Please Note: SCAG’s new office address indicated below. Please visit SCAG’s website for Maps/Driving Directions; Parking Information and allow extra time for security check-in.

REGULAR MEETING

TRANSPORTATION COMMITTEE

Thursday, February 1, 2018
10:00 a.m. – 12:00 p.m.

Please Note NEW Address
SCAG Main Office
900 Wilshire Blvd., Ste. 1700
Board Room
Los Angeles, CA 90017
(213) 236-1800

If members of the public wish to review the attachments or have any questions on any of the agenda items, please contact Tess Rey-Chaput at (213) 236-1908 or via email at REY@scag.ca.gov. Agendas & Minutes for the Transportation Committee are also available at: www.scag.ca.gov/committees

SCAG, in accordance with the Americans with Disabilities Act (ADA), will accommodate persons who require a modification of accommodation in order to participate in this meeting. SCAG is also committed to helping people with limited proficiency in the English language access the agency’s essential public information and services. You can request such assistance by calling (213) 236-1908. We request at least 72 hours (three days) notice to provide reasonable accommodations and will make every effort to arrange for assistance as soon as possible.
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<p>| 1. | Sup. Curt Hagman | San Bernardino County |
| Vice-Chair* | | |
| Chair* | 2. | Hon. Randon Lane | Murrieta | District 5 |
| | * 3. | Hon. Sean Ashton | Downey | District 25 |
| | * 4. | Hon. Rusty Bailey | Riverside | District 68 |
| | * 5. | Hon. Glen Becerra | Simi Valley | District 46 |
| | * 6. | Hon. Ben Benoit | Wildomar | Air District Representative |
| | 7. | Hon. Will Berg, Jr. | Port Hueneme | VCOG |
| | 8. | Hon. Russell Betts | Desert Hot Springs | CVAG |
| | 9. | Hon. Austin Bishop | Palmdale | North L.A. County |
| | * 11. | Hon. Joe Buscaino | Los Angeles | District 62 |
| | 12. | Hon. Ross Chun | Aliso Viejo | OCCOG |
| | 13. | Hon. Jim B. Clarke | Culver City | WSCCOG |
| | 15. | Hon. Emily Gabel-Luddy | Burbank | AVCJPA |
| | * 16. | Hon. James Gazeley | Lomita | District 39 |
| | * 17. | Hon. Jeffrey Giba | Moreno Valley | District 69 |
| | * 18. | Hon. Lena Gonzalez | Long Beach | District 30 |
| | 19. | Hon. Jack Hadjinian | Montebello | SGVCOG |
| | * 20. | Hon. Jan Harnik | Palm Desert | RCTC |
| | 21. | Hon. Dave Harrington | Aliso Viejo | OCCOG |
| | * 22. | Hon. Carol Herrera | Diamond Bar | District 37 |
| | * 23. | Hon. Steve Hofbauer | Palmdale | District 43 |
| | * 24. | Hon. Jose Huizar | Los Angeles | District 61 |
| | * 25. | Hon. Jim Hyatt | Calimesa | District 3 |
| | * 26. | Hon. Mike T. Judge | Simi Valley | VCTC |
| | 27. | Hon. Trish Kelley | Mission Viejo | OCCOG |
| | 28. | Hon. Linda Krupa | Hemet | WRCOG |
| | * 30. | Hon. Clint Lorimore | Eastvale | District 4 |
| | * 31. | Hon. Ray Marquez | Chino Hills | District 10 |
| | * 32. | Hon. Steve Manos | Lake Elsinore | District 63 |
| | 33. | Hon. Larry McCallon | Highland | SBCTA |
| | * 34. | Hon. Marsha McLean | Santa Clarita | District 67 |</p>
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<td>Hon. Dan Medina</td>
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<td>Hon. Damon Sandoval</td>
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<td>Hon. Jesus Silva</td>
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<td>Hon. Cheryl Viegas-Walker</td>
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<td>Hon. Michael Wilson</td>
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<td>Ms. Nieves Castro</td>
<td>Caltrans, District 7, Ex-Officio Member</td>
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* Regional Council Member
The Transportation Committee (TC) may consider and act upon any of the items listed on the agenda regardless of whether they are listed as Information or Action Items.

