83001195	Los Angeles	Pasadena	Gartz Court	270 N. Madison	19830825
04000621	Los Angeles	Los Angeles	General Petroleum Building	612 S. Flower St.	20040622
03000583	Los Angeles	Los Angeles	Gerry Building	910 S. Los Angeles St.	20030705
09000176	Los Angeles	Pasadena	Gill, Merwyn C., House	1385 El Mirador Dr.	20091223
07000309	Los Angeles	Los Angeles	Glassell Park Elementary School	2211 West Avenue 30 Gardena Ave., jct. with W. Cerritos Ave.	20070413
97000376	Los Angeles	Glendale	Glendale Southern Pacific Railroad Depot	Cerritos Ave.	19970502
94001224	Los Angeles	Glendale	Glendale Young Men's Christian Association	140 N. Louise St.	19941021
78000683	Los Angeles	Glendora	Glendora Bougainvillea	Bennett and Minnesota Aves.	19780207
82002192	Los Angeles	Los Angeles	Golden Gate Theater	5170-5188 E. Whittier Blvd.	19820223
98000712	Los Angeles	Los Angeles	Golden State Mutual Life Insurance Building	4261 S. Central Ave.	19980626
86003320	Los Angeles	Los Angeles	Granada Shoppes and Studios	672 S. Lafayette Park Pl.	19861120
05000002	Los Angeles	Long Beach	Green--Rankin--Bembridge House	953 Park Circle Dr.	20050210
78000697	Los Angeles	Pomona	Greenwood, Barbara, Kindergarten	Hacienda Pl. and McKinley Ave.	19780918
02001187	Los Angeles	Altadena	Grey, Zane, Estate	396 E. Mariposa St.	20021024
79000481	Los Angeles	Hollywood	Guaranty Building	6331 Hollywood Blvd	19790904
83003531	Los Angeles	West Hollywood	Hacienda Arms Apartments	8439 Sunset Blvd.	19831215
03000428	Los Angeles	Los Angeles	Hackett, Edward Alexander Kelley, House	1317 S. Westlake Ave.	20030522
11000429	Los Angeles	Long Beach	Hafley, Olan G. and Aida T., House	5561 E. La Pasada St. Heritage Sq., 3800 N. Homer St., Highland Park	20110712
72000230	Los Angeles	Los Angeles	Hale House	Highland Park	19720922
86000103	Los Angeles	Pasadena	Hale Solar Laboratory	740 Holladay Rd.	19860123
98001242	Los Angeles	Los Angeles	Halifax Apartments	6376 Yucca St.	19981014
92000959	Los Angeles	Los Angeles	Hangar One	5701 W. Imperial Hwy.	19920730

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Reference Number	County	City	Resource Name	Address	Listed Date
94001321	Los Angeles	Pasadena	Harnetiaux Court	48 N. Catalina Ave.	19941115
11000492	Los Angeles	Pasadena	Hartwell, John S. House	423 Lincoln Ave.	20110809
82002195	Los Angeles	Pasadena	Haskett Court	824--834 E. California Blvd.	19820225
82004982	Los Angeles	Santa Fe Springs	Hawkins--Nimocks Estate--Patricio Ontiveros Adobe	12100 Telegraph Rd.	19871231
84000873	Los Angeles	Los Angeles	Heinsbergen Decorating Company Building	7415 Beverly Blvd.	19840920
01000328	Los Angeles	Pasadena	Hermitage	2121 Monte Vista St.	20010405
89002268	Los Angeles	Los Angeles	Highland Park Masonic Temple	104 N. Avenue 56	19900118
84000874	Los Angeles	Los Angeles	Highland Park Police Station	6045 York Blvd.	19840322
89000198	Los Angeles	Los Angeles	Highland--Camrose Bungalow Village	Jct. Highland and Camrose Ave.	19890316
11000493	Los Angeles	Pasadena	Hillmont	1375 E. Mountain St.	20110809
79000491	Los Angeles	Pasadena	Holly Street Livery Stable	110 E. Holly St	19791025
85000704	Los Angeles	Los Angeles	Hollywood Boulevard Commercial and Entertainment District	6200-7000 Hollywood Blvd., N. Vine St., N. Highland Ave. and N. Ivar St.	19850404
99000550	Los Angeles	Los Angeles	Hollywood Cemetery	6000 Santa Monica Blvd.	19990514
11000989	Los Angeles	Los Angeles	Hollywood High School Historic District	1521 N. Highland Ave.	20120104
85000355	Los Angeles	Hollywood	Hollywood Masonic Temple	6840 Hollywood Blvd.	19850228
92000834	Los Angeles	Los Angeles	Hollywood Melrose Hotel	5150--70 Melrose Blvd.	19920708
80000806	Los Angeles	Hollywood	Hollywood Studio Club	1215 Lodi Pl.	19801125
08000202	Los Angeles	Los Angeles	Holmes--Shannon House	4311 Victoria Park Dr.	20080326
83003536	Los Angeles	Torrance	Home Economics Building	2200 W. Carson	19831013
87000980	Los Angeles	Pasadena	Home Laundry	432 S. Arroyo Pkwy.	19870618
11000494	Los Angeles	Pasadena	Hood, Mrs. J.H., House	494 Ellis St.	20110809
02000074	Los Angeles	Whittier	Hoover Hotel	7035 Greenleaf Ave.	20020201
77000302	Los Angeles	Santa Monica	Horatio West Court	140 Hollister Ave.	19770411
05001496	Los Angeles	Los Angeles	Hotel Chancellor	3191 W. Seventh St.	20060103
94001197	Los Angeles	Glendale	Hotel Glendale	701 E. Broadway	19941007
82002196	Los Angeles	Pasadena	Hotel Green	99 S. Raymond Ave.	19820323
13000589	Los Angeles	Los Angeles	Hotel Rosslyn Annex	112 W. 5th St.	20130813

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Reference Number	County	City	Resource Name	Address	Listed Date
98000959	Los Angeles	Pasadena	House at 1011 S. Madison Ave.	1011 S. Madison Ave.	19980806
04000322	Los Angeles	Pasadena	House at 1015 Prospect Boulevard	1015 Prospect Blvd.	20040820
98000960	Los Angeles	Pasadena	House at 1050 S. Madison Ave.	1050 S. Madison Ave.	19980806
13000868	Los Angeles	Pasadena	House at 1111 North Los Robles Avenue	1111 N. Los Robles Ave.	20131203
13000869	Los Angeles	Pasadena	House at 1121 North Los Robles Avenue	1121-1123 N. Los Roblee Ave.	20131203
04000326	Los Angeles	Pasadena	House at 1141 North Chester Avenue	1141 N. Chester Ave.	20040820
98000962	Los Angeles	Pasadena	House at 1233 Wentworth Ave.	1233 Wentworth Ave.	19980806
04000329	Los Angeles	Pasadena	House at 1240 North Los Robles	1240 N. Los Robles Ave.	20040820
11000495	Los Angeles	Pasadena	House at 1360 Lida Street	1360 Lida St.,	20110809
04000323	Los Angeles	Pasadena	House at 1487 Loma Vista Street	1487 Loma Vista St.	20040820
98000961	Los Angeles	Pasadena	House at 380 W. Del Mar Blvd.	380 W. Del Mar Blvd.	19980806
79000492	Los Angeles	Pasadena	House at 530 S. Marengo Avenue	530 S. Marengo Ave.	19790913
98000958	Los Angeles	Pasadena	House at 574 Bellefontaine St.	574 Bellefontaine St.	19980806
04000325	Los Angeles	Pasadena	House at 674 Elliot Drive	674 Elliot Dr.	20040820
96000422	Los Angeles	Pasadena	Howard Motor Company Building	1285 E. Colorado Blvd.	19960418
76000494	Los Angeles	San Marino	Hubble, Edwin, House	1340 Woodstock Rd.	19761208
76000492	Los Angeles	Malibu	Humaliwo	Address Restricted	19760901
87001010	Los Angeles	Los Angeles	Irving, Washington, Branch	1803 S. Arlington Ave.	19870519
87001011	Los Angeles	Los Angeles	Jackson, Helen Hunt, Branch	2330 Naomi St.	19870519
86003524	Los Angeles	Los Angeles	Jardinette Apartments	5128 Marathon St.	19861229
11000496	Los Angeles	Pasadena	Jarvis, Benjamin, House	531 N. Raymond Ave.	20110809
87001012	Los Angeles	Los Angeles	Jefferson Branch	2211 W. Jefferson Blvd.	19870519
78000693	Los Angeles	Norwalk	Johnston, Darius David, House	12426 Mapledale St.	19781102
80000815	Los Angeles	Whittier	Jordan, Orin, House	8310 S. Comstock Ave.	19800728
99000370	Los Angeles	Los Angeles	Judson Studios	200 S. Avenue Sixty-Six	19990325
11000933	Los Angeles	Beverly Hills	Karasik House	436 Spalding Dr.	20111222
05000774	Los Angeles	Los Angeles	Kerckoff Building and Annex	558-64 S. Main St.	20050803
78000678	Los Angeles	Altadena	Keyes Bungalow	1337 E. Boston St.	19781114
09000515	Los Angeles	Long Beach	Killingsworth, Brady, & Smith	3827-3837 Long Beach Blvd.	20090715

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Reference Number	County	City	Resource Name	Address	Listed Date
96000423	Los Angeles	Pasadena	Kindel Building	1095 E. Colorado Blvd.	19960418
94001322	Los Angeles	Pasadena	Kosy Knook Court	830 Brooks Ave.	19941115
98001196	Los Angeles	Los Angeles	Kress, George R., House	2337 Benedict Canyon Dr.	19980925
87002291	Los Angeles	Hollywood	La Belle Tour	6200 Franklin Ave.	19880122
78000698	Los Angeles	Pomona	La Casa Alvarado	1459 Old Settlers Lane	19780419
75000436	Los Angeles	Pomona	La Casa Primera de Rancho San Jose	1569 N. Park Ave. Crossing the Arroyo Seco at La	19750403
04000680	Los Angeles	Pasadena	La Loma Bridge	Loma Broad	20040714
99000482	Los Angeles	La Puente	La Puente Valley Woman's Club	200 N. First St.	19990429
11000497	Los Angeles	Pasadena	Lacey, Friend, House	679 E. Villa St.,	20110809
90002222	Los Angeles	San Pedro La Canada	LANE VICTORY	Berth 4, Port of San Pedro	19901214
94001504	Los Angeles	Flintridge	Lanterman House	4420 Encinas Dr.	19941229
83001196	Los Angeles	Pasadena	Las Casitas Court	656 N. Summit Ave.	19830711
75000433	Los Angeles	Calabasas	Leonis Adobe	23537 Calabasas Rd.	19750529
87001013	Los Angeles	Los Angeles	Lincoln Heights Branch	2530 Workman St. Roughly bounded by McKinley Ave., Towne Ave., Pasadena St. and Garey Ave.	19870519
03001347	Los Angeles	Pomona	Lincoln Park Historic District		20040409
09000149	Los Angeles	Los Angeles	Lincoln Theater	2300 S. Central Ave.	20090317
89000935	Los Angeles	Pomona	Lincoln, Abraham, Elementary School	1200 N. Gordon Ave. 301--369 First and 106--120 San Pedro Sts.	19890803
86001479	Los Angeles	Los Angeles	Little Tokyo Historic District		19860822
84000876	Los Angeles	Beverly Hills	Lloyd, Harold, Estate	Address Restricted	19840209
05000773	Los Angeles	Long Beach	Long Beach Professional Building	117 E. 8th St.	20050803
82002197	Los Angeles	Pasadena	Longfellow-Hastings House	85 S. Allen Ave.	19820302
74000527	Los Angeles	South Pasadena	Longley, Howard, House	1005 Buena Vista St.	19740416
71000157	Los Angeles	San Fernando	Lopez Adobe	1100 Pico St.	19710506
99000765	Los Angeles	Los Angeles	Los Altos Apartments	4121 Wilshire Blvd.	19990701
70000136	Los Angeles	Los Angeles	Los Angeles Central Library	630 W. 5th St.	19701218

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Reference Number	County	City	Resource Name	Address	Listed Date
80000810	Los Angeles	Los Angeles	Los Angeles Harbor Light Station	Los Angeles Harbor (San Pedro Breakwater)	19801014
84003866	Los Angeles	Los Angeles	Los Angeles Memorial Coliseum	3911 S. Figueroa St.	19840727
95000581	Los Angeles	Los Angeles	Los Angeles Nurses' Club	245 S. Lucas Ave.	19950511
81000155	Los Angeles	Los Angeles	Los Angeles Pacific Company Ivy Park Substation	9015 Venice Blvd. Roughly bounded by Spring, Macy, Alameda and Arcadia Sts., and Old Sunset Blvd.	19810325
72000231	Los Angeles	Los Angeles	Los Angeles Plaza Historic District		19721103
80000811	Los Angeles	Los Angeles	Los Angeles Union Passenger Terminal	800 N. Alameda St.	19801113
70000135	Los Angeles	Long Beach	Los Cerritos Ranch House	4600 Virginia Rd.	19700415
71000147	Los Angeles	Los Angeles	Lovell House	4616 Dundee Dr. Roughly Arroyo Blvd., W.	19711014
04000331	Los Angeles	Pasadena	Lower Arroyo Seco Historic District	California Blvd., La Loma Blvd.	20050712
84000879	Los Angeles	Pasadena	Lukens, Theodore Parker, House	267 N. El Molino Ave.	19840329
71000148	Los Angeles	Los Angeles	Lummis House	200 E. Ave. 43	19710506
74000524	Los Angeles	Lynwood	Lynwood Pacific Electric Railway Depot	11453 Long Beach Blvd.	19740925
88000922	Los Angeles	Los Angeles	Machell--Seaman House	2341 Scarff St.	19880623
83003538	Los Angeles	Torrance	Main Building	2200 W. Carson	19831013
87001014	Los Angeles	Los Angeles	Malabar Branch	2801 Wabash Ave.	19870519
83001197	Los Angeles	Pasadena	Marengo Gardens	982, 986, 990 S. Marengo Ave. and 221-241 Ohio St.	19830711
09000177	Los Angeles	Pasadena	Marguerita Lane Historic District	Marguerita La. off South Marengo Ave.	20090410
13000106	Los Angeles	Pasadena	Markham Place Historic District	Roughly bounded by California St., Pasadena Ave., Bellefontaine St. & Orange Grove Blvd.	20130327
94001318	Los Angeles	Pasadena	Mary Louise Court	583--599 N. Mentor Ave.	19941115
01001456	Los Angeles	Los Angeles	McCarty Memorial Christian Church	4101 W. Adams Blvd.	20020117
07000245	Los Angeles	Altadena	McNally, Andrew, House	654 E. Mariposa St.	20070327
78000684	Los Angeles	La Mirada	McNally's Windemere Ranch Headquarters	San Esteban and San Cristobal Dr.	19780720

