3.18
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

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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 an 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, 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.

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[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

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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 additional 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, includinf 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.

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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

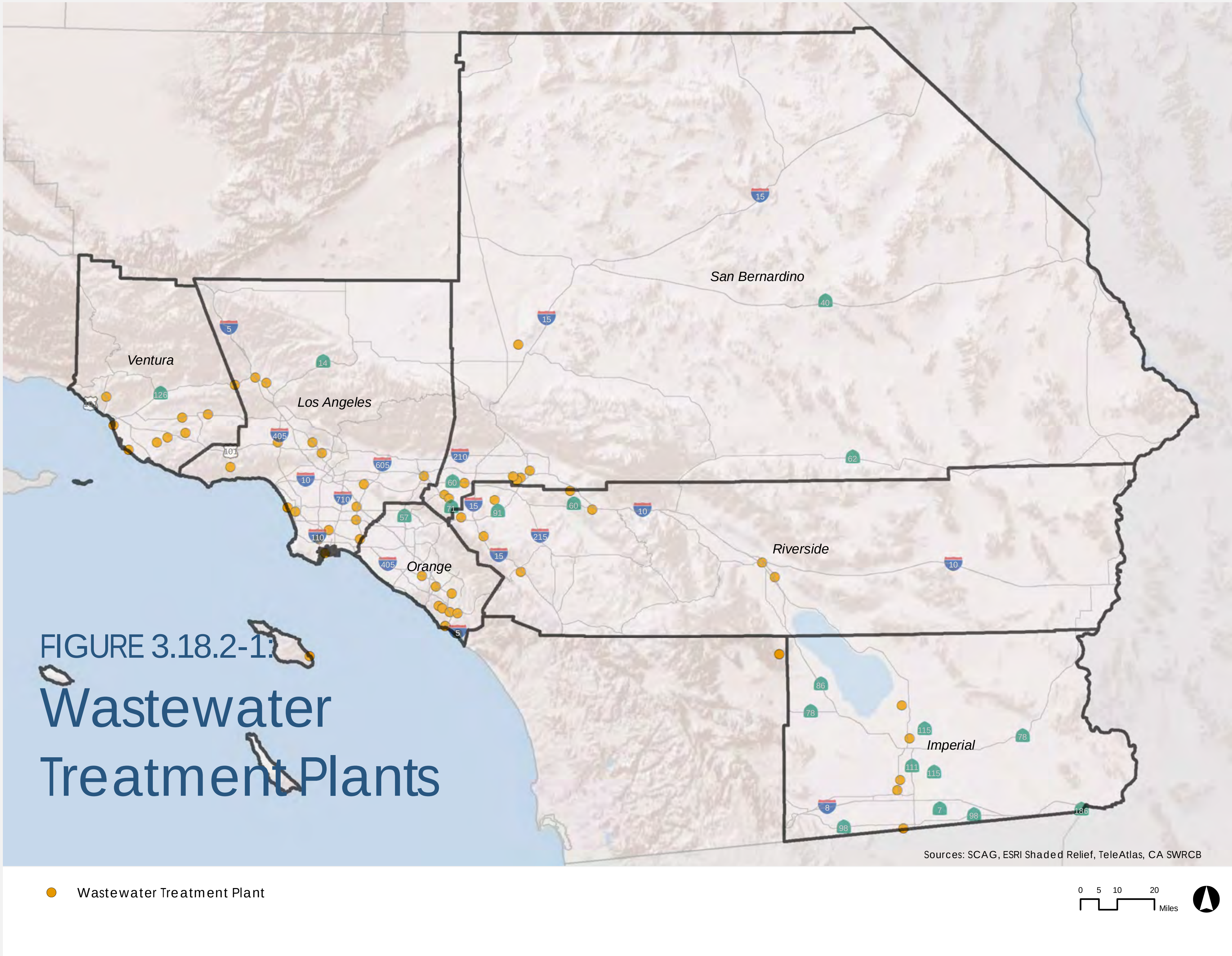

FIGURE 3.18.2-1:

Wastewater Treatment Plants

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***).