CALL TO ORDER AND PLEDGE OF ALLEGIANCE
(The Honorable Curt Hagman, Chair)

PUBLIC COMMENT PERIOD
Members of the public desiring to speak on items on the agenda, or items not on the agenda, but within the purview of the Committee, must fill out and present a Public Comment Card to the committee staff prior to speaking. Comments will be limited to three (3) minutes per speaker. The Chair has the discretion to reduce the time limit based upon the number of speakers and may limit the total time for all public comments to twenty (20) minutes.

REVIEW AND PRIORITIZE AGENDA ITEMS

CONSENT CALENDAR

Approval Item

1. Minutes of the December 1, 2017 Meeting 1

Receive and File

2. Governor’s Office of Planning and Research (OPR) Proposed SB 743 Implementation Guidelines and Technical Advisory (Mike Gainor, SCAG Staff) 8

3. Governor’s Office of Planning and Research (OPR) Proposed Updates to the CEQA Guidelines (Roland Ok, SCAG Staff) 12

4. Summary of the Department of Finance’s 2017 Population Growth Estimates for the SCAG Region (Kevin Kane, SCAG Staff) 17
INFORMATION ITEMS

5. California Road Charge Pilot Program
   (Norma Ortega, California Department of Transportation
   Chief Financial Officer)  
   30 mins.  21

6. How Transit Affects Job Seekers
   (Dr. Marlon G. Boarnet, USC Professor and Chair Department
   of Urban Planning and Spatial Analysis)  
   20 mins.  47

7. Metro’s First/Last Mile Program Update
   (Katie Lemmon, Metro Transportation Planning Manager)  
   20 mins.  59

CHAIR’S REPORT
(The Honorable Curt Hagman)

METROLINK REPORT
(The Honorable Art Brown, SCAG Representative to Metrolink)

STAFF REPORT

FUTURE AGENDA ITEM/S

ANNOUNCEMENT/S

ADJOURNMENT

The next regular meeting of the TC is scheduled for Thursday, March 1, 2018 at the Wilshire Grand Center, 900 Wilshire Boulevard, Suite 1700, Los Angeles, CA 90017.
The Transportation Committee (TC) met at SCAG, 818 W. 7TH Street, 12th Floor, Los Angeles, CA 90017. The meeting was called to order by Chair Hon. Curt Hagman, San Bernardino County. A quorum was present.

Members Present:

- Hon. Sean Ashton, Downey District 25
- Hon. Rusty Bailey, Riverside District 68
- Hon. Glen Becerra, Simi Valley District 46
- Hon. Ben Benoit, Wildomar South Coast AQMD
- Hon. Will Berg, Port Hueneme VCOG
- Hon. Russell Betts, Desert Hot Springs CVAG
- Hon. Art Brown, Buena Park District 21
- Hon. Joe Buscaino, Los Angeles District 62
- Hon. Ross Chun, Aliso Viejo OCTA
- Hon. Jim Clarke, Culver City WCCOG
- Hon. Emily Gabel-Luddy AVCJPA
- Hon. James Gazeley, Lomita District 39
- Hon. Jeffrey, Giba, Moreno Valley District 69
- Hon. Jack Hadjinian, Montebello SGVCOG
- Hon. Curt Hagman (Chair) San Bernardino County
- Hon. Carol Herrera, Diamond Bar District 37
- Hon. Steven Hofbauer, Palmdale District 43
- Hon. Jim Hyatt, Calimesa District 3
- Hon. Mike T. Judge, Simi Valley VCTC
- Hon. Randon Lane, Murrieta (Vice Chair) District 5
- Hon. Steve Manos, Lake Elsinore District 63
- Hon. Dan Medina, Gardena District 28
- Hon. Richard D. Murphy, Los Alamitos OCTA
- Hon. Frank Navarro, Colton District 6
- Hon. Pam O’Connor, Santa Monica District 41
- Hon. Charles Puckett, Tustin District 17
**Members Present:**

Hon. Teresa Real Sebastian, Monterey Park  
Hon. Ali Saleh, Bell  
Hon. Jesus Silva, Fullerton  
Hon. Marty Simonoff, Brea  
Hon. Cynthia Sternquist, Temple City  
Hon. Cheryl Viegas-Walker, El Centro  
Hon. Alan Wapner, Ontario  
Hon. Michael Wilson, Indio  
Ms. Nieves Castro