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Reference Number	County	City	Resource Name	Address	Listed Date
09000178	Los Angeles	Pasadena	Mello, Clarence and Mary, House	541 Fremont Dr.	20090410
87001015	Los Angeles	Los Angeles	Memorial Branch	4645 W. Olympic Blvd. Bounded by Adams Blvd., Ellendale, Thirtieth Ave., and Vermont	19870519
87000139	Los Angeles	Los Angeles	Menlo Avenue--West Twenty-ninth Street Historic District		19870212
94001323	Los Angeles	Pasadena	Mentor Court	937 E. California Blvd.	19941115
01000330	Los Angeles	Pasadena	Merrill, Samuel, House	1285 N. Summit Ave.	20010405
12001164	Los Angeles	Pasadena	Merwin House	267 W. State St.	20130114
03000002	Los Angeles	Long Beach	Middough Brothers--Insurance Exchange Building	205 E. Broadway	20030205
76000493	Los Angeles	Pasadena	Millard House	645 Prospect Crescent	19761212
79000486	Los Angeles	Los Angeles	Miller and Herriott House	1163 W. 27th St.	19791116
78000687	Los Angeles	Los Angeles	Million Dollar Theater	307 S. Broadway	19780720
72000235	Los Angeles	South Pasadena	Miltmore House	1301 S. Chelton Way	19720324
95000998	Los Angeles	Pasadena	Miss Orton's Classical School for Girls (Dormitory)	154 S. Euclid Ave.	19950804
83001198	Los Angeles	Pasadena	Mission Court	567 N. Oakland Ave.	19830711
88002147	Los Angeles	Los Angeles	Mission San Fernando Rey de Convento Building	15151 San Fernando Mission Blvd.	19881027
87001016	Los Angeles	Los Angeles	Moneta Branch	4255 S. Olive St.	19870519
95000266	Los Angeles	Montebello	Montebello Woman's Club	201 S. Park Ave.	19950331
85001592	Los Angeles	Los Angeles	Montecito Apartments	6650 Franklin Ave.	19850718
76000489	Los Angeles	Los Angeles	Mooers, Frederick Mitchell, House	818 S. Bonnie Brae St.	19760603
92001522	Los Angeles	Altadena	Mount Lowe Railway	N of Altadena in Angeles NF	19930106
76000490	Los Angeles	Los Angeles	Mount Pleasant House	Heritage Sq., 3800 Homer St.	19761212
87001017	Los Angeles	Los Angeles	Muir, John, Branch	1005 W. Sixty-fourth St.	19870519
00000386	Los Angeles	San Pedro	Municipal Warehouse No. 1	2500 Signal St.	20000421
82000969	Los Angeles	Whittier	National Bank of Whittier Building	13002 E. Philadelphia St.	19821230
75000434	Los Angeles	Los Angeles	Natural History Museum	900 Exposition Blvd.	19750304
01000075	Los Angeles	Los Angeles	Neutra Office Building	2379 Glendale Building	20040308
03000774	Los Angeles	Los Angeles	Neutra, Richard and Dion, VDL Research House II	2300 Silver Lake Blvd.	20090508

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Reference Number	County	City	Resource Name	Address	Listed Date
11000498	Los Angeles	Pasadena	New Fair Oaks Historic District	480-512 Lincoln Av. & 57-103 W. Villa St.,	20110809
82002198	Los Angeles	Pasadena	Newcomb House	675--677 N. El Molino Ave.	19820902
77000300	Los Angeles	Pasadena	Nicholson, Grace, Building	46 N. Los Robles Ave.	19770721
96000694	Los Angeles	West Hollywood	North Harper Avenue Historic District	Roughly, N. Harper Ave. between Fountain and De Longpre Aves.	19960628
87001018	Los Angeles	Los Angeles	North Hollywood Branch	5211 N. Tujunga Ave.	19870519
04000016	Los Angeles	Los Angeles	North University Park Historic District	Roughly bounded by Hoover St., Adams Blvd, 28th St. and Magnolia Ave.	20040211
09000179	Los Angeles	Pasadena	Norton, John, House	820 Burleigh Dr.	20090410
73000406	Los Angeles	South Pasadena	Oaklawn Bridge and Waiting Station	Between Oaklawn and Fair Oaks Aves.	19730716
78000692	Los Angeles	Monrovia	Oaks, The	250 N. Primrose Ave.	19780406
85001682	Los Angeles	Pasadena	Odd Fellows Temple	175 N. Los Robles Ave.	19850801
83001200	Los Angeles	Pasadena	Old Pasadena Historic District	Roughly bounded by Pasadena, Fair Oaks, Raymond Aves., Arroyo Pkwy., Del Mar Blvd., and Corson St.	19830915
07001303	Los Angeles	Pasadena	Old Pasadena Historic District (Boundary Increase)	Fair Oaks & Raymond Aves., Colorado Blvd., Green St.	20080325
74000517	Los Angeles	Chatsworth	Old Santa Susana Stage Road	Address Restricted	19740110
83001199	Los Angeles	Pasadena	Orange Grove Court	745 E. Orange Grove Blvd.	19830711
95001128	Los Angeles	Pasadena	Orange Heights--Barnhart Tracts Historic District	Roughly bounded by N. Los Robles Ave. W, N. El Molino Ave. E., Jackson St. N., and E. Mountain St. S.	19950929
83004529	Los Angeles	Los Angeles	Oviatt, James, Building	617 S. Olive St.	19830811
09000180	Los Angeles	Los Angeles	Pacific Electric Building	610 S. Main St.	20090409
89000854	Los Angeles	Torrance	Pacific Electric Railroad Bridge	Torrance Blvd. and Bow St.	19890713
77000295	Los Angeles	Altadena	Pacific Electric Railway Company Substation No. 8	2245 N. Lake Ave.	19771109

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Reference Number	County	City	Resource Name	Address	Listed Date
78000694	Los Angeles	Norwalk	Paddison Ranch Buildings	11951 Imperial Hwy.	19780623
97001660	Los Angeles	Claremont	Padua Hills Theatre	4467 Via Padova	19980123
79000480	Los Angeles	Chatsworth	Palmer, Minnie Hill, House	Chatsworth Park South	19790904
83001201	Los Angeles	Pasadena	Palmetto Court	100 Palmetto Dr.	19830711
71000156	Los Angeles	Pomona	Palomares, Ygnacio, Adobe	Corner of Arrow Hwy. and Orange Grove Ave.	19710324
95000388	Los Angeles	Palos Verdes Estates	Palos Verdes Public Library and Art Gallery	2400 Via Campesina	19950407
96000393	Los Angeles	Palos Verdes	Palos Verdes Public Library and Art Gallery-- Farnham Martin's Park (Boundary Increase)	2400 Via Campesina	19960416
04000324	Los Angeles	Pasadena	Park Place--Arroyo Terrace Historic District	368-440 Arroyo Terrace, 200-240 N. Grand Ave., 201-239 N.	20070629
78000699	Los Angeles	Santa Monica	Parkhurst Building	Orange Grove Blvd.	19781117
08000579	Los Angeles	Pasadena	Pasadena Arroyo Parks and Recreation District	185 Pier Ave. Roughly bounded by the Foothill Freeway on the north, the city limits on the south, Arroyo Blvd on east, San Rafael	20081110
80000813	Los Angeles	Pasadena	Pasadena Civic Center District	Roughly bounded by Walnut and Green Sts., Raymond and Euclid Aves.	19800728
75000435	Los Angeles	Pasadena	Pasadena Playhouse	39 S. El Molino Ave.	19751111
94000462	Los Angeles	Pasadena	Pasadena Playhouse Historic District	464--611 E. Colorado Blvd., 550--655 E. Green St., 21--127 S. El Molino Ave., and 150 N.--101 S. Madison Ave.	19940519
86002418	Los Angeles	West Hollywood	Patio del Moro	8225--8237 Fountain Ave.	19860911
09001223	Los Angeles	Pasadena	Pegfair Estates Historic District	1525-1645 Pegfair Estates Dr.;	20100118
88002019	Los Angeles	Sierra Madre	Pegler, John Carlton, House	1335-1345 Carnarvon Dr.	19881020
79000488	Los Angeles	Los Angeles	Pellissier Building	419 E. Highland Ave. 3780 Wilshire Blvd.	19790223

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Reference Number	County	City	Resource Name	Address	Listed Date
05000049	Los Angeles	Los Angeles	Petitfils--Boos House	545 Plymouth Blvd.	20050215
74000525	Los Angeles	Pomona	Phillips Mansion	2640 W. Pomona Blvd.	19741106
73000408	Los Angeles	Whittier	Pico, Pio, Casa	6003 Pioneer Blvd.	19730619
66000211	Los Angeles	Mission Hills	Pico, Romulo, Adobe	10940 Sepulveda Blvd.	19661113
09000181	Los Angeles	Pasadena	Pike, Robert and Barbara, House	512 Glen Ct. 6026-6044 Echo St. & 6051 A-D Hayes St.	20090410
07001304	Los Angeles	Los Angeles	Pisgah Home Historic District		20071219
86002192	Los Angeles	Claremont	Pitzer House	4353 N. Towne	19860904
78000689	Los Angeles	Los Angeles	Plaza Substation	10 Olivera St.	19780913
72000234	Los Angeles	San Pedro	Point Fermin Lighthouse	805 Paseo Del Mar	19720613
		Rancho Palos Verdes			
80000808	Los Angeles	Verdes	Point Vicente Light	Palos Verdes Drive South	19801031
04001109	Los Angeles	Pomona	Pomona City Stable	636 W. Monterey Ave.	20041006
82002201	Los Angeles	Pomona	Pomona Fox Theater	102--144 3rd St.	19820219
86000408	Los Angeles	Pomona	Pomona YMCA Building	350 N. Geary Ave. Bounded by Ave. 64 on the E., La Loma Rd. on the N. including Poppy Peak Dr., Kaweah Dr., Cresthaven Dr.	19860306
09000182	Los Angeles	Pasadena	Poppy Peak Historic District		20091223
			Portal of the Folded Wings Shrine to Aviation and Museum		
98000246	Los Angeles	North Hollywood		10621 Victory Blvd.	19980318
11000499	Los Angeles	Pasadena	Post, George B., House	360 S. Grand Ave.	20110809
09000150	Los Angeles	Los Angeles	Prince Hall Masonic Temple	1050 E. 50th St. Prospect Blvd., Square, Crescent, and Terrace, Rosemont Ave., Armada and Fremont Drs., and La Mesa Pl.	20090317
83001202	Los Angeles	Pasadena	Prospect Historic District		19830407
74000521	Los Angeles	Long Beach	Puvunga Indian Village Sites	Address Restricted	19740121
82000429	Los Angeles	Long Beach	Puvunga Indian Village Sites (Boundary Increase)	Address Restricted	19820522
80000804	Los Angeles	Arcadia	Queen Anne Cottage and Coach Barn	301 N. Baldwin Ave.	19801031

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Reference Number	County	City	Resource Name	Address	Listed Date
89001430	Los Angeles	San Pedro	RALPH J. SCOTT	Berth 85	19890630
92000969	Los Angeles	Los Angeles	Ralphs Grocery Store	1142--54 Westwood Blvd.	19920730
89000821	Los Angeles	Los Angeles	Ramsay--Durfee Estate	2425 S. Western Ave.	19890724
71000142	Los Angeles	Encino	Rancho El Encino	16756 Moorpark St.	19710224
81000153	Los Angeles	Long Beach	Rancho Los Alamitos	6400 Bixby Hill Rd.	19810707
11000500	Los Angeles	Pasadena	Raymond--Summit Historic District	Roughly bounded by N. Raymond Ave., E. Villa St., Summit Ave. & E. Maple St., N. Gertruda Ave., Carnelian St., N. Guadalupe Ave. and Diamond St.	20110809
88000970	Los Angeles	Redondo Beach	Redondo Beach Original Townsite Historic District		19880630
81000158	Los Angeles	Redondo Beach	Redondo Beach Public Library	309 Esplanade St.	19810312
84000883	Los Angeles	Long Beach	Reeve, Jennie A., House	4260 Country Club Dr.	19840621
78000700	Los Angeles	South Pasadena	Rialto Theatre	1019--1023 Fair Oaks Ave. Along Old Ridge Rte., roughly bounded by Sandberg and Canton Canyon	19780524
97001113	Los Angeles	Castaic	Ridge Route, Old		19970925
86000105	Los Angeles	Los Angeles	Rindge, Frederick Hastings, House	2263 Harvard Blvd.	19860123
78000681	Los Angeles	Downey	Rives, James C., House	10921 S. Paramount Blvd.	19780522
92001714	Los Angeles	Long Beach	RMS QUEEN MARY	Pier J, 1126 Queensway Hwy.	19930415
78000679	Los Angeles	Beverly Hills	Robinson, Virginia, Estate	1008 Elden Way	19781115
71000149	Los Angeles	Los Angeles	Rogers, Will, House	14253 Sunset Blvd.	19710224
85000356	Los Angeles	West Hollywood	Ronda	1400--1414 Havenhurst Dr.	19850228
07000636	Los Angeles	Los Angeles	Roosevelt Building	727 W. Seventh St. 991 Rosemont Ave., Brookside Park	20070703
87000755	Los Angeles	Pasadena	Rose Bowl, The		19870227
83001203	Los Angeles	Pasadena	Rose Court	449-457 S. Hudson Ave.	19830711
73000403	Los Angeles	Industry	Rowland, John A., House	16021 E. Gale Ave.	19730716
07000996	Los Angeles	Pasadena	Royal Laundry Complex	443 S. Raymond Ave.	20070927
13000810	Los Angeles	Glendora	Rubel Castle Historic District	844 N. Live Oak Ave.	20131007

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Reference Number	County	City	Resource Name	Address	Listed Date
78000680	Los Angeles	Claremont	Russian Village District	290--370 S. Mills Ave. and 480 Cucamonga Ave.	19781228
76000495	Los Angeles	San Pedro	S.S. CATALINA	Berth 96, Los Angeles Harbor	19760901
82004617	Los Angeles	Malibu	Saddle Rock Ranch Pictograph Site	Address Restricted	19820212
72000233	Los Angeles	San Dimas	San Dimas Hotel	121 San Dimas Ave.	19720316
86002098	Los Angeles	Los Angeles	San Fernando Building, The	400--410 S. Main St.	19860731
71000158	Los Angeles	San Gabriel	San Gabriel Mission	Junipero St. and W. Mission Dr.	19710506
96000392	Los Angeles	San Pedro	San Pedro Municipal Ferry Building	Berth 84, Foot of 6th St.	19960412
76000487	Los Angeles	Glendale	San Rafael Rancho	Bonita Dr.	19761212
05001499	Los Angeles	Los Angeles	Santa Fe Coast Lines Hospital	610-30 S. Louis St.	20060103
05001498	Los Angeles	Los Angeles	Santa Fe Freight Depot	970 E. 3rd St.	20060103
87000766	Los Angeles	Santa Monica	Santa Monica Looff Hippodrome	276 Santa Monica Pier	19870227
83001192	Los Angeles	Pasadena	Sara-Thel Court	618-630 S. Marengo Ave.	19830711
71000150	Los Angeles	West Hollywood	Schindler, R. M., House	833 N. Kings Rd.	19710714
84000887	Los Angeles	Claremont	Scripps College for Women	Columbia and 10th St.	19840920
99000893	Los Angeles	Altadena	Scripps Hall	209 E. Mariposa St.	19990728
05001407	Los Angeles	Los Angeles	Sears, Roebuck & Company Mail Order Building	2650 E. Olympic Blvd.	20060421
09000151	Los Angeles	Los Angeles	Second Baptist Church	1100 E. 24th St.	20090317
05000212	Los Angeles	Long Beach	Second Church of Christ Scientist	655 Cedar Ave.	20050401
87000576	Los Angeles	Los Angeles	Second Church of Christ, Scientist	946 W. Adams Blvd.	19870402
83001204	Los Angeles	Hollywood	Security Trust and Savings	6381-85 Hollywood Blvd.	19830818
05000213	Los Angeles	Los Angeles	Security-First National Bank of Los Angeles	529 Wilshire Blvd.	20050330
71000153	Los Angeles	Monrovia	Sinclair, Upton, House	464 N. Myrtle Ave. 16 S. Oakland Ave. and 520 E.	19711111
85001066	Los Angeles	Pasadena	Singer Building	Colorado Blvd.	19850516
82000971	Los Angeles	Los Angeles	Smith Estate	5905 El Mio Dr.	19821029
87002397	Los Angeles	Pasadena	Smith, Ernest W., House	272 S. Los Robles Ave.	19880114
76000491	Los Angeles	Los Angeles	Somerville Hotel	4225 S. Central Ave.	19760117