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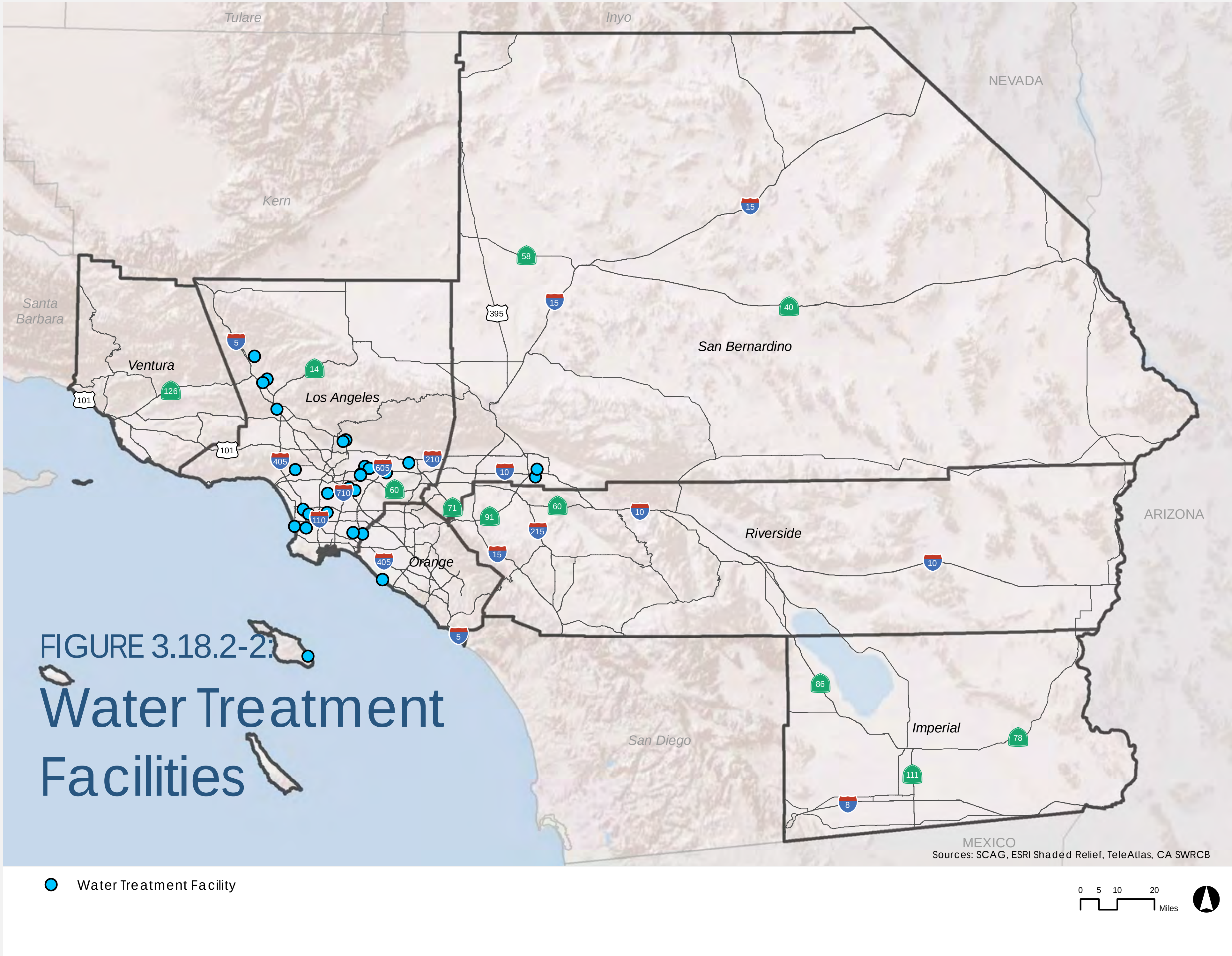
10 State Water Resources Control Board. 16 May 2014. *Storm Water Strategy Initiative Concept Paper*. Available at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/strategy_initiative/swsi_cncptppr_6092014.pdf

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



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)

	Water Year									
Statewide	**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 statues, decrees, and court decisions known collectively as the "Law of the River." Local surface water, groundwater, and the SWP provide the reminder 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.