**Members Not Present:**

Hon. Austin Bishop, Palmdale  
Hon. Jonathan Curtis, La Cañada-Flintridge  
Hon. Gonzalez, Lena, Long Beach  
Hon. Jan Harnik, Palm Desert  
Hon. Dave Harrington, Aliso Viejo  
Hon. Jose Huizar, Los Angeles  
Hon. Trish Kelley, Mission Viejo  
Hon. Linda Krupa, Hemet  
Hon. James C. Ledford  
Hon. Clint Lorimore, Eastvale  
Hon. Ray Marquez, Chino Hills  
Hon. Larry McCallon  
Hon. Marsha McLean, Santa Clarita  
Hon. Barbara Messina, Alhambra  
Hon. L. Dennis Michael  
Hon. Fred Minagar, Laguna Niguel  
Hon. Carol Moore, Laguna Woods  
Hon. Kris Murray, Anaheim  
Hon. Shawn Nelson  
Hon. Sam Pedroza, Claremont  
Hon. Greg Pettis, Cathedral City  
Hon. Dwight Robinson, Lake Forest  
Hon. Crystal Ruiz, San Jacinto  
Hon. Damon Sandoval  
Hon. Zareh Sinanyan, Glendale  
Hon. José Luis Solache, Lynwood  
Hon. Barb Stanton, Apple Valley  
Hon. Jess Talamantes  
Hon. Brent Tercero, Pico Rivera  
Hon. Alicia Weintraub, Calabasas
CALL TO ORDER & PLEDGE OF ALLEGIANCE

Hon. Curt Hagman, San Bernardino County, called the meeting to order at 10:00 a.m.

PUBLIC COMMENT

No members of the public requested to comment.

ACTION ITEMS

1. Calendar Year 2018 Transportation Safety Targets

Courtney Aguirre, SCAG staff, provided a presentation on the recommended Calendar Year 2018 Transportation Safety Targets. Ms. Aguirre reported that the Federal Highway Administration (FHWA) had issued a Final Rule, effective April 14, 2016, to establish performance measures for state departments of transportation (DOTs) to carry out the Highway Safety Improvement Program (HSIP) as required by transportation legislation (Moving Ahead for Progress in the 21st Century Act, MAP-21). She stated that the Final Rule called for Metropolitan Planning Organizations (MPOs) to establish targets for reducing the numbers and rates of transportation fatalities and serious injuries. She stated that SCAG had until February 27, 2018 to establish its regional safety targets. Ms. Aguirre reviewed potential regional safety targets and noted that with the committee’s approval, the safety targets would be forwarded to the Regional Council for its approval at its February 1, 2018 meeting.

Hon. Sean Ashton, Downey, asked if changes in the economy had an effect on safety. Ms. Aguirre responded that during the recent recession, there was a reduction in the number of fatalities and serious injuries, and that the California Department of Transportation (Caltrans) had shared research suggesting a strong correlation between the numbers of fatalities and serious injuries with unemployment and Gross Domestic Product (GDP) fluctuations.

A MOTION was made (Navarro) and SECONDED (Brown) to recommend the Regional Council adopt SCAG’s calendar year 2018 Transportation Safety Targets. The Motion passed by the following votes:


NOES:  None (0)

ABSTAIN:  Gabel-Luddy (1)

2. Draft 2018 California State Rail Plan Update and SCAG Comment Letter

Steve Fox, SCAG staff, reported on the Draft 2018 State Rail Plan (CSRP) Update and SCAG’s comment letter. Mr. Fox stated the CSRP was a long-range document that set priorities and implementation strategies for improving the state’s passenger and freight rail networks. He noted the Draft CSRP was released on October 11, 2017 for a 60-day public comment period that would close on December 11, 2017. Mr. Fox reviewed SCAG’s comments for the Draft CSRP, including implementing service in new markets, particularly new service from Los Angeles Union Station to the Coachella Valley, and the
need to emphasize regional connectivity between rail service and public transit to provide seamless regional travel opportunities. He detailed additional comments, including expediting the California High-Speed Rail blended system and improving connectivity to the region’s airports. He noted that freight rail comments included identifying critical mainline freight enhancements as well as port area rail infrastructure improvements, and the need for more discussion on the role of federal emissions standards.

Hon. Joe Buscaino, Los Angeles, asked that rail comments include an effort to work with rail companies such as Union Pacific and Burlington Northern Santa Fe on accessing existing rights-of-way for expanding passenger rail service. Mr. Fox responded that current efforts included a proposal to lease existing rights of way from freight rail providers to enhance passenger rail service.