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Reference Number	County	City	Resource Name	Address	Listed Date
87002401	Los Angeles	Los Angeles	South Bonnie Brae Tract Historic District	1026--1053 S. Bonnie Brae St. and 1830--1851 W. Eleventh St.	19880114
82002199	Los Angeles	Pasadena	South Marengo Historic District	S. Marengo Ave. Roughly bounded by Mission and El Centro Sts., and Fairview and Meridian Aves.	19820602
82002202	Los Angeles	South Pasadena	South Pasadena Historic District	Meridian Aves.	19820721
87002407	Los Angeles	Los Angeles	South Serrano Avenue Historic District	400 blk. of S. Serrano Ave. 800,810,820 and 830 S. Flower St.	19880128
04000623	Los Angeles	Los Angeles	Southern California Gas Company Complex	2900 E Del Mar Blvd.	20040622
13000160	Los Angeles	Pasadena	Southern California Sanitarium Historic District	7333 Greenleaf Ave.	20130501
04001105	Los Angeles	Whittier	Southern Pacific Railroad Depot, Whittier	234 Museum Dr.	20050329
92001270	Los Angeles	Los Angeles	Southwest Museum	205 Washington Ave.	20040311
97001236	Los Angeles	Santa Monica	Sovereign Hotel	5121 Franklin Ave.	19971024
71000151	Los Angeles	Los Angeles	Sowden, John, House	Jet Propulsion Laboratory	19710714
85002814	Los Angeles	Pasadena	Space Flight Operations Facility	354--704 S. Spring St.	19851003
79000489	Los Angeles	Los Angeles	Spring Street Financial District	401 S. Main St. and 405-11 S. Main St.	19790810
00000387	Los Angeles	Los Angeles	Spring Street Financial District (Boundary Increase		20000421
98000244	Los Angeles	Los Angeles	St. Andrews Bungalow Court	1514-1544 N. St. Andrews Pl. Roughly bounded by 21st and 23 Sts., Mount St. Mary's College, W. Adams Blvd. and Union Ave.	19980319
91001387	Los Angeles	Los Angeles	St. James Park Historic District		19910927
00000425	Los Angeles	Los Angeles	St. John's Episcopal Church	514 W. Adams Blvd.	20000505
80000816	Los Angeles	Whittier	Standard Oil Building	7257 Bright Ave.	19800609
09000802	Los Angeles	Malibu	Stevens House	23524 Malibu Colony Rd.	20091009
87001021	Los Angeles	Los Angeles	Stevenson, Robert Louis, Branch	803 Spence St.	19870519
78000690	Los Angeles	Los Angeles	Stimson House	2421 S. Figueroa St.	19780330
71000152	Los Angeles	Los Angeles	Storer House	8161 Hollywood Blvd.	19710928
05000050	Los Angeles	Pasadena	Storrier--Stearns Japanese Garden	270 Arlington Dr.	20050215
80000814	Los Angeles	Pasadena	Stoutenburgh House	255 S. Marengo Ave.	19801125

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Reference Number	County	City	Resource Name	Address	Listed Date
92000833	Los Angeles	La Verne	Straight, Charles E., House	4333 Emerald Ave.	19920708
13000754	Los Angeles	Los Angeles	Strathmore Apartments	11005-11013 1/2 Strathmore Dr.	20130925
72000232	Los Angeles	Los Angeles	Streetcar Depot	Pershing and Dewey Aves.	19720223
94001326	Los Angeles	Pasadena	Stuart Company Plant and Office Building	3360 E. Foothill Blvd. 417, 415, 425 S. Hill St., 416, 420 424 S. Olive St.	19981020
06000657	Los Angeles	Los Angeles	Subway Terminal Building	8358 Sunset Blvd.	20060802
80000812	Los Angeles	West Hollywood	Sunset Towers	550 S. Flower St.	19800530
03000059	Los Angeles	Los Angeles	Superior Oil Company Building	417 E. Beryl St.	20030228
85001984	Los Angeles	Redondo Beach	Sweetser Residence	15415 E. Don Julian Rd.	19850905
74000518	Los Angeles	Industry	Temple Mansion	315 E. Eighth St.	19741202
05000048	Los Angeles	Los Angeles	Textile Center Building	401-411 W. 5th St.	20050215
84000891	Los Angeles	Los Angeles	Title Guarantee and Trust Company Building	1847 Camino Palmero	19840726
83001205	Los Angeles	Hollywood	Toberman, C. E., Estate	2200 W. Carson	19830915
83003542	Los Angeles	Torrance	Torrance School	2959--2973 Wilshire Blvd. and 607--643 S. Commonwealth Ave.	19831013
96000821	Los Angeles	Los Angeles	Town House, The	100 St. Catherine Way, Catalina Island	19971215
91000338	Los Angeles	Avalon	Tuna Club of Avalon	912--950 20th St. (even numbers)	19910722
91000915	Los Angeles	Los Angeles	Twentieth Street Historic District	1006 E. 28th St.	20090317
09000145	Los Angeles	Los Angeles	Twenty-eighth Street YMCA	Jet Propulsion Laboratory	19851003
85002812	Los Angeles	Pasadena	Twenty-Five Foot Space Simulator	312 N. Spring St.	20060209
06000001	Los Angeles	Los Angeles	US Court House and Post Office	469 N. Crescent Dr.	19850111
85000126	Los Angeles	Beverly Hills	US Post Office--Beverly Hills Main	125 E. Olive Ave.	19850111
85000127	Los Angeles	Burbank	US Post Office--Burbank Downtown Station	313 E. Broadway St.	19850111
85000128	Los Angeles	Glendale	US Post Office--Glendale Main	1615 N. Wilcox Ave.	19850111
85000130	Los Angeles	Los Angeles	US Post Office--Hollywood Station	300 Long Beach Blvd.	19850111
85000129	Los Angeles	Long Beach	US Post Office--Long Beach Main	900 Alameda St.	19850111
85000131	Los Angeles	Los Angeles	US Post Office--Los Angeles Terminal Annex	839 S. Beacon St.	19850111
85000132	Los Angeles	San Pedro	US Post Office--San Pedro Main		19850111

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Reference Number	County	City	Resource Name	Address	Listed Date
89001103	Los Angeles	Los Angeles	Van Buren Place Historic District	2620--2657 Van Buren Pl.	19890810
87001019	Los Angeles	Los Angeles	Van Nuys Branch	14553 Sylvan Way	19870519
72000228	Los Angeles	Agua Dulce	Vasquez Rocks	Address Restricted	19720622
87001020	Los Angeles	Los Angeles	Venice Branch	610 California Ave. Roughly bounded by Grand, Carroll, Eastern, and Sherman canals	19870519
82002193	Los Angeles	Los Angeles	Venice Canal Historic District		19820830
00001623	Los Angeles	Los Angeles	Venice of America House	1223 Cabrillo Ave.	20010409
87001022	Los Angeles	Los Angeles	Vermont Square Branch	1201 W. Forty-eighth St.	19870519
86001950	Los Angeles	Hollywood	Villa Bonita	1817 Hillcrest Rd.	19860912
14000303	Los Angeles	Altadena	Villa Carlotta	234 E. Mendocino St.	20140617
		Rancho Palos Verdes			
86002796	Los Angeles	Verdes	Villa Francesca	1 Peppertree Dr.	19861002
96000778	Los Angeles	Long Beach	Villa Riviera	800 E. Ocean Blvd.	19960725
84000896	Los Angeles	Pasadena	Villa Verde	800 S. San Rafael	19840913
81000157	Los Angeles	Pasadena	Vista del Arroyo Hotel and Bungalows	125 S. Grand Ave.	19810402
04000015	Los Angeles	Pasadena	Ware, Henry A., House	460 Bellefontaine St.	20040615
98001633	Los Angeles	San Pedro	Warner Brothers Theatre	478 W. 6th St.	19990121
91000635	Los Angeles	Culver City	Washington Building	9720--9732 Washington Blvd.	19910528
94001316	Los Angeles	Pasadena	Washington Court	475 E. Washington Blvd.	19941115
74000523	Los Angeles	Los Angeles	Watts Station	1686 E. 103rd St.	19740315
77000297	Los Angeles	Los Angeles	Watts Towers of Simon Rodia	1765 E. 107th St.	19770413
		Rancho Paolos			
05000210	Los Angeles	Verdes	Wayfarers Chapel	5755 Palos Verdes Dr. S	20050711
89002114	Los Angeles	Santa Monica	Weaver, Henry, House	142 Adelaide Dr. 9.5 mi. N of San Fernando, W of U.S. 99	19891227
66000212	Los Angeles	San Fernando	Well No. 4, Pico Canyon Oil Field		19661113
09001200	Los Angeles	Los Angeles	Westlake Theatre	634-642 S. Alvarado St.	20100107
04000732	Los Angeles	Los Angeles	Whitley Court	1720-1728 1/2 Whitley Ave.	20040728

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Reference Number	County	City	Resource Name	Address	Listed Date
82002189	Los Angeles	Hollywood	Whitley Heights Historic District	Roughly bounded by Franklin, Highland, Cahuenga, and Fairfield Aves.	19820819
99000579	Los Angeles	Long Beach	Willmore, The	315 W. Third St.	19990520
87001023	Los Angeles	Los Angeles	Wilmington Branch	309 W. Opp St.	19870519
87001024	Los Angeles	Los Angeles	Wilshire Branch	149 N. Saint Andrews Pl.	19870519
86001666	Los Angeles	Venice	Wilson, Warren, Beach House	15 Thirtieth St.	19860717
79000490	Los Angeles	Los Angeles	Wilton Historic District	S. Wilton Pl., S. Wilton Dr., and Ridgewood Pl.	19790724
84000900	Los Angeles	Redondo Beach	Woman's Club of Redondo Beach	400 S. Broadway	19840419
13000551	Los Angeles	Los Angeles	Women's Twentieth Century Club of Eagle Rock	5105 Hermosa Ave.	20130730
93001463	Los Angeles	Altadena	Woodbury--Story House	2606 N. Madison Ave.	19931230
74000519	Los Angeles	Industry	Workman Adobe	15415 Don Julian Rd.	19741120
74000520	Los Angeles	Industry	Workman Family Cemetery	15415 E. Don Julian Rd.	19741120
87000562	Los Angeles	West Hollywood	Wright, Lloyd, Home and Studio	858 N. Doheny Dr.	19870406
85001785	Los Angeles	Avalon	Wrigley, William, Jr., Summer Cottage	76 Wrigley Rd.	19850815
73000407	Los Angeles	South Pasadena	Wynyate	851 Lyndon St.	19730424
12000811	Los Angeles	Los Angeles	Yamashiro Historic District	1999 N. Sycamore Ave.	20120925
04000595	Los Angeles	Los Angeles	Young's Market Company Building	1610 W. Seventh St.	20040615
02000679	Los Angeles	Los Angeles	Ziegler Estate	4601 N. Figueroa Blvd.	20020627
81000163	Orange	Orange	Ainsworth, Lewis, House	414 E. Chapman Ave.	19810313
94000364	Orange	Tustin	Artz Building	150--158 W. Main St.	19940418
80000826	Orange	Anaheim	Backs, Ferdinand, House	225 N. Claudina St.	19801014
86000730	Orange	Newport Beach	Balboa Inn	105 Main St.	19860411
84000914	Orange	Balboa	Balboa Pavilion	400 Main St.	19840517
86001903	Orange	Newport Beach	Bank of Balboa--Bank of America	611 E. Balboa Blvd.	19860724
96001537	Orange	Yorba Linda	Bixby--Bryant Ranch House	5700 Susanna Bryant Dr.	19970116
78000730	Orange	Placentia	Bradford, A. S., House	136 Palm Circle	19781003
84000917	Orange	Brea	Brea City Hall and Park	401 S. Brea Blvd.	19840524

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Reference Number	County	City	Resource Name	Address	Listed Date
82002223	Orange	Santa Ana	Builders Exchange Building	202--208 N. Main St.	19820429
79000511	Orange	Anaheim San Juan	Carnegie Library	241 S. Anaheim Blvd.	19791022
90001484	Orange	Capistrano	Casa de Esperanza	31806 El Camino Real	19901001
91001900	Orange	San Clemente	Casa Romantica	415 Avenida Granada	19911227
83001212	Orange	Fullerton	Chapman Building	110 E. Wilshire Ave.	19830922
93000300	Orange	Irvine	Christ College Site	Address Restricted	19930416
76000506	Orange	Fullerton San Juan	Clark, Dr. George C., House	California State University campus	19761212
02000801	Orange	Capistrano	Congdon, Joel R., House	32701 Alipaz St.	20020722
79000514	Orange	Laguna Beach	Crystal Cove Historic District	NW of Laguna Beach	19790615
86000458	Orange	Orange	Culver, C. Z., House	205 E. Palmyra	19860320
08001406	Orange	Fullerton	Dewella Apartments	234-236 E. Wilshire Ave.	20090202
84000438	Orange	Santa Ana	Downtown Santa Ana Historic Districts (North, Government/Institutional and South, Retail)	Roughly bounded by Civic Center Dr., First, Ross, and Spurgeon Sts.	19841219
83001213	Orange	San Clemente	Easley, Oscar, Block	101 El Camino Real	19830217
01000682	Orange	Santa Ana	Ebell Society of Santa Ana Valley	625 N. French St.	20010702
83001214	Orange	Fullerton San Juan	Elephant Packing House	201 W. Truslow Ave.	19830921
88000557	Orange	Capistrano	Esslinger Building	31866 Camino Capistrano	19880516
72000243	Orange	Costa Mesa	Fairview Indian Site	Address Restricted	19720627
94000360	Orange	Fullerton	Farmers and Merchants Bank of Fullerton	122 N. Harbor Blvd.	19940419
13000511	Orange	Fullerton	Fender's Radio Service	1-7 S. Harbor Blvd.	20130723
96000327	Orange	Orange San Juan	First Baptist Church of Orange	192 S. Orange St.	19960328
86002405	Orange	Capistrano	Forster, Frank A., House	27182 Ortega Hwy.	19860911
06000948	Orange	Fullerton	Fox Fullerton Theatre Complex	500-512 N. Harbor Blvd.	20061025
77000319	Orange	Irvine	Frances Packing House	NE of Irvine	19770802

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Reference Number	County	City	Resource Name	Address	Listed Date
99000551	Orange	Santa Ana	French Park Historic District	Roughly bounded by N. Bush, E. Washington, and N. Garfield Sts., and Civic Center Dr. E.	19990512
03000424	Orange	Fullerton	Fullerton City Hall	237 W. Commonwealth Ave.	20030522
01000076	Orange	Fullerton	Fullerton First Methodist Episcopal Church	117 N. Pomona Ave.	20010213
02000383	Orange	Fullerton	Fullerton Odd Fellows Temple	112 E. Commonwealth Ave.	20020426
12000549	Orange	Fullerton	Fullerton Post Office	202 E. Commonwealth Ave.	20120828
83003551	Orange	Fullerton	Fullerton Union Pacific Depot	100 E. Santa Fe Ave.	19831012
04001136	Orange	San Clemente	Goldschmidt House	243 Avenida La Cuesta	20041014
02000151	Orange	Cleveland National	Greystone Villa--Cabin 18	Sievers Canyon, Trabuco Ranger District	20020315
13000473	Orange	Forest	Hansen, George, House	400B N. West St.	20130710
85002764	Orange	Santa Ana	Harmon-McNeil House	322 E. Chestnut St.	19851107
79000515	Orange	San Juan	Harrison House	27832 Ortega Hwy.	19790821
86003668	Orange	Capistrano	Helme--Worthy Store and Residence	513--519 Walnut St. and 128 Sixth St.	19870331
93000597	Orange	Huntington Beach	Hetebrink House	515 E. Chapman	19930701
04000812	Orange	Fullerton	Hillcrest Park	200 Brea Blvd.	20040811
89001149	Orange	Fullerton	Hotel San Clemente	114 Avenida Del Mar	19890831
77000320	Orange	San Clemente	Howe-Waffle House and Carriage House	Sycamore and Civic Center Dr.	19770413
94001499	Orange	Santa Ana	Huntington Beach Elementary School Gymnasium and Plunge	1600 Palm Ave.	19941229
89001203	Orange	Huntington Beach	Huntington Beach Municipal Pier	Main St. and Ocean Ave.	19890824
13000157	Orange	Huntington Beach	Huntington Beach Public Library on Triangle Park	525 Main St.	20130416
86000068	Orange	Irvine	Irvine Bean and Growers Association Building	14972 Sand Canyon Ave.	19860113
86000452	Orange	Irvine	Irvine Blacksmith Shop	14952 Sand Canyon Ave.	19860320
83001215	Orange	Irvine	Irvine Park	21401 Chapman Ave.	19830407
75000449	Orange	Placentia	Key, George, Ranch	625 Bastanchury Rd.	19750421