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[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

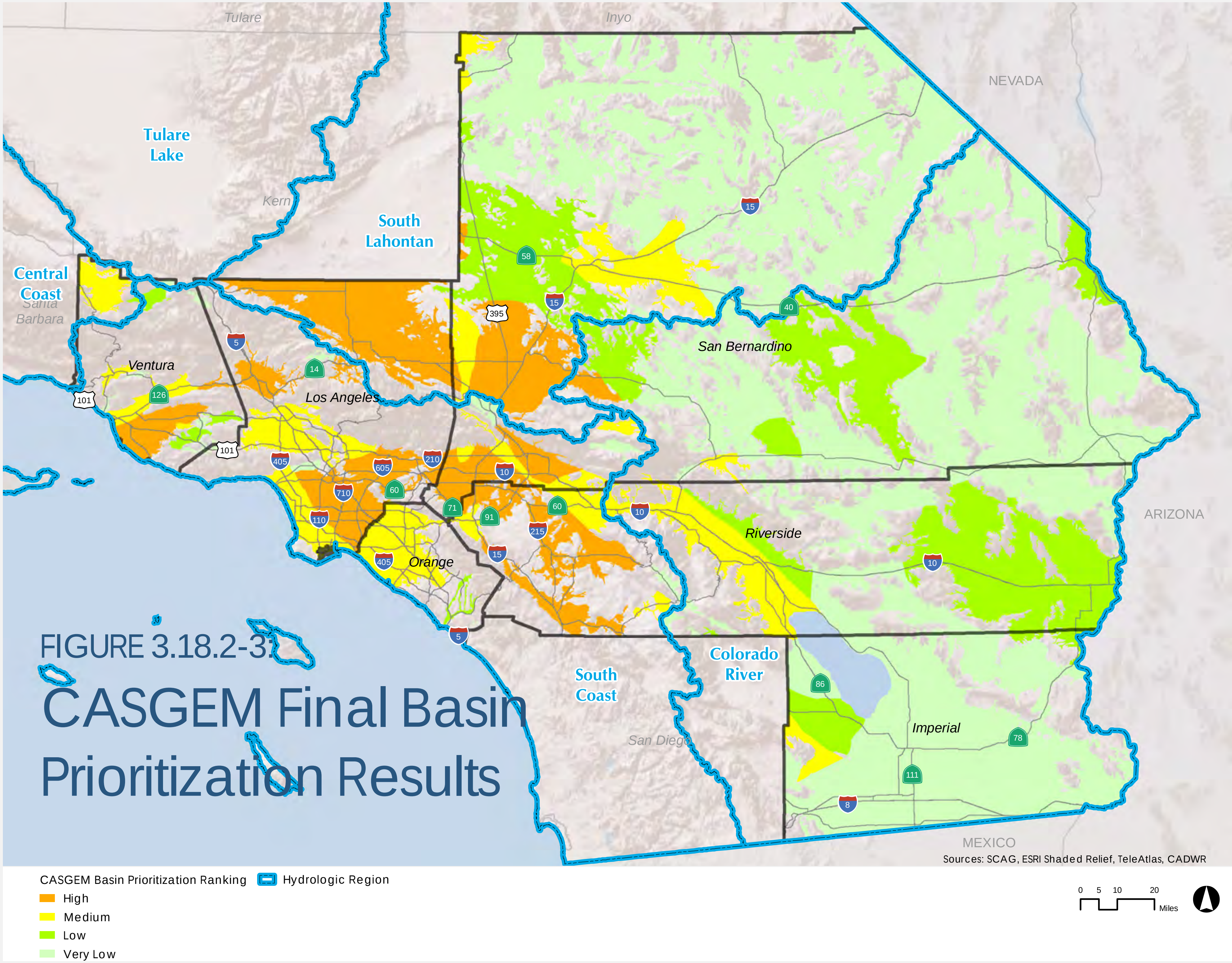

FIGURE 3.18.2-3: CASGEM Final Basin Prioritization Results

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]

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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