Hon. Alan Wapner, Ontario, stated that the initial financial commitment of $1 billion to Southern California High-Speed Rail blended service efforts had not yet been honored and this ought to be in the comment letter. Mr. Fox responded that it could be included in the comments and to also note that Northern California funding has been distributed.

A MOTION was made (Viegas-Walker) and SECONDED (Ashton) to authorize the Executive Director to submit SCAG's comment letter to Caltrans Division of Rail and Mass Transportation. The Motion passed by the following votes:


NOES: None (0)

ABSTAIN: Gabel-Luddy (1)

CONSENT CALENDAR

3. Minutes of the November 2, 2017 Meeting

Receive and File

4. State of California 2017 Climate Change Scoping Plan
5. 2018 Schedule of Regional Council and Policy Committees

A MOTION was made (Brown) and SECONDED (Lane) to approve Consent Calendar items 3 – 5. The Motion passed by the following votes:


NOES: None (0)

ABSTAIN: Gabel-Luddy, Saleh (2)

INFORMATION ITEMS

6. SCAG Region Transit Ridership Trends Study

Brian Taylor Ph.D., Professor of Urban Planning, UCLA Luskin School of Public Affairs, reported on transit ridership trends in the SCAG region. Mr. Taylor stated that regional per capita transit ridership
had declined since 2007. He noted only 2 percent of residents in the region take transit frequently, 20 percent ride occasionally and 78 percent ride transit very little or not at all. Additionally, he stated that 60 percent of transit commuters lived in Census tracts that comprise less than 1 percent of the region’s land area. He reported that fewer than 10 percent of the region’s transit operators carried about 80 percent of all transit passengers. He noted that concentrated transit use meant concentrated ridership losses, and that Metro, OCTA, LADOT and Santa Monica Big Blue Bus accounted for 88 percent of the state’s ridership losses between 2010 and 2016. He shared that Metro alone accounted for 72 percent of the state’s ridership losses.

Mr. Taylor reviewed possible factors leading to ridership loss such as altered levels of service, fuel prices and transportation network companies (TNCs) such as Uber and Lyft. He noted that service levels had increased while ridership declined and changes in fuel prices did not affect ridership. Further, he noted that TNCs were used most heavily during times when transit was not typically used. He noted fuel prices and TNCs had likely played a contributing role, but not a leading role in ridership losses. Mr. Taylor stated the most likely cause of transit ridership decline was a significant increase in private vehicle ownership. He noted that between 2000 and 2015 the region added 2.3 million new residents and an additional 2.1 private vehicles per new resident. He stated that by comparison, in the 1990s the region added 1.8 million residents and 456,000 vehicles or .25 vehicles per new resident. He noted that since 2000, SCAG households had increased private vehicle ownership at nearly 4 times the rate of the 1990s, leading to an investment in private vehicles far greater than that spent on major transit infrastructure improvements. He stated that this had increased vehicle access to residents such as recent immigrants who had traditionally experienced limited vehicle access and were therefore the heaviest users of public transit. Mr. Taylor noted this trend was expected to continue.

Hon. Cheryl Viegas-Walker, El Centro, asked about the effectiveness of providing tax deductions for transit users as a way to stimulate ridership. Mr. Taylor responded that a tax deduction strategy would be most appealing to higher-income riders and less likely to increase ridership. He noted service quality and frequency of service tended to motivate ridership more than price and suggested lowering fares at times when there was excess capacity. Mr. Taylor also responded that an employee’s choice to drive to work was often dependent upon the availability and cost of parking there. He stated an alternative strategy would be to provide employees a monthly parking stipend, with the option to retain the stipend if the employee opted not to utilize work parking.

Hon Rusty Bailey, Riverside, inquired about the feasibility of a study to examine the positive effects of a “Free Friday” strategy to encourage residents to try transit. Mr. Taylor responded that a program like that had the benefit of introducing transit to the non-rider so they could become familiar and comfortable with the process and service. He noted many riders did not take transit because they are unfamiliar with it and a free day might help shift some non-riders to occasional riders.

7. California Transportation Asset Management Plan

Michael Johnson, Caltrans Asset Management Engineer, provided an update on California’s Transportation Asset Management Plan (TAMP). Mr. Johnson stated federal regulations required an asset management plan for pavement and bridges on the National Highway System (NHS) including local portions located