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Reference Number	County	City	Resource Name	Address	Listed Date
83001217	Orange	Anaheim	Kraemer, Samuel, Building (American Savings Bank/First National Bank)	76 S. Claudina St Roughly bounded by Lincoln Ave., S. Kroger, W. Broadway and S. Philadelphia	19830616
85001326	Orange	Anaheim	Kroger-Melrose District	Philadelphia	19850619
75000451	Orange	Santa Ana San Juan	Lighter-than-Air Ship Hangars	Valencia and Redhill Aves.	19750403
83001216	Orange	Capistrano	Los Rios Street Historic District	31600-31921 Los Rios St.	19830404
74000545	Orange	Newport Beach	Lovell Beach House	1242 W. Ocean Front	19740205
84000922	Orange	Laguna Beach	Mariona	2529 S. Coast Hwy.	19840329
95000355	Orange	Fullerton	Masonic Temple	501 N. Harbor Blvd. 226 and 228 E. Adele and 303, 307, 317, 321 N. Philadelphia	19950331
86000783	Orange	Anaheim	Melrose-Backs Neighborhood Houses	322 W. 3rd St.	19860403
80000830	Orange	Santa Ana San Juan	Minter, George W., House	Camino Capistrano and Ortega Hwy.	19800609
71000170	Orange	Capistrano	Mission San Juan Capistrano		19710903
72000244	Orange	Modjeska San Juan	Modjeska House	Modjeska Canyon Rd.	19721211
75000450	Orange	Capistrano	Montanez Adobe	31745 Los Rios St.	19750421
80000829	Orange	Fullerton	Muckenthaler House	1201 W. Malvern Ave.	19800531
85003374	Orange	Huntington Beach	Newland House	19820 Beach Blvd.	19851024
71000171	Orange	Yorba Linda	Nixon, Richard, Birthplace	18061 Yorba Linda Blvd.	19711217
83001218	Orange	Santa Ana	Odd Fellows Hall	309-311 N. Main St.	19830818
80000827	Orange	Anaheim	Old Backs House	215 N. Claudina St. Roughly bounded by Walnut Ave., Waverly St., W.O. Hart Park, La Veta Ave., Clark St., and	19801014
97000617	Orange	Orange	Old Towne Orange Historic District	Atchison Topeka Railroad Track	19970711
93001038	Orange	Orange	Olive Civic Center	3030 N. Magnolia Ave.	19931007
77000321	Orange	Santa Ana	Orange County Courthouse	211 W. Santa Ana Blvd.	19770829

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Reference Number	County	City	Resource Name	Address	Listed Date
93000282	Orange	Orange	Orange Intermediate School--Central Grammar School	370 N. Glassell St.	19930413
75000448	Orange	Orange	Orange Union High School	333 N. Glassell St.	19750414
79000517	Orange	Yorba Linda	Pacific Electric Railway Company Depot	18132 Imperial Hwy.	19791025
83001219	Orange	Santa Ana	Pacific Electric Sub-Station No. 14	475 North Lacy St.	19830922
89000975	Orange	Orange	Parker House	163 S. Cypress St.	19890810
78000731	Orange	San Juan	Parra, Miguel, Adobe	27832 Ortega Hwy.	19780911
79000513	Orange	Capistrano	Pickwick Hotel	225 S. Anaheim Blvd.	19791231
93000907	Orange	Anaheim	Pierotti, Attilio and Jane, House	1731 N. Bradford Ave.	19930902
		Fullerton		Roughly bounded by Maple and Almond Aves., Orange and Olive Sts.	
82002221	Orange	Orange	Plaza Historic District		19820319
78000729	Orange	Orange	Plaza, The	Chapman Ave. and Glassell St.	19781220
93001019	Orange	Fullerton	Plummer, Louis, Auditorium	201 E. Chapman Ave.	19930930
94000818	Orange	Orange	Porter--French House	248 S. Batavia St.	19940805
83001220	Orange	Orange	Rankin Building	117 W. 4th St.	19830224
81000164	Orange	Santa Ana	San Clemente Beach Club	Avenida Boca De La Playa	19810409
82000975	Orange	San Clemente	Santa Ana City Hall	217 N. Main St.	19821110
86001549	Orange	Santa Ana	Santa Ana Fire Station Headquarters No. 1	1322 N. Sycamore St.	19860710
91002031	Orange	Fullerton	Santa Fe Railway Passenger and Freight Depot	140 E. Santa Fe Ave.	19920205
82000976	Orange	Santa Ana	Santora Building	207 N. Broadway	19821227
83001221	Orange	Seal Beach	Seal Beach City Hall	201 8th St.	19830811
76000505	Orange	El Toro	Serrano, Jose, Adobe	21802 Serrano Rd.	19760524
83001222	Orange	Villa Park	Smith and Clark Brothers Ranch and Grounds	18922 Santiago Blvd.	19830922
78000732	Orange	Santa Ana	Smith-Tuthill Funeral Parlors	518 N. Broadway	19780519
83001223	Orange	Santa Ana	Southern Counties Gas Co.	207 W. 2nd St.	19830728
79000516	Orange	Santa Ana	Spurgeon Block	206 W. 4th St	19790831
88000978	Orange	Laguna Beach	St. Francis by-the-Sea American Catholic Church	430 Park Ave.	19880630

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Reference Number	County	City	Resource Name	Address	Listed Date
91001520	Orange	Orange	St. John's Lutheran Church	185 S. Center St.	19911016
04000017	Orange	Anaheim	St. Michael's Episcopal Church	311 West South St.	20040211
80000828	Orange	Anaheim	Stanton, Phillip Ackley, House	2200 W. Sequoia Ave.	19801121
84000926	Orange	Tustin	Stevens, Sherman, House	228 W. Main St.	19840105
		San Juan			
09000823	Orange	Capistrano	Stroschein, Carl, House	31682 EL Camino Real	20091014
82000977	Orange	Anaheim	Truxaw-Gervais House	887 S. Anaheim Blvd.	19821029
85000134	Orange	Santa Ana	US Post Office Station--Spurgeon Station	605 Bush St.	19850111
02001725	Orange	Villa Park	Villa Park School	10551 Center Dr.	20030327
				Dana Point Youth & Group Facility, W. basin, Dana Point Harbor	
91000337	Orange	Dana Point	VIRGINIA (sloop)		19910402
82002224	Orange	Santa Ana	Walkers Orange County Theater	308 N. Main St.	19820219
11000431	Orange	Newport Beach	WILD GOOSE (yacht)	2431 West Coast Hwy.	20110719
		San Juan			
06001237	Orange	Capistrano	Williams, Roger Y., House	29991 Camino Capistrano	20070110
13000474	Orange	Anaheim	Woelke, John, House	400B N. West St.	20130708
82000978	Orange	Santa Ana	Wright, George L., House	831 N. Minter St.	19821112
		San Juan			
82002222	Orange	Capistrano	Yorba, Domingo Adobe and Casa Manuel Garcia	31781 Camino Capistrano	19820204
86000107	Orange	Santa Ana	Yost Theater--Ritz Hotel	301--307 N. Spurgeon St.	19860123
			Young Men's Christian Association--Santa Ana-		
93000237	Orange	Santa Ana	Tustin Chapter	205 W. Civic Center Dr.	19930325
80000831	Riverside	Riverside	Administration Building, Sherman Institute	9010 Magnolia Ave.	19800109
78000736	Riverside	Riverside	All Souls Universalist Church	3657 Lemon St.	19780918
73000422	Riverside	Palm Springs	Andreas Canyon	Address Restricted	19730108
03000121	Riverside	Blythe	Archeological Sites CA-RIV-504 and CA-RIV-773	Address Restricted	20030312
93000668	Riverside	Riverside	Arlington Branch Library and Fire Hall	9556 Magnolia Ave.	19930722
91002032	Riverside	Lake Elsinore	Armory Hall	252 N. Main St.	19920129

Cultural Resource Technical Report

Reference Number	County	City	Resource Name	Address	Listed Date
75000173	Riverside	Twentynine Palms	Barker Dam	SE of Twentynine Palms in Joshua Tree National Monument	19751029
75000452	Riverside	Blythe	Blythe Intaglios	Address Restricted	19750822
76000509	Riverside	Perris	Buttercup Farms Pictograph	Address Restricted	19760503
11000942	Riverside	Desert Hot Springs	Cabot's Old Indian Pueblo Museum	67-616 E. Desert View Ave.	20120228
77000324	Riverside	Corona	Carnegie, Andrew, Library	8th and Main Sts.	19770629
99000895	Riverside	Riverside	Childs, William, House	1151 Monte Vista Dr.	19990728
90000151	Riverside	Riverside	Chinatown	Brockton and Tequesquite Aves.	19900301
72000247	Riverside	Valerie	Coachella Valley Fish Traps	Address Restricted	19720613
98001286	Riverside	Desert Center	Corn Springs	Address Restricted	19981030
05000772	Riverside	Corona	Corona High School	815 W. 6th St.	20050803
75000453	Riverside	Lake Elsinore	Crescent Bathhouse	201 W. Graham Ave.	19750730
76000216	Riverside	Twentynine Palms	Desert Queen Mine	S of Twentynine Palms in Joshua Tree National Monument	19760117
01001178	Riverside	San Jacinto	Estudillo Mansion	150 S. Dillon	20011025
78000737	Riverside	Riverside	Federal Post Office	3720 Orange St.	19781120
92001250	Riverside	Riverside	First Church of Christ, Scientist	3606 Lemon St.	19920922
97000297	Riverside	Riverside	First Congregational Church of Riverside	3504 Mission Inn Ave.	19970403
03000533	Riverside	Mira Loma	Galleano Winery	4231 Wineville Rd.	20030622
99001593	Riverside	Winchester	Garbani, Rocco, Homestead	33555 Holland Rd.	19991222
76000508	Riverside	Banning	Gilman Ranch	1937 W. Gilman St.	19771117
11000432	Riverside	Corona	Grand Boulevard Historic District	Grand Blvd.	20110714
77000325	Riverside	Riverside	Harada House	3356 Lemon St.	19770915
73000423	Riverside	Riverside	Heritage House	8193 Magnolia Ave.	19730228
79000519	Riverside	Rubidoux	Jensen, Cornelius, Ranch	4350 Riverview Dr	19790906
00000033	Riverside	Norco	Lake Norconian Club	Jct. of Fifth and Western Ave.	20000204
03000118	Riverside	Desert Center	Lederer, Gus, Site	Address Restricted	20030312
94001420	Riverside	Riverside	March Field Historic District	Eschscholtzia Ave., March Air Force Base	19941206

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Reference Number	County	City	Resource Name	Address	Listed Date
99001471	Riverside	North Palm Springs Torres-Martinez	Martinez Canyon Rockhouse	BLM, Palm Springs-South Coast Resource Area	19991214
73000425	Riverside	Indian Reservation	Martinez Historical District	Off SR 86	19730517
80000832	Riverside	Riverside	Masonic Temple	3650 11th St.	19800606
82002226	Riverside	Blythe	McCoy Spring Archeological Site	Address Restricted 3355--3373 Second St. and 3354- -3362 First St.	19820510
93000549	Riverside	Riverside	Mission Court Bungalows	3649 7th St.	19930708
71000173	Riverside	Riverside	Mission Inn	25905 CA 243	19710514
13000416	Riverside	Idyllwild	Mount San Jacinto State Park Historic District	Address Restricted	20130625
73000424	Riverside	Temecula	Murrieta Creek Archeological Area	Address Restricted	19730424
81000165	Riverside	Desert Center	North Chuckwalla Mountain Quarry District North Chuckwalla Mountains Petroglyph District	Address Restricted	19810824
81000166	Riverside	Desert Center	Ca-Riv 1383	Address Restricted	19810903
10001123	Riverside	Palm Springs	O'Donnell, Thomas, House	447 Alejo Rd	20110107
82002227	Riverside	Riverside	Old YWCA Building	3425 Mission Inn Avenue	19820128
94000819	Riverside	Perris	Perris Depot Riverside Municipal Auditorium and Soldier's Memorial Building	120 W. Fourth St. 3485 7th St.	19940805
78000738	Riverside	Riverside	Riverside-Arlington Heights Fruit Exchange	3391 7th St.	19780331
80000833	Riverside	Riverside	Riverside-Arlington Heights Fruit Exchange	S of Twentynine Palms in Joshua Tree National Monument	19800609
75000175	Riverside	Twentynine Palms	Ryan House and Lost Horse Well	3751 Vine St.	19750605
77000326	Riverside	Riverside	San Pedro, Los Angeles, & Salt Lake RR Depot	31985 San Timoteo Canyon Rd.	19770418
00001646	Riverside	Redlands	San Timoteo Canyon Schoolhouse	3610 11th St.	20010119
80000834	Riverside	Riverside	Simon's, M. H., Undertaking Chapel	445 S. D St.	19800609
92001384	Riverside	Perris	Southern Hotel	3125 N. Sunny View Dr.	19921015
12000125	Riverside	Palm Springs	Steel Development House Number 2	3191 Seventh St.	20120320
86000732	Riverside	Riverside	Sutherland Fruit Company	Address Restricted	19860411
72000246	Riverside	Palm Springs	Tahquitz Canyon	2060 University Ave.	19721031
93000547	Riverside	Riverside	University Heights Junior High School		19930624

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Reference Number	County	City	Resource Name	Address	Listed Date
00001267	Riverside	Riverside	Victoria Avenue	Victoria Ave., from Arlington Ave. to Boundary Ln.	20001026
88002014	Riverside	Corona	Woman's Improvement Club Clubhouse	1101 S. Main St.	19881103
76000513	San Bernardino	Redlands	A. K. Smiley Public Library	125 W. Vine St.	19761212
82002239	San Bernardino	Baker	Aiken's Wash National Register District	Address Restricted	19820524
81000170	San Bernardino	Silver Lake	Archeological Site CA SBR 3186	Address Restricted	19810210
03000119	San Bernardino	Baker	Archeological Site CA-SBR-140	Address Restricted	20030610
85003435	San Bernardino	Needles	Archeological Site No. D-4	Address Restricted	19851025
85003430	San Bernardino	Parker	Archeological Site No. E-21	Address Restricted	19851025
01000025	San Bernardino	San Bernardino	Atchison, Topeka and Santa Fe Railway Passenger and Freight Depot	1170 W. 3rd St.	20010202
12000442	San Bernardino	Redlands	Auerbacher Home	121 Sierra Vista Dr.	20120801
96001176	San Bernardino	Redlands	Barton Villa	11245 Nevada St.	19961024
04000018	San Bernardino	Redlands	Beverly Ranch	923 W. Fern Ave.	20040211
82000981	San Bernardino	Barstow	Bitter Spring Archaeological Site (4-SBr-2659) Black Canyon--Inscription Canyon--Black Mountain	Address Restricted	19821220
00001046	San Bernardino	Hinkley	Rock Art District	Address Restricted	20000912
00001326	San Bernardino	Red Mountains	Blackwater Well	Address Restricted	20001121
07001353	San Bernardino	Fontana	Bono's Restaurant and Deli	15395 Foothill Blvd.	20080110
82002241	San Bernardino	Johannesburg	CA SBr 1008A, CA SBr 1008B, CA SBr 1008C	Address Restricted	19820524
73000430	San Bernardino	Yermo	Calico Mountains Archeological District	Address Restricted	19730330
09001116	San Bernardino	San Bernardino	California Theatre, The	562 W. 4th St.	20091222
88000894	San Bernardino	Colton	Carnegie Public Library Building	380 N. La Cadena Dr.	19880623
75000228	San Bernardino	Twentynine Palms	Cow Camp	SW of Twentynine Palms in Joshua Tree National Monument	19751029
76000514	San Bernardino	San Bernardino	Crowder Canyon Archeological District	Address Restricted	19760616
02000537	San Bernardino	Needles	El Garces	950 Front St.	20020517
12000126	San Bernardino	Ontario	Ensign, Dr. Orville S., House	304 S. Laurel Ave.	20120320
05000843	San Bernardino	Upland	Euclid Avenue	From 24th St. in Upland to Philadelphia St. in Ontario	20050810