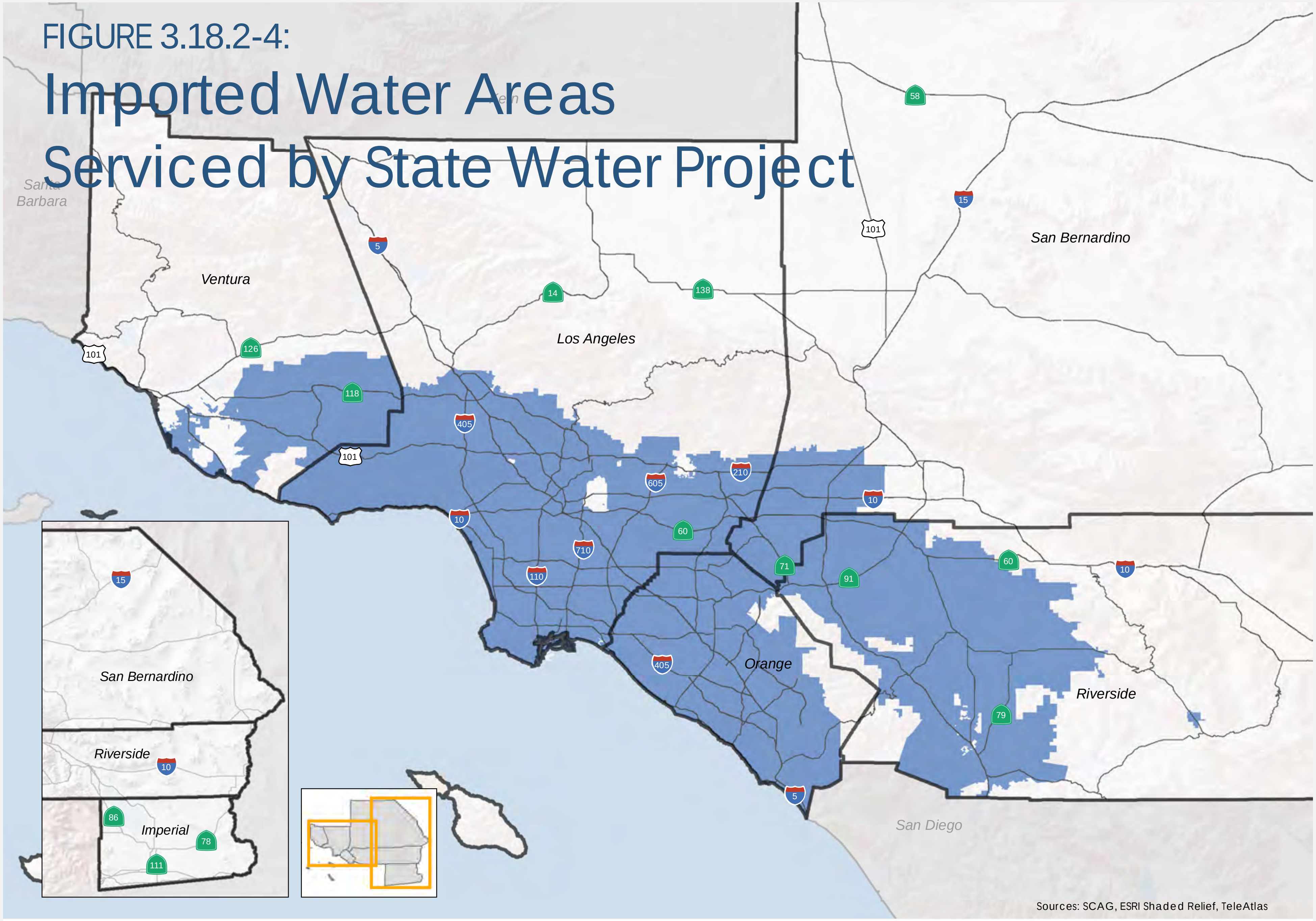
The Colorado River is a major source of water for Southern California, and is imported via the Colorado River Aqueduct, owned and operated by MWD. The Colorado River Region is of particular concern because it encompasses the Coachella Valley in the West Basin and the desert in the East Basin. Irrigation 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



State Water Project Serviced Area

0 3 6 12 Miles

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.