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Reference Number	County	City	Resource Name	Address	Listed Date
03000037	San Bernardino	Rialto	First Christian Church of Rialto	201 N. Riverside Ave.	20030220
82000982	San Bernardino	Fontana	Fontana Farms Company Ranch House, Camp No. 1	8863 Pepper St.	19821101
80000838	San Bernardino	Fontana	Fontana Pit and Groove Petroglyph Site	Address Restricted	19800417
02000980	San Bernardino	Barstow	Fossil Canyon Petroglyph Site	Address Restricted	20030303
95000044	San Bernardino	Twentynine Palms	Foxtrot Petroglyph Site	Address Restricted	19950223
80000839	San Bernardino	Ontario	Frankish Building	200 S. Euclid Ave.	19800811
01001102	San Bernardino	Goffs	Goffs Schoolhouse	37198 Lanfair Rd.	20011011
75000458	San Bernardino	Barstow	Harvey House Railroad Depot	Santa Fe Depot Roughly bounded by Cole and Nona Ave., Pacific and Church Sts.	19750403
01000333	San Bernardino	Highland	Highland Historic District		20010405
93000596	San Bernardino	Ontario	Hofer Ranch	11248 S. Turner Ave. Kelbaker Rd., jct. of Kelbaker and Cima Rds. at Union Pacific Railroad crossing	19930708
01000760	San Bernardino	Kelso	Kelso Depot, Restaurant and Employees Hotel		20010802
75000174	San Bernardino	Twentynine Palms	Keys Desert Queen Ranch	SW of Twentynine Palms in Joshua Tree National Monument	19751030
96000328	San Bernardino	Redlands	Kimberly Crest	1325 Prospect Dr.	19960328
03000471	San Bernardino	Alta Loma	Malroof, Sam and Alfreda, Compound	5131 Carnelian St.	20101109
77000329	San Bernardino	Redlands and	Mill Creek Zanja	Sylvan Blvd. E to Mill Creek Rd.	19770512
79000522	San Bernardino	Chino	Moyse Building	13150 7th St.	19790228
00001325	San Bernardino	Newberry Springs	Newberry Cave Site	Address Restricted	20001121
80000840	San Bernardino	Upland	Old San Antonio Hospital	792 W. Arrow Hwy.	19800102
12000813	San Bernardino	Upland	Ontario and San Antonio Heights Waiting Station	1251 W. 24th St.	20120925
82002242	San Bernardino	Ontario	Ontario State Bank Block	300 S. Euclid Ave.	19820108
11000119	San Bernardino	Rancho Cucamonga	Pacific Electric Etiwanda Depot	7092 Etiwanda Ave Goldstone Deep Space Communications Complex	20110321
85002813	San Bernardino	Fort Irwin	Pioneer Deep Space Station		19851003
73000429	San Bernardino	Needles	Piute Pass Archeological District	Address Restricted	19730814
73000428	San Bernardino	Cucamonga	Rains, John, House	7869 Vineyard Ave.	19730424

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Reference Number	County	City	Resource Name	Address	Listed Date
90002119	San Bernardino	Redlands	Redlands Central Railway Company Car Barn	746 E. Citrus Ave. Roughly bounded by Stuart Ave., N. 5th St., Redlands Blvd., Eureka St. and the SFRR tracks	19910103
91001535	San Bernardino	Redlands	Redlands Santa Fe Depot District Rodman Mountains Petroglyphs Archeological District	Address Restricted	19911029
82002240	San Bernardino	Barstow	San Bernardino County Court House	351 N. Arrowhead Ave.	19820510
97001632	San Bernardino	Lake Arrowhead	Shady Point	778 Shelter Cove Dr. Roughly bounded by Brookside Ave., Cajon St., Cypress Ave. and Buena Vista St.	19980112
09000804	San Bernardino	Lake Arrowhead	Shady Point	778 Shelter Cove Dr. Roughly bounded by Brookside Ave., Cajon St., Cypress Ave. and Buena Vista St.	20091005
94001487	San Bernardino	Redlands	Smiley Park Historic District	Address Restricted	19941229
81000169	San Bernardino	Red Mountain	Squaw Spring Archeological District	Address Restricted	19810728
78000745	San Bernardino	Needles	Topock Maze Archeological Site	Address Restricted	19781005
90001817	San Bernardino	Upland	Upland Public Library	123 E. D St.	19901210
85000136	San Bernardino	San Bernardino	US Post Office--Downtown Station	390 W. 5th St.	19850111
85000135	San Bernardino	Redlands	US Post Office--Redlands Main	201 Brookside Ave.	19850111
75000176	San Bernardino	Twentynine Palms	Wall Street Mill	S of Twentynine Palms in Joshua Tree National Monument	19751112
75000459	San Bernardino	Big Bear City	Washington, Henry, Survey Marker	S of Big Bear City in San Bernardino National Forest	19750512
11000957	San Bernardino	San Bernardino	Wigwam Village No. 7	2728 Foothill Blvd. 5.5 mi. S of Chino at 17127	20120103
75000460	San Bernardino	Chino	Yorba-Slaughter Adobe	Pomona Rincon Rd.	19750707
79000257	Ventura	Port Hueneme	Anacapa Island Archeological District	Address Restricted Anacapa Island, Channel Islands National Park	19790912
91001101	Ventura	Oxnard	Anacapa Island Light Station	Address Restricted	19910903
77000361	Ventura	Ventura	Bard, Elizabeth, Memorial Hospital	121 N. Fir St.	19771111
86001986	Ventura	Fillmore	Bardsdale Methodist Episcopal Church	1418 Bardsdale Ave.	19860828
77000360	Ventura	Port Hueneme	Berylwood	Ventura Rd.	19770915
76000539	Ventura	Santa Susana	Burro Flats Painted Cave	Address Restricted	19760505

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Reference Number	County	City	Resource Name	Address	Listed Date
76000538	Ventura	Oxnard	Calleguas Creek Site	Address Restricted	19760519
03000039	Ventura	Camarillo	Camarillo Ranch House	201 Camarillo Ranch Rd.	20030220
13000522	Ventura	Thousand Oaks	Case Study House No. 28	91 Inverness Rd.	20130724
78000824	Ventura	Simi	Colony House	137 Strathearn Pl.	19780918
77000362	Ventura	Ventura	Dudley House	4085 Telegraph Rd.	19770512
89000949	Ventura	Santa Paula	Ebell Club of Santa Paula	125 S. Seventh St.	19890720
91000485	Ventura	Santa Paula	Faulkner, George Washington, House	14292 W. Telegraph Rd.	19910425
86000109	Ventura	Ventura	Feraud General Merchandise Store	2 and 12 W. Main St.	19860123
09000466	Ventura	Ventura	First Baptist Church of Ventura	101 S. Laurel St.	20090703
82002282	Ventura	Ventura	Franz, Emmanuel, House	31 N. Oak St.	19820625
84001225	Ventura	Santa Paula	Glen Tavern Hotel	134 N. Mill St.	19840726
05001426	Ventura	Ventura	Gould, Thomas, Jr., House	402 Lynn Dr.	20051223
75000495	Ventura	Newbury Park	Grand Union Hotel	51 Ventu Park Rd.	19751230
96001076	Ventura	Simi Valley	Grandma Prisbury's Bottle Village	4595 Cochran St.	19961025
97000295	Ventura	Thousand Oaks	McCrea, Joel, Ranch	4500 N. Moorpark Rd.	19970418
75000496	Ventura	San Buenaventura	Mission San Buenaventura and Mission Compound Site	Bounded by Poli St., Ventura and Santa Clara Aves., and Palm St.	19750410
79000570	Ventura	Ventura	Olivas Adobe	4200 Olivas Park Dr.	19790724
71000210	Ventura	Oxnard	Oxnard Public Library	424 S. C St.	19710727
99000109	Ventura	Oxnard	Oxnard, Henry T., Historic District	F and G Sts., between Palm and 5th Sts.	19990205
00001227	Ventura	Ojai	Pratt, Charles M., House	1330 Foothill Rd.	20020614
96001137	Ventura	Piru	Rancho Camulos	5164 E. Telegraph Rd.	19961101
75000497	Ventura	Ventura	San Buenaventura Mission Aqueduct	234 Canada Larga Rd.	19750307
78000826	Ventura	Ventura	San Miguel Chapel Site	Address Restricted	19780720
86002619	Ventura	Santa Paula	Santa Paula Hardware Company Block--Union Oil Company	1003 E. Main St.	19860814
78000825	Ventura	Simi	Simi Adobe-Strathearn House	137 Strathearn Pl.	19780519
87002111	Ventura	Anacapa Island	SS WINFIELD SCOTT (Steamship)	Address Restricted	19880912

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Reference Number	County	City	Resource Name	Address	Listed Date
95000785	Ventura	Ojai	St. Thomas Aquinas Chapel	130 W. Ojai Ave.	19950629
71000211	Ventura	Ventura	Ventura County Courthouse	501 Poli St.	19710819
86003523	Ventura	Ventura	Ventura Theatre	26 S. Chestnut	19861229
89001150	Ventura	Port Hueneme	Women's Improvement Club of Hueneme	239 E. Scott St.	19890821

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CUL-2 National Historic Landmarks in SCAG Region

Reference Number	County	City	Resource Name	Address	Date Listed
92001875	Los Angeles	Los Angeles	Angelus Temple	1100 Glendale Blvd.	19920427
93000269	Los Angeles	Loa Angeles	Baldwin Hills Village	5300 Village Green	19930401
71000143	Los Angeles	Los Angeles	Barnsdall, Aline, Complex	4800 Hollywood Blvd.	19710506
71000144	Los Angeles	Los Angeles	Bradbury Building	304 S. Broadway	19710714
06000978	Los Angeles	Pacific Palisades	Eames House	203 N Chautauqua Blvd.	20060920
71000155	Los Angeles	Pasadena	Gamble House	4 Westmoreland Pl.	19710903
86000103	Los Angeles	Pasadena	Hale Solar Laboratory	740 Holladay Rd.	19860123
76000494	Los Angeles	San Marino	Hubble, Edwin, House	1340 Woodstock Rd.	19761208
90002222	Los Angeles	San Pedro	LANE VICTORY	Berth 4, Port of San Pedro	19901214
86001479	Los Angeles	Los Angeles	Little Tokyo Historic District	301--369 First and 106--120 San Pedro Sts.	19860822
84003866	Los Angeles	Los Angeles	Los Angeles Memorial Coliseum	3911 S. Figueroa St.	19840727
70000135	Los Angeles	Long Beach	Los Cerritos Ranch House	4600 Virginia Rd.	19700415
89001430	Los Angeles	San Pedro	RALPH J. SCOTT	Berth 85	19890630
87000755	Los Angeles	Pasadena	Rose Bowl, The	991 Rosemont Ave., Brookside Park	19870227
87000766	Los Angeles	Santa Monica	Santa Monica Loeff Hippodrome	276 Santa Monica Pier	19870227
71000153	Los Angeles	Monrovia	Sindlair, Upton, House	464 N. Myrtle Ave.	19711111
85002814	Los Angeles	Pasadena	Space Flight Operations Facility	Jet Propulsion Laboratory	19851003
85002812	Los Angeles	Pasadena	Twenty-Five Foot Space Simulator	Jet Propulsion Laboratory	19851003
77000297	Los Angeles	Los Angeles	Watts Towers of Simon Rodia	1765 E. 107th St.	19770413
66000212	Los Angeles	San Fernando	Well No. 4, Pico Canyon Oil Field	9.5 mi. N of San Fernando, W of U.S. 99	19661113
72000244	Orange	Modjeska	Modjeska House	Modjeska Canyon Rd.	19721211
71000171	Orange	Yorba Linda	Nixon, Richard, Birthplace	18061 Yorba Linda Blvd.	19711217

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Reference Number	County	City	Resource Name	Address	Date Listed
77000325	Riverside	Riverside	Harada House	3356 Lemon St.	19770915
71000173	Riverside	Riverside	Mission Inn	3649 7th St. Goldstone Deep Space	19710514
85002813	San Bernardino	Fort Irwin	Pioneer Deep Space Station	Communications Complex	19851003
96001137	Ventura	Piru	Rancho Camulos	5164 E. Telegraph Rd.	19961101

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CUL-3 State of California Historic Places in SCAG Region

Landmark Plaque Number	Resource Name	California State Historical Landmark	California Register of Historical Resources	Point of Interest	Date Listed	City	County
808	CAMP SALVATION	•			1965-10-05	Calexico	Imperial
P187	CRUCIFIXION THORNS			•	1971-01-19	Calexico	Imperial
806	FORT YUMA	•			1965-06-28	Winterhaven	Imperial
568	HERNANDO DE ALARCÓN EXPEDITION	•			1957-04-01	Andrade	Imperial
P842	HOTEL BARBARA WORTH SITE			•	2001-05-17	El Centro	Imperial
350	MISSION LA PURÍSIMA CONCEPCIÓN	•			1939-10-09	Winterhaven	Imperial
194	MOUNTAIN SPRINGS STATION	•			1935-06-20	Mountain Springs	Imperial
P526	PICACHO			•	1979-01-10	Winterhaven	Imperial
193	PICACHO MINES	•			1935-06-20	Winterhaven	Imperial
845	PLANK ROAD SITE OF FORT ROMUALDO	•			1971-01-21	Winterhaven	Imperial
944	PACHECO	•			1981-09-15	Imperial	Imperial
921	SITE OF MISSION SAN PEDRO Y SAN PABLO DE BICUNER	•			1978-06-30	Bard	Imperial
1034	TECOLOTE RANCHO SITE TOWNSITE OF SILSBEE AND INDIAN WELL	•			2001-05-17	Holtville	Imperial
P569	INDIAN WELL			•	1981-06-12	El Centro	Imperial
182	TUMCO MINES	•			1935-03-06	Ogilby	Imperial
1008	YUHA WELL ABRAHAM LINCOLN ELEMENTARY SCHOOL	•			1993-02-16	Seeley	Imperial
P701				•	1988-08-23	Pomona	Los Angeles

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Landmark Plaque Number	Resource Name	California State Historical Landmark	California Register of Historical Resources	Point of Interest	Date Listed	City	County
966	ADAMSON HOUSE	•			1985-10-01	Malibu	Los Angeles
372	ADOBE DE PALOMARES	•			1941-04-21	Pomona	Los Angeles
P750	ALTADENA TOWN AND COUNTRY CLUB			•	1991-08-08	Altadena	Los Angeles
717	ANGELES NATIONAL FOREST ANTELOPE VALLEY INDIAN MUSEUM	•			1959-12-02	La Canada	Los Angeles
P588	AVILA ADOBE	•		•	1982-03-01	Lancaster	Los Angeles
145	BANNING PARK	•			1934-06-06	Los Angeles	Los Angeles
147	BASSETT ELEMENTARY SCHOOL	•		•	1935-01-11	Wilmington	Los Angeles
P623	BEALE'S CUT STAGECOACH PASS	•			1983-12-15	Bassett	Los Angeles
1006	BELL HOUSE		•		1992-05-11	Santa Clarita	Los Angeles
C3	BELLA UNION HOTEL SITE	•			1999-08-06	Bell	Los Angeles
656	BEMBRIDGE AVIARY		•		1958-09-26	Los Angeles	Los Angeles
C11	BEMBRIDGE CARRIAGE HOUSE		•		2001-08-03	Long Beach	Los Angeles
C12	BEMBRIDGE HOUSE / GREEN HOUSE		•		2001-08-03	Long Beach	Los Angeles
C15	BOB'S BIG BOY RESTAURANT AND SIGN		•		2001-08-03	Long Beach	Los Angeles
P779	BOLTON HALL			•	1992-11-12	Burbank	Los Angeles
P84	BOULEVARD THEATRE / WEST COAST THEATER			•	1968-01-26	Los Angeles	Los Angeles
P529	BRAND PARK	•		•	1979-03-30	Los Angeles	Los Angeles
150	CAMPO DE CAHUENGA	•			1935-01-11	Los Angeles	Los Angeles
151	CAPTAIN WILLIAM BANNING HOME	•			1935-01-11	North Hollywood	Los Angeles
P469	CARPENTER HOUSE MUSEUM			•	1976-02-27	Walnut	Los Angeles
P638	CASA ADOBE DE SAN RAFAEL	•		•	1984-11-16	Bellflower	Los Angeles
235					1935-10-31	Glendale	Los Angeles

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Landmark Plaque Number	Resource Name	California State Historical Landmark	California Register of Historical Resources	Point of Interest	Date Listed	City	County
127	CASA DE GOVERNOR PÍO PICO	•			1934-01-31	Whittier	Los Angeles
984	CASA DE RANCHO SAN ANTONIO	•			1989-05-26	Bell Gardens	Los Angeles
920	CASA DE SAN PEDRO	•			1978-06-30	San Pedro	Los Angeles
653	CASCADES, THE	•			1958-07-28	San Fernando	Los Angeles
637	CATALINA ADOBE	•			1958-03-10	Glendale	Los Angeles
554	CECIL B. DeMILLE STUDIO BARN	•			1956-07-10	Hollywood	Los Angeles
363	CENTINELA SPRINGS	•			1939-10-09	Inglewood	Los Angeles
	CHARLES CHAPLIN FILM STUDIO, A & M RECORDS STUDIO			•	1969-06-06	Los Angeles	Los Angeles
P117					1977-06-27	Chatsworth	Los Angeles
911	CHATSWORTH CALERA SITE	•			1989-11-20	Altadena	Los Angeles
990	CHRISTMAS TREE LANE CHURCH OF THE LIGHTED WINDOW	•		•	1969-08-06	La Canada Flintridge	Los Angeles
P138	CITIZEN PUBLISHING COMPANY						
P670	BUILDING			•	1986-09-02	Culver City	Los Angeles
P723	CLARKE ESTATE			•	1989-11-20	Santa Fe Springs	Los Angeles
P835	DAVID FAMILIAN CHAPEL			•	1999-09-22	North Hollywood La Canada	Los Angeles
P104	DESCANSO GARDENS			•	1968-08-15	Flintridge	Los Angeles
152	DOMÍNGUEZ RANCHHOUSE	•			1935-01-11	Compton	Los Angeles
169	DRUM BARRACKS E. J. BALDWIN'S QUEEN ANNE COTTAGE	•			1935-03-06	Wilmington	Los Angeles
367	EAST LOS ANGELES RAILROAD STATION			•	1993-08-16	Commerce	Los Angeles
P789	EAST WHITTIER WOMAN'S IMPROVEMENT CLUB			•	1986-09-02	Whittier	Los Angeles
P671	EL MONTE-FIRST SOUTHERN	•			1987-08-13	El Monte	Los Angeles
975							

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Landmark Plaque Number	Resource Name	California State Historical Landmark	California Register of Historical Resources	Point of Interest	Date Listed	City	County
	CALIFORNIA SETTLEMENT BY IMMIGRANTS FROM UNITED STATES						
P690	EXPOSITION PARK ROSE GARDEN			•	1987-08-13	Los Angeles	Los Angeles
N1373	FENYES ESTATE			•	1985-09-05	Pasadena	Los Angeles
289	FIRST HOME OF POMONA COLLEGE	•			1938-06-27	Pomona	Los Angeles
P769	FIRST JAPANESE FARM, PALOS VERDES PENINSULA			•	1992-05-11	Rancho Palos Verdes	Los Angeles
822	FIRST JEWISH CEMETARY IN LOS ANGELES	•			1968-01-26	Los Angeles	Los Angeles
871	GAMBLE HOUSE	•			1971-09-03	Pasadena	Los Angeles
912	GLENDORA BOUGAINVILLEA GOOD TEMPLARS HALL AKA	•			1977-10-14	Glendora	Los Angeles
P562	PARDEE HOME			•	1981-03-13	Santa Clarita	Los Angeles
669	GOVERNOR STONEMAN ADOBE, LOS ROBLES	•			1958-12-01	San Marino	Los Angeles
646	GRAVE OF GEORGE CARALAMBO, Greek George	•			1958-05-29		Los Angeles
716	GRIFFITH RANCH	•			1959-12-02	San Fernando	Los Angeles
P794	HAMILTON AERO HANGAR, UNITED AIRPORT			•	1994-03-11	Burbank	Los Angeles
170	HANCOCK PARK LA BREA HAROLD LLOYD ESTATE	•			1935-03-06	Los Angeles	Los Angeles
961	(GREENACRES)	•			1984-05-31	Beverly Hills	Los Angeles
P846	HAY TREE			•	2003-08-08	Paramount	Los Angeles
664	HERITAGE HOUSE	•			1958-11-05	Compton	Los Angeles
P497	HERITAGE SQUARE			•	1977-01-13	Los Angeles	Los Angeles

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P414	HISTORICAL PARK HORSESHOE RANCH, WILLIAM S.			•	1975-08-07	Rosemead	Los Angeles
P564	HART PARK RANCH AND MUSEUM			•	1981-03-13	Santa Clarita	Los Angeles
368	HUGO REID ADOBE HUNTINGTON BUILDING - PACIFIC	•			1940-04-03	Arcadia	Los Angeles
P696	ELECTRIC BUILDING		•	•	1988-03-30	Los Angeles	Los Angeles
P795	J.D. PALOMARES HOUSE JARDIN DEL ENCANTO &			•	1994-03-11	La Verne	Los Angeles
C1	CASCADES PARK		•		1998-11-13	Monterey Park	Los Angeles
P238	JUAN MATIAS SANCHEZ ADOBE			•	1972-01-19	Montebello	Los Angeles
386	LA CASA DE CARRIÓN	•			1945-12-14	La Verne	Los Angeles
167	LA MESA BATTLEFIELD	•			1935-03-06	Vernon	Los Angeles
P733	LA VENTA INN			•	1990-09-15	Palos Verdes Estates	Los Angeles
590	LANG	•			1957-05-22	Canyon Country La Canada	Los Angeles
P830	LANTERMAN HOUSE/EL RETIRO			•	1998-02-05	Flintridge	Los Angeles
P781	LEONIS ADOBE			•	1993-02-16	Calabasas	Los Angeles
1021	LIBERTY HILL SITE LIZZIES TRAIL END MUSEUM /	•			1997-03-03	San Pedro	Los Angeles
P482	LIZZIES TRAIL END INN			•	1976-06-01	Sierra Madre	Los Angeles
1014	LONG BEACH MARINE STADIUM	•			1994-08-05	Long Beach	Los Angeles
P330	LOOFF PIER, SANTA MONICA PIER LOPEZ ADOBE / LA CASA DE			•	1974-05-15	Santa Monica	Los Angeles
P105	GERONIMO LOPEZ			•	1968-08-15	San Fernando	Los Angeles
P471	LOS ANGELES HIGH SCHOOL LOS ANGELES MEMORIAL			•	1976-02-27	Los Angeles	Los Angeles
960	COLISEUM	•			1984-05-31	Los Angeles	Los Angeles

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689	LOS ENCINOS STATE HISTORIC PARK	•			1959-07-31	Encino	Los Angeles
P178	LOUIS PHILLIPS MANSION			•	1970-07-28	Pomona	Los Angeles
301	LUGO ADOBE (SITE OF)	•			1939-07-12	Los Angeles	Los Angeles
531	LUMMIS HOME	•			1955-03-07	Los Angeles	Los Angeles
688	LYONS STATION STAGECOACH STOP	•			1959-07-31	Newhall	Los Angeles
P654	MALIBU PIER			•	1985-07-02	Malibu	Los Angeles
1018	MANHATTAN BEACH STATE PIER	•			1995-05-05	Redlands	Los Angeles
P782	MARINE STADIUM			•	1993-02-16	Long Beach	Los Angeles
516-2	MENTRYVILLE	•			1966-11-13	Newhall	Los Angeles
171	MERCED THEATRE	•			1935-03-06	Los Angeles	Los Angeles
744	MIRROR BUILDING (SITE OF BUTTERFIELD STAGE STATION)	•			1960-07-05	Los Angeles	Los Angeles
157	MISSION SAN FERNANDO REY DE ESPAÑA	•			1935-01-11	Mission Hills	Los Angeles
158	MISSION SAN GABRIEL ARCÁNGEL	•			1935-01-11	San Gabriel	Los Angeles
963	MOJAVE ROAD, THE NAVY AND MARINE CORPS RESERVE CENTER	•			1994-03-11	Wilmington	Los Angeles
972	NORTH ARNAZ DRIVE HISTORIC DISTRICT	•			1987-03-06	Los Angeles	Los Angeles
C27	NUESTRA SEÑORA LA REINA DE LOS ANGELES		•		1900-01-01	Beverly Hills	Los Angeles
144	OAK OF THE GOLDEN DREAM	•			1934-06-06	Los Angeles	Los Angeles
168	OLD EL MONTE JAIL	•			1935-03-06	Newhall	Los Angeles
P715	OLD MILL			•	1989-06-12	El Monte	Los Angeles
302	OLD PLAZA FIREHOUSE	•			1939-07-12	San Marino	Los Angeles
730		•			1960-04-08	Los Angeles	Los Angeles

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373	OLD SALT LAKE	•			1941-09-06	Redondo Beach	Los Angeles
840	OLD SANTA MONICA FORESTRY STATION	•			1970-03-20	Los Angeles	Los Angeles
632	OLD SHORT CUT ORIGINAL BUILDING OF THE UNIVERSITY OF SOUTHERN CALIFORNIA	•			1958-03-03	La Canada	Los Angeles
536	ORTEGA-VIGARE ADOBE	•			1955-09-14	Los Angeles	Los Angeles
451	PACIFIC ASIA MUSEUM	•			1949-11-02	San Gabriel	Los Angeles
988	PACIFIC ELECTRIC RAILWAY, FIRESTONE BLVD GRADE SEPARATION	•		•	1989-11-20	Pasadena	Los Angeles
P680	PADUA HILLS THEATRE			•	1986-11-28	Florence	Los Angeles
P317	PARADOX HYBRID WALNUT TREE			•	1973-09-12	Claremont	Los Angeles
681	PASADENA PLAYHOUSE	•			1959-05-29	Whittier	Los Angeles
887	PATRICIO ONTIVEROS ADOBE, HAWKINS-NIMOCKS ESTATE	•			1975-07-11	Pasadena	Los Angeles
P707	PATRIOTIC HALL			•	1988-11-22	Santa Fe Springs	Los Angeles
P470	PICO HOUSE (HOTEL)			•	1976-02-27	Los Angeles	Los Angeles
159	PIONEER OIL REFINERY	•			1935-01-11	Los Angeles	Los Angeles
172	PISGAH HOME HISTORIC DISTRICT PLUMMER PARK	•	•		1935-03-06	Newhall	Los Angeles
N2377	OLDEST HOUSE IN HOLLYWOOD POINT DUME	•			2007-12-19	Los Angeles	Los Angeles
160	POMONA WATER POWERPLANT	•			1935-01-11	Calabasas	Los Angeles
965	PORTOLÁ TRAIL CAMPSITE, 1	•			1985-06-27	Malibu	Los Angeles
514	PORTOLÁ TRAIL CAMPSITE, 2	•			1953-11-25	Claremont	Los Angeles
655	RAMSAY--DURFEE ESTATE	•		•	1958-09-26	Los Angeles	Los Angeles
665					1958-11-05	Beverly Hills	Los Angeles
N1603					1989-07-24	Los Angeles	Los Angeles

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978	RANCHO LOS CERRITOS HISTORIC SITE	•			1988-08-23	Long Beach	Los Angeles
556	RANCHO SAN FRANCISCO REFORM SCHOOL FOR JUVENILE OFFENDERS	•			1956-08-24	Valencia	Los Angeles
947	RICHARDSON HOUSE	•			1982-03-01	Whittier	Los Angeles
P481				•	1976-06-01	Sierra Madre	Los Angeles
385	RIO SAN GABRIEL BATTLEFIELD	•			1945-12-14	Montebello	Los Angeles
P140	RIVERA FIRST BAPTIST CHURCH			•	1969-08-29	Pico Rivera	Los Angeles
N693	ROBINSON, VIRGINIA, ESTATE			•	1978-11-15	Beverly Hills	Los Angeles
362	RÓMULO PICO ADOBE	•			1939-10-09	Mission Hills	Los Angeles
894	S.S. CATALINA	•			1976-04-02	Mexico	Los Angeles
P85	SAN DIMAS HOTEL			•	1968-01-26	San Dimas	Los Angeles
753	SAN FERNANDO CEMETERY	•			1960-12-22	Sylmar	Los Angeles
P33	SANTA ANITA DEPOT			•	1967-06-02	Arcadia	Los Angeles
P227	SANTA SUSANA STAGE ROAD SAUGUS SOUTHERN PACIFIC RAILROAD DEPOT / SAUGUS STATION			•	1971-10-05	San Fernando	Los Angeles
P563	SCRIPPS HALL / PASADENA WALDORF SCHOOL			•	1981-03-13	Newhall	Los Angeles
P682	SERRA SPRINGS			•	1987-03-06	Altadena	Los Angeles
522	SHORELINE LOOFF CAROUSEL	•			1954-11-01	Los Angeles	Los Angeles
P628	SITE OF ADOBE HOME OF JOSÉ DOLORES SEPULVEDA			•	1984-05-31	Long Beach	Los Angeles
383	SITE OF HOME OF DIEGO SEPÚLVEDA	•			1944-01-03	Torrance	Los Angeles
380	SITE OF LLANO DEL RIO COOPERATIVE COLONY	•			1944-01-03	San Pedro	Los Angeles
933		•			1980-05-13	Llano	Los Angeles

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161	SITE OF MISSION VIEJA	•			1935-01-11	Montebello	Los Angeles
381	SITE OF OLD WHALING STATION SITE OF PORT LOS ANGELES LONG	•			1944-01-03	Rancho Palos Verdes	Los Angeles
881	WHARF SITE OF THE INITIAL UNITED	•			1975-05-09	Pacific Palisades	Los Angeles
718	STATES AIR MEET	•			1959-12-02	Carson	Los Angeles
789	SITE OF THE LOS ANGELES STAR	•			1964-03-18	Los Angeles	Los Angeles
P316	SOLEDAD-ACTON SCHOOLHOUSE			•	1973-09-12	Acton	Los Angeles
919	ST. FRANCIS DAM DISASTER SITE	•			1978-04-26	Saugus	Los Angeles
567	ST. VINCENT'S PLACE	•			1957-02-25	Los Angeles	Los Angeles
P256	SUANGNA INDIAN VILLAGE SYLVIA PARK COUNTRY CLUB			•	1972-06-22	Carson	Los Angeles
P788	CLUBHOUSE			•	1993-08-16	Topanga	Los Angeles
P334	TEMPLE HALL TEMPORARY DETENTION CAMPS FOR JAPANESE AMERICANS- SANTA ANITA ASSEMBLY CENTER AND POMONA ASSEMBLY CENTER			•	1974-07-12	City Of Industry	Los Angeles
934	TIMM'S POINT AND LANDING TOPANGA CHRISTIAN FELLOWSHIP CHURCH	•			1980-05-13		Los Angeles
384	TUNA CLUB OF AVALON W.R. ROWLAND ADOBE REDWOOD RANCH HOUSE	•			1977-02-16	San Pedro	Los Angeles
P849	WATTS TOWERS OF SIMON RODIA			•	2005-08-05	Topanga	Los Angeles
997	WELL, ALAMITOS 1 WELL NO. 4 CSO	•			1991-02-11	Los Angeles	Los Angeles
P445	WELL, ALAMITOS 1			•	1975-10-01	Walnut	Los Angeles
993	WELL, ALAMITOS 1	•			1990-08-17	Los Angeles	Los Angeles
580	WELL, ALAMITOS 1	•			1957-05-01	Signal Hill	Los Angeles
516	WELL NO. 4 CSO	•			1966-11-13	Newhall	Los Angeles

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658	WESTERN HOTEL	•			1958-09-26	Lancaster	Los Angeles
P721	WICHSTAND			•	1989-11-20	Los Angeles	Los Angeles
P695	WILLIAM ANDREWS CLARK LIBRARY			•	1988-03-30	Los Angeles	Los Angeles
P722	WOMANS CLUB OF CLAREMONT			•	1989-11-20	Claremont	Los Angeles
P245	WOODBURY/STORY HOUSE WORKMAN HOME AND FAMILY CEMETERY			•	1972-04-25	Altadena	Los Angeles
874	1953 NATIONAL BOY SCOUT JAMBOREE SITE	•			1974-11-18	City of Industry	Los Angeles
P513	ANAHEIM LANDING	•		•	1977-10-14	Newport Beach	Orange
219	BALBOA PAVILION	•			1935-06-20	Seal Beach	Orange
959	BARTLETT BUILDING	•		•	1983-12-15	Balboa	Orange
P834	BARTON MOUND	•		•	1999-06-22	San Clemente	Orange
218	BIRCH PARK	•		•	1935-06-20	Irvine	Orange
P524	BLACK STAR CANYON INDIAN VILLAGE SITE				1978-12-06	Santa Ana	Orange
217	CARBONDALE	•			1935-06-20	Silverado	Orange
228	DANA POINT	•			1935-06-20	Silverado	Orange
189	DIEGO SEPÚLVEDA ADOBE	•			1935-06-20	Dana Point	Orange
227	DON BERNARDO YORBA RANCHHOUSE SITE	•			1935-06-20	Costa Mesa	Orange
226	DR. GEORGE C. CLARK HOME, FULLERTON STATE HERITAGE HOUSE	•		•	1935-06-20	Yorba Linda	Orange
P483	DR. HOWE WAFFLE HOUSE			•	1976-09-01	Fullerton	Orange
P341	EPISCOPAL CHURCH OF THE MESSIAH			•	1974-09-13	Santa Ana	Orange
P515				•	1977-12-01	Santa Ana	Orange