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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.

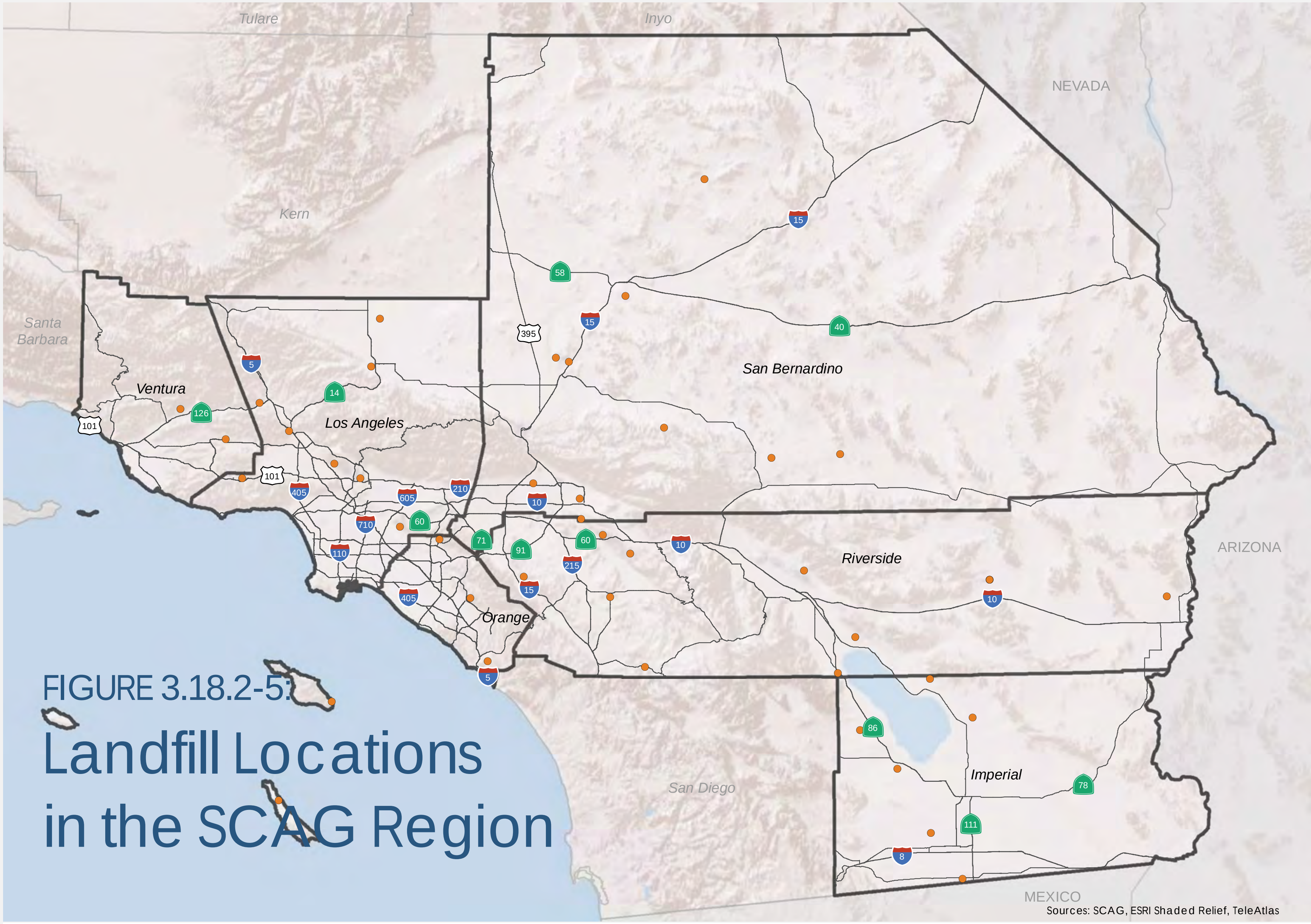

FIGURE 3.18.2-5:

Landfill Locations in the SCAG Region

Landfills

0 5 10 20 Miles

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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 UWMP[33] 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

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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_Resources_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 statues 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 wasterwater 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.