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P589	FIRST MACADAMIA TETRAPHYLLA			•	1982-03-01	Placentia	Orange
225	PLANTED IN CALIFORNIA FLORES PEAK	•			1935-06-20	Modjeska Canyon	Orange
P629	FOUNDATION OF RANCHO SAN JOAQUIN ADOBE			•	1984-05-31	Irvine	Orange
P753	IRVINE BEAN AND GRAIN GROWERS BUILDING			•	1991-08-08	Irvine	Orange
P630	IRVINE HISTORICAL SOCIETY MUSEUM / RANCHO SAN			•	1984-05-31	Irvine	Orange
P485	JOAQUIN HEA IRVINE PARK			•	1976-09-01	Orange	Orange
P512	LAGUNA BEACH ART GALLERY, MUSEUM OF ART			•	1977-10-14	Laguna Beach	Orange
P516	LILY CREAMERY			•	1977-12-01	Buena Park	Orange
794	McFADDEN WHARF	•			1964-07-03	Newport Beach San Juan	Orange
200	MISSION SAN JUAN CAPISTRANO	•			1935-06-20	Capistrano	Orange
205	MODJESKA'S HOME	•			1935-06-20	El Toro	Orange
P514	NEWLAND HOUSE NORTH GATE OF CITY OF ANAHEIM			•	1977-12-01	Huntington Beach	Orange
112	ANAHEIM	•			1933-03-29	Anaheim	Orange
198	OLD LANDING	•			1935-06-20	Newport Beach	Orange
729	OLD MAIZELAND SCHOOL OLD SADDLEBACK, OR, SANTIAGO AND MODJESKA MOUNTAIN PEAKS	•		•	1960-04-08	Buena Park	Orange
P179	OLD SANTA ANA	•			1970-07-28	Cle Nf	Orange
204	OLD TOWN IRVINE	•			1935-06-20	Orange	Orange
1004		•			1991-11-08	Irvine	Orange

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918	OLINDA	•			1978-01-31	Brea	Orange
837	ORANGE COUNTY'S ORIGINAL COURTHOUSE	•			1969-11-03	Santa Ana	Orange
201	PIONEER HOUSE OF THE MOTHER COLONY	•			1935-06-20	Anaheim	Orange
P631	PLACENTIA MUTUAL ORANGE			•	1984-05-31	Placentia	Orange
203	ASSOCIATION PACKING HOUSE	•			1935-06-20	Santa Ana	Orange
1015	RED HILL	•			1994-10-01	Yorba Linda	Orange
P180	RICHARD NIXON BIRTHPLACE			•	1970-07-28	Costa Mesa	Orange
P484	SANTA ANA ARMY AIR BASE SITE			•	1976-09-01	Santa Ana	Orange
P663	SANTORA BUILDING			•	1985-08-20	Seal Beach	Orange
199	SEAL BEACH RED CAR			•	1935-06-20	El Toro	Orange
	SERRANO ADOBE	•				San Juan	
P641	SIEVERS ADOBE			•	1984-11-16	Capistrano	Orange
202	SILVERADO	•			1935-06-20	Silverado	Orange
	SITE OF FIRST WATER-TO-WATER						
775	FLIGHT	•			1962-09-25	Newport Beach	Orange
P487	SPURGEON BUILDING			•	1976-10-29	Santa Ana	Orange
P231	AGENTS HOME			•	1971-10-05	Thermal	Riverside
	ARMORY HALL, GRAND ARMY OF						
P822	THE REPUBLIC BUILDING			•	1996-05-15	Lake Elsinore	Riverside
	ATCHISON, TOPEKA, AND SANTA						
P735	FE RAILWAY DEPOT AT BLYTHE			•	1991-02-11	Blythe	Riverside
P120	BANDINI ADOBE SITE			•	1969-06-06	Norco	Riverside
P122	BANDINI-COTA ADOBE SITE			•	1969-06-06	Corona	Riverside
P725	BANNING WOMEN'S CLUB			•	1989-11-20	Banning	Riverside
P807	BEAUMONT CARNEGIE LIBRARY			•	1994-12-04	Beaumont	Riverside

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P195	BLYTHE FERRY CROSSING			•	1971-05-19	Blythe	Riverside
P808	BOGART HOUSE			•	1994-12-04	Beaumont	Riverside
188	BUTTERFIELD STAGE STATION	•			1935-06-20	Corona	Riverside
P147	CAMP EMERSON			•	1969-11-03	Idyllwild	Riverside
985	CAMP COXCOMB--DESERT TRAINING CENTER	•			1968-06-02	Indio	Riverside
985	CAMP GRANITE--DESERT TRAINING CENTER	•			1968-06-02	Desert Center	Riverside
985	CAMP YOUNG--DESERT TRAINING CENTER, CAMA	•			1968-06-02	Desert Center	Riverside
P773	CANTU RANCH/GALLEANO WINERY			•	1992-08-21	Mira Loma	Riverside
187	CARVED ROCK	•			1935-06-20	Corona	Riverside
P74	CHINATOWN			•	1968-01-24	Riverside	Riverside
P121	CITRUS EXPERIMENT STATION			•	1969-06-06	Riverside	Riverside
P123	CITRUS MACHINERY PIONEERING COACHELLA VALLEY COUNTY			•	1969-06-06	Riverside	Riverside
P141	WATER DISTRICT			•	1969-08-29	Coachella	Riverside
P759	COPLIN HOUSE SPOKANE HOTEL			•	1991-11-08	Banning	Riverside
P80	PLUEGER REALTY			•	1968-01-24	Desert Center	Riverside
943	CORN SPRINGS						
738	CORNELIUS AND MERCEDES						
P520	JENSON RANCH	•			1981-06-12	Rubidoux	Riverside
	CORONA FOUNDERS MONUMENT	•			1960-06-06	Corona	Riverside
	COTTONWOOD SCHOOL			•	1978-02-01	Sage	Riverside
	DE ANZA CROSSING OF THE SANTA ANA RIVER, 1775 AND 1776	•			1963-09-18	Riverside	Riverside

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P307	DESERT INN			•	1973-07-13	Palm Springs	Riverside
P78	DOS PALMAS			•	1968-01-24	Mecca	Riverside
P229	EAGLE MOUNTAIN IRON			•	1971-10-05	Desert Center	Riverside
P570	EL MIRADOR HOTEL AND TOWER			•	1981-06-12	Palm Springs	Riverside
P832	ELSINORE WOMEN'S CLUB			•	1998-02-05	Lake Elsinore	Riverside
P97	ELSINORE'S HOTTEST SULPHUR SPRINGS			•	1968-06-07	Lake Elsinore	Riverside
P174	FIRST POST OFFICE			•	1970-03-19	Temecula	Riverside
P94	FRINK RANCH			•	1968-06-07	Beaumont	Riverside
101	GIANT DESERT FIGURES	•		•	1933-03-29	Blythe	Riverside
P41	GILMAN RANCH			•	1967-06-02	Banning	Riverside
P124	HALL CITY AND HALL'S GRADE			•	1969-06-06	Cabazon	Riverside
P746	HAMILTON SCHOOL			•	1991-08-02	Anza	Riverside
P95	HEMET DAM AND LAKE HEMET			•	1968-06-07	Hemet	Riverside
557	HEMET MAZE STONE	•		•	1956-08-24	Hemet	Riverside
P774	HENDERSON/REID BUILDING HIGHGROVE HYDROELECTRIC PLANT			•	1992-08-21	Banning	Riverside
P108	HIGHLAND SPRINGS			•	1968-12-11	Riverside	Riverside
P38	IDYLLWILD			•	1967-06-02	Banning	Riverside
P335	INDIAN SCHOOL AGENCY OFFICE, INDIAN SCHOOL AGENCY			•	1974-07-12	Idyllwild	Riverside
P233	INDIAN WELLS			•	1971-10-05	Thermal	Riverside
P83	JOHN W. NORTH PARK / SEVENTH STREET HISTORIC DISTRICT			•	1968-01-24	Palm Desert	Riverside
P308	LORING OPERA HOUSE, GOLDEN STATE THEATER			•	1973-07-13	Riverside	Riverside
P64				•	1967-09-22	Riverside	Riverside

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P93	MARCH FIELD HISTORIC DISTRICT MARTINEZ HISTORICAL DISTRICT/MARTINEZ INDIAN AGENCY			•	1968-06-07	Moreno Valley	Riverside
P232	MISSION INN	•		•	1971-10-05	Thermal	Riverside
761	MOROVIAN CHURCH AND INDIAN SCHOOL, INDIAN SCHOOL			•	1961-04-28	Riverside	Riverside
P230	MOUNT RUBIDOUX			•	1971-10-05	Thermal	Riverside
P65	NOBLE'S RANCH			•	1967-09-22	Riverside	Riverside
P82	OLD MORENO SCHOOL			•	1968-01-24	Beaumont	Riverside
P702	OLD TEMESCAL ROAD	•		•	1988-08-23	Moreno Valley	Riverside
638	ORIGINAL PALM SPRINGS, THE			•	1958-03-31	Corona	Riverside
P118	PAINTED ROCK	•		•	1969-06-06	Palm Springs	Riverside
190	PALM CANYON THEATER / STEVENS, FRANCES S., SCHOOL				1935-06-20	Corona	Riverside
C21	PALMDALE RAILROAD SITE / RAILROAD THAT FAILED		•		2003-11-07	Palm Springs	Riverside
P146	PARENT WASHINGTON NAVEL ORANGE TREE			•	1969-11-03	Palm Springs	Riverside
20	PEDLEY-TYPE DAM	•		•	1932-06-01	Riverside	Riverside
P337	PINACATE MINING DISTRICT			•	1974-07-12	Banning	Riverside
P553	PINACATE, PINACATE MINING DISTRICT			•	1980-06-06	Good Hope	Riverside
P554	RAMONA BOWL, SITE OF THE RAMONA PAGEANT			•	1980-06-06	Perris	Riverside
1009	RANCHO SANTA ROSA	•		•	1993-02-16	Hemet	Riverside
P719	RIVERSIDE CEMENT COMPANY			•	1989-11-03	Murrieta	Riverside
P336	RIVERSIDE COUNTY COURTHOUSE			•	1974-07-12	Riverside	Riverside
P96				•	1968-06-07	Riverside	Riverside

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P76	RIVERSIDE FIRST			•	1968-01-24	Riverside	Riverside
224	CONGREGATIONAL CHURCH				1935-06-20	Corona	Riverside
749	RUINS OF THIRD SERRANO ADOBE	•			1960-08-17		Riverside
	SAAHATPA	•					
	SAN TIMOTEO CANYON						
P125	SCHOOLHOUSE			•	1969-06-06	Calimesa	Riverside
P711	SANTA FE RAILWAY DEPOT			•	1988-11-22	Hemet	Riverside
1005	SANTA ROSA RANCHO	•			1992-02-18	Murieta	Riverside
185	SERRANO BOULDER	•			1935-06-20	Corona	Riverside
186	SERRANO TANNING VATS	•			1935-06-20	Corona	Riverside
P148	SHAVER'S WELL			•	1969-11-03	Mecca	Riverside
948	SITE OF BLYTHE INTAKE	•			1982-03-01	Blythe	Riverside
P63	SITE OF BLYTHE INTAKE			•	1967-09-22	Blythe	Riverside
	SITE OF CONTRACTOR'S GENERAL						
992	HOSPITAL	•			1990-08-17		Riverside
	SITE OF DE ANZA CAMP, MARCH						
103	1774	•			1933-03-29	Anza	Riverside
	SITE OF INDIAN VILLAGE OF						
104	POCHEA	•			1933-03-29	Hemet,	Riverside
102	SITE OF LOUIS RUBIDOUX HOUSE	•			1933-03-29	Rubidoux	Riverside
	SITE OF OLD RUBIDOUX GRIST						
303	MILL	•			1939-07-12	Rubidoux	Riverside
P760	SMILEY PLACE			•	1991-11-08	Indio	Riverside
	SOVIET TRANSPOLAR LANDING						
989	SITE	•			1989-10-20	San Jacinto	Riverside
P119	SPEED OF LIGHT EXPERIMENT SITE			•	1969-06-06	Idyllwild	Riverside
P415	ST. BONIFACE SCHOOL			•	1975-08-07	Beaumont	Riverside
P175	TEMECULA QUARRIES			•	1970-03-19	Temecula	Riverside

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P79	TEMESCAL TIN MINES			•	1968-01-24	Corona	Riverside
P176	THOMAS-GARNER RANCH			•	1970-03-19	Idyllwild	Riverside
P81	TORO VILLAGE			•	1968-01-24	Indio	Riverside
P75	TRUJILLO ADOBE			•	1968-01-24	Riverside	Riverside
P306	U.S. EXPERIMENTAL DATE STATION, DATE INDUSTRY BIRTHPLACE VALERIE JEAN'S DATE SHOP, RUSSELL NICOLL HOME/OL KING SOLO			•	1973-07-13	Mecca	Riverside
P736	WEAVER ADOBE			•	1991-02-11	Thermal	Riverside
P39	WHITEWATER			•	1967-06-02	Banning	Riverside
P40	WILEY'S WELL			•	1967-06-02	Banning	Riverside
P560	YERXA'S DISCOVERY			•	1968-01-24	Blythe	Riverside
P776	25TH STREET HISTORIC DISTRICT A. B. MILLER COMMUNITY PARK AND PLUNGE			•	1980-12-19	Desert Hot Springs	Riverside
P626	A. C. BURRAGE MANSION			•	1992-08-21	San Bernardino	San Bernardino
P433	A. K. SMILEY PUBLIC LIBRARY			•	1983-12-31	Fontana	San Bernardino
994	AGUA MANSA	•		•	1975-08-07	Redlands	San Bernardino
121	ALF'S BLACKSMITH SHOP			•	1990-08-17	Redlands	San Bernardino
P362	ANDRESON BUILDING			•	1933-05-15	Colton	San Bernardino
P549	ANGELES NATIONAL FOREST			•	1974-11-19	Daggett	San Bernardino
717	ANSON VAN LEUVEN HOUSE AND ORANGE GROVE	•		•	1980-03-31	San Bernardino	San Bernardino
P249	ANTLERS INN			•	1959-12-02	San Bernardino	San Bernardino
P700	ARROWHEAD, THE			•	1972-04-25	Loma Linda	San Bernardino
977				•	1988-03-31	Twin Peaks	San Bernardino
					1988-04-01	San Bernardino	San Bernardino

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P489	ATCHISON, TOPEKA, AND SANTA			•	1976-10-29	Redlands	San Bernardino
P251	FE RAILWAY-REDLANDS STATION			•	1972-04-25	San Bernardino	San Bernardino
P369	ATWOOD ADOBE SITE			•	1975-01-17	Big Bear City	San Bernardino
P280	BAIRDSTOWN			•	1973-01-31	Big Bear City	San Bernardino
P278	BALDWIN LAKE			•	1973-01-31	Highland	San Bernardino
P338	BASELINE ROAD			•	1974-07-12	Chino	San Bernardino
P281	BATTLE OF CHINO			•	1973-01-31	San Bernardino	San Bernardino
P420	BELLA UNION HOTEL SITE			•	1975-08-07	Yermo	San Bernardino
	BISMARCK						
	BLOOMINGTON GARAGE AND LA						
P755	GUE RESIDENCE			•	1991-08-08	Bloomington	San Bernardino
P419	BORATE			•	1975-08-07	Yermo	San Bernardino
P343	BROOKINGS SAWMILL SITE			•	1974-09-13	Arrowbear Lake	San Bernardino
	BUZZARD ROCK BARSTOW -						
P347	PETROGLYPH			•	1974-09-13	Barstow	San Bernardino
	CALIFORNIA DEPARTMENT OF						
	FORESTRY			•	1995-05-30	Yucaipa	San Bernardino
P811	CAMP CADY	•			1985-03-19	Barstow	San Bernardino
963	CAMP CADY			•	1975-05-09	Barstow	San Bernardino
P405	CAMP CADY (ON MOJAVE ROAD	•			1985-03-19	Barstow	San Bernardino
963-1							
	CAMP CLIPPER--DESERT TRAINING						
985	CENTER	•			1968-06-02	Needles	San Bernardino
	CAMP IBIS--DESERT TRAINING						
985	CENTER	•			1968-06-02	Needles	San Bernardino
	CAMP IRON MOUNTAIN--DESERT						
985	TRAINING CENTER	•			1968-06-02	Indio	San Bernardino
P408	CAMP ROCK SPRING			•	1975-05-09	Cima	San Bernardino

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P282	CENTER OF SAN BERNARDINO, 1853			•	1973-01-31	San Bernardino	San Bernardino
P345	CHEMEHUEVI CEMETERY			•	1974-09-13	Twentynine Palms	San Bernardino
737	CHIMNEY ROCK	•			1960-06-06	Lucerne Valley	San Bernardino
P593	CHINO OPERA HOUSE SITE			•	1982-06-09	Chino Rancho	San Bernardino
P454	CHRISTMAS HOUSE			•	1975-12-22	Cucamonga	San Bernardino
P457	CHURCH OF SAN SECONDO			•	1975-12-22	Guasti	San Bernardino
P771	D'ASTI, GUAISTI CHURCH CITY CREEK CIVILIAN CONSERVATION CORPS CAMP COLTON CARNEGIE PUBLIC LIBRARY / COLTON PUBLIC LIBRARY			•	1992-05-11	Highland	San Bernardino
P590	CONFEDERATE ATTACK MARKER SITE			•	1982-03-01	Colton	San Bernardino
P432	COOLEY ADOBE			•	1975-08-07	San Bernardino	San Bernardino
P417	COTTONWOOD SPRING			•	1975-08-07	Colton	San Bernardino
P291	COX-BRADLEY HOME			•	1973-01-31	Lucerne Valley	San Bernardino
P686	COXEY ROAD			•	1987-07-01	San Bernardino	San Bernardino
P283	CRAFTS HOUSE			•	1973-01-31	Fawnskin	San Bernardino
P424	GRAM RANCH AND HOUSE			•	1975-08-07	Redlands	San Bernardino
P331	CUCAMONGA CHINATOWN SITE			•	1974-05-15	Highland Rancho	San Bernardino
P458	CUCAMONGA RANCHO WINERY	•			1975-12-22	Cucamonga	San Bernardino
490	DALEY TOLL ROAD MONUMENT				1951-10-10	Cucamonga	San Bernardino
579	DE ANZA PARK MARKER / ANZA TRAIL	•			1957-05-17	Rim Forest	San Bernardino
P292				•	1973-01-31	Ontario	San Bernardino

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P596	DECLIZ RANCH; FELICE PAGLIUSO WINERY			•	1982-06-09	Fontana	San Bernardino
P430	DEL ROSA SWAMP			•	1975-08-07	San Bernardino	San Bernardino
P461	DR. GRAINGER HYER HOME			•	1975-12-22	Upland	San Bernardino
P804	FAWN LODGE			•	1994-08-23	Fawnskin	San Bernardino
P426	FISHER HOUSE			•	1975-08-07	Redlands	San Bernardino
P598	FONTANA COMMUNITY CHURCH COMPLEX			•	1982-06-09	Fontana	San Bernardino
P595	FONTANA COMPANY TRACT OFFICE/LIBRARY/C OF C BUILDING FONTANA FARMS RANCH HOUSE, PEPPER STREET HOUSE			•	1982-06-09	Fontana	San Bernardino
P594	FONTANA WOMAN'S CLUB HOUSE			•	1982-06-09	Fontana	San Bernardino
P597	FORT BENSON	•		•	1982-06-09	Fontana	San Bernardino
617	FORT PIUTE/PIUTE SPRINGS/FORT BEALE/PIUTE CREEK/PIUTE HIL			•	1957-09-11	Colton	San Bernardino
P250	FRED T. PERRIS HOUSE SITE			•	1972-04-25	Needles	San Bernardino
P425	FRINK ADOBE			•	1975-08-07	San Bernardino	San Bernardino
C20	FRINK ADOBE		•		2003-11-07	Loma Linda	San Bernardino
P293	GARCÉS-SMITH MONUMENT			•	1973-01-31	Bryn Mawr	San Bernardino
618	GARCIA RANCH HOUSE	•		•	1957-09-11		San Bernardino
P462	GRAPELAND HOMESTEADS AND WATER WORKS			•	1975-12-22	Etiwanda	San Bernardino
P756	GUACHAMA RANCHERIA	•		•	1991-08-08	Fontana	San Bernardino
95	GUAPIABIT			•	1933-03-29	Redlands	San Bernardino
P403	GUASTI			•	1975-05-09	Crestline	San Bernardino
P464	HAPPY HILL RESORT: TIDWELL			•	1975-12-22	Guasti	San Bernardino
P667				•	1985-12-17	Big Bear Lake	San Bernardino

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	HOUSE						
622	HARRY WADE EXIT ROUTE	•			1957-10-09	Baker	San Bernardino
892	HARVEY HOUSE	•			1976-02-20	Barstow	San Bernardino
	HENRY WASHINGTON SURVEY						
P406	MARKER			•	1975-05-09	Big Bear City	San Bernardino
P632	HERITAGE HOUSE			•	1984-05-31	San Bernardino	San Bernardino
619	HOLCOMB VALLEY	•			1957-09-11	Big Bear	San Bernardino
	HOME OF ETERNITY CEMETERY						
P383	OF CONGREGATION EMANUEL EL			•	1975-03-20	San Bernardino	San Bernardino
P488	HOME OF NEIGHBORLY SERVICE			•	1976-10-29	San Bernardino	San Bernardino
	HUNSAKER FLATS--RUNNING						
	SPRINGS LOGGING WHEELS						
P260	HISTORICAL			•	1972-06-22	Arrowbear Lake	San Bernardino
P416	JEDEDIAH SMITH MONUMENT			•	1975-08-07	San Bernardino	San Bernardino
P452	KAISER STEEL			•	1975-12-22	Fontana	San Bernardino
P684	KELSO DEPOT			•	1987-07-01	Kelso	San Bernardino
P344	KEYS RANCH			•	1974-09-13	Joshua Tree	San Bernardino
1019	KIMBERLY CREST	•			1995-12-08	Carlsbad	San Bernardino
P527	LANFAIR			•	1979-01-31	Cima	San Bernardino
P258	LUGONIA SCHOOL MONUMENT			•	1972-06-22	Redlands	San Bernardino
1028	MADONNA OF THE TRAIL	•			1998-11-07	Upland	San Bernardino
P450	MADONNA OF THE TRAIL			•	1975-12-22	Upland	San Bernardino
P685	MARTIN ADOBE SITE			•	1987-07-01	San Bernardino Rancho	San Bernardino
	MILLIKEN RANCH			•	1975-12-22	Cucamonga	San Bernardino
P456	MOREY HOUSE / MOREY-CHENEY			•	1975-08-07	Redlands	San Bernardino
P429	HOUSE			•	1975-08-07	San Bernardino	San Bernardino
P428	MORMON FLOUR MILL SITE			•	1975-08-07	San Bernardino	San Bernardino

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96	MORMON ROAD	•			1933-03-29	Crestline	San Bernardino
P427	MORMON SCHOOLS SITE			•	1975-08-07	San Bernardino	San Bernardino
577	MORMON TRAIL MONUMENT	•			1957-05-17	San Bernardino	San Bernardino
P285	MOUND CITY			•	1973-01-31	Redlands	San Bernardino
P342	MULE CAR			•	1974-09-13	Ontario	San Bernardino
	NATIONAL OLD TRAILS MONUMENT	•			1962-11-20	Needles	San Bernardino
P259	NATIONAL ORANGE SHOW			•	1972-06-22	San Bernardino	San Bernardino
P422	NORDOFF HOME			•	1975-08-07	Redlands	San Bernardino
725	OLD BEAR VALLEY DAM				1960-02-05	Big Bear Lake	San Bernardino
P815	OLD GUEST HOUSE MUSEUM	•		•	1995-12-15	Trona	San Bernardino
P460	OLD HARWOOD HOUSE			•	1975-12-22	Upland	San Bernardino
	OLD PIONEER CATHOLIC CEMETERY						
P455	OLD WOMAN SPRINGS			•	1975-12-22	San Bernardino	San Bernardino
P290	ONTARIO STATE BANK BLOCK			•	1973-01-31	Lucerne Valley	San Bernardino
P370	SITE, HOWELLS HOUSE SITE			•	1975-01-17	Ontario	San Bernardino
P404	ORO GRANDE CEMETERY			•	1975-05-09	Oro Grande	San Bernardino
	PARTRIDGE HOUSE, PAUL F ALLEN HOUSE						
P423	PINECREST RESORT DINING HALL			•	1975-08-07	Redlands	San Bernardino
P649	PIONEER CEMETERY			•	1985-02-20	Sbr Nf	San Bernardino
P289	PIONEER MONUMENT			•	1973-01-31	San Bernardino	San Bernardino
P431	POZOS DE SAN JUAN DE DIOS,			•	1975-08-07	San Bernardino	San Bernardino
P279	MARL SPRINGS			•	1973-01-31	Cima	San Bernardino
P181	PROSPECT PARK			•	1970-07-28	Redlands	San Bernardino
P288	RABBIT SPRINGS			•	1973-01-31	Lucerne Valley	San Bernardino

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P473	RAILROAD SUMMIT, CAJON PASS RATTLESNAKE ROCK - DAGGETT - PETROGLYPHS			•	1976-02-27	Hesperia	San Bernardino
P348	ROCK CAMP - LAKE ARROWHEAD			•	1974-09-13	Daggett	San Bernardino
P275	ROSE MINE			•	1972-11-01	Lake Arrowhead	San Bernardino
P287	SADDLEBACK INN ARROWHEAD SAN BERNARDINO - SONORA			•	1973-01-31	Big Bear City	San Bernardino
P669	ROAD			•	1986-06-05	Lake Arrowhead	San Bernardino
P286	SAN BERNARDINO ASISTENCIA	•		•	1973-01-31	Ontario	San Bernardino
42	SAN BERNARDINO CALIFORNIA THEATRE			•	1932-08-01	Redlands	San Bernardino
P642	SAN BERNARDINO COUNTY MUSEUM			•	1984-11-16	San Bernardino	San Bernardino
P142	SAN SALVADOR SCHOOL ADOBE SANTA FE AND SALT LAKE TRAIL MONUMENT			•	1969-08-29	Bloomington	San Bernardino
P474	SANTA FE STATION BUILDING SCHOOLHOUSE/THIMBLE CLUB, OLD SCHOOLHOUSE MUSEUM			•	1976-02-27	Colton	San Bernardino
576	SEARLES LAKE BORAX DISCOVERY			•	1957-05-17	San Bernardino	San Bernardino
P418	SEELY SAWMILL MONUMENT			•	1975-08-07	San Bernardino	San Bernardino
P729	SINCLAIR COMMERCIAL BLOCK			•	1990-08-17	Chino	San Bernardino
774	SITE OF MORMON STOCKADE SITE OF THE RANCHO CHINO			•	1962-08-16	Trona	San Bernardino
P261	ADOBE OF ISAAC WILLIAMS			•	1972-06-22	Crestline	San Bernardino
P617	SLOVER MOUNTAIN			•	1983-07-12	Fontana	San Bernardino
44	SODA SPRING			•	1932-08-01	San Bernardino	San Bernardino
942	SOUTH FONTANA INDIAN PIT AND			•	1981-02-19	Chino	San Bernardino
P284				•	1973-01-31	Colton	San Bernardino
P407				•	1975-05-09	Baker	San Bernardino
P463				•	1975-12-22	Fontana	San Bernardino

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P657	GROOVE PETROGLYPH SITE ST. BERNARDINE OF SIENA CATHOLIC CHURCH			•	1985-07-02	San Bernardino	San Bernardino
P459	ST. MARK'S EPISCOPAL CHURCH/CHAFFEY COMMUNITIES CULTURAL			•	1975-12-22	Upland	San Bernardino
C26	STEPHENS & BOBBITT MORTUARY / VICTORY CHAPEL		•		2005-08-05	San Bernardino	San Bernardino
578	STODDARD-WAITE MONUMENT STONE CASTLE POWERHOUSE, ONTARIO ELECTRIC COMPANY	•			1957-05-17	San Bernardino	San Bernardino
P453	STONE HOTEL & PEOPLE'S GENERAL STORE			•	1975-12-22	Upland	San Bernardino
P658	STURGES AUDITORIUM			•	1985-07-02	Daggett	San Bernardino
P608	SYCAMORE GROVE	•		•	1983-01-14	San Bernardino	San Bernardino
573	SYCAMORE INN				1957-04-01	Devore Rancho	San Bernardino
P451	TAPIA ADOBE	•		•	1975-12-22	Cucamonga	San Bernardino
360	TOWN OF CALICO	•			1939-10-09	Cucamonga	San Bernardino
782	TWENTYNINE PALMS OASIS UNITED STATES RABBIT	•		•	1962-11-20	Yermo	San Bernardino
P340	EXPERIMENTAL STATION				1974-09-03	Twentynine Palms	San Bernardino
950	UPLAND WAITING SYSTEM	•			1982-06-09	Fontana	San Bernardino
P472	VON SCHMIDT STATE BOUNDARY MONUMENT	•		•	1976-02-27	Upland	San Bernardino
859	WEIR BUILDING, THE			•	1973-04-26	Needles	San Bernardino
P605	WELLS HOUSE			•	1982-12-31	Upland	San Bernardino
P421	WEST TWIN CREEK WATER CO.			•	1975-08-07	Redlands	San Bernardino
P643				•	1984-11-16	San Bernardino	San Bernardino

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	SYSTEM FLUME						
	WILLIS WELL - STONE						
P322	MONUMENT AND PETROGLYPHS			•	1974-01-15	Daggett	San Bernardino
191	YORBA-SLAUGHTER ADOBE	•			1935-06-20	Chino	San Bernardino
528	YUCAIPA ADOBE	•			1957-09-11	Yucaipa	San Bernardino
620	YUCAIPA RANCHERIA	•			1957-09-11	Yucaipa	San Bernardino
	YUCAIPA WOMAN'S CLUB						
P775	CLUBHOUSE			•	1992-08-21	Yucaipa	San Bernardino
43	ZANJA	•			1932-08-01	Redlands	San Bernardino
P346	ZYZX SPRINGS			•	1974-09-13	Baker	San Bernardino
N2189	CAMARILLO RANCH HOUSE			•	2003-02-20	Camarillo	Ventura
N2189	CAMARILLO RANCH HOUSE			•	2003-02-20	Camarillo	Ventura
310	MISSION SAN BUENAVENTURA	•			1939-07-12	Ventura	Ventura
114	OLD MISSION RESERVOIR	•			1975-03-07	Ventura	Ventura
115	OLIVAS ADOBE	•			1933-03-29	Ventura	Ventura
	ORTEGA ADOBE, ORTEGA ADOBE						
P503	HISTORIC RES			•	1977-05-05	Ventura	Ventura
	ORTEGA ADOBE, ORTEGA ADOBE						
P503	HISTORIC RES			•	1977-05-05	Ventura	Ventura
727	PORTOLÁ EXPEDITION	•			1960-02-05	Santa Paula	Ventura
553	RANCHO CAMULOS	•			1956-06-18	Piru	Ventura
979	RANCHO SIMI	•			1988-06-30	Simi Valley	Ventura
114-1	SAN BUENAVENTURA AQUEDUCT	•			1975-03-07	Ventura	Ventura
	SANTA CLARA SCHOOL/LITTLE						
P302	RED SCHOOLHOUSE			•	1973-05-02	Santa Paula	Ventura
	SIMI VALLEY PUBLIC CEMETERY,						
P777	PIONEER SECTION			•	1992-08-21	Simi Valley	Ventura
113	SITE OF JUNÍPERO SERRA'S CROSS	•			1933-03-29	Ventura	Ventura

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659	STAGECOACH INN	•			1958-09-26	Newbury Park	Ventura
756	SYCAMORE TREE	•			1960-12-22	Santa Paula	Ventura
996	UNION OIL COMPANY BUILDING	•			1991-02-11	Santa Paula	Ventura
847	VENTURA COUNTY COURTHOUSE	•			1971-05-19	Ventura	Ventura
624	WARRING PARK	•			1957-10-31	Piru	Ventura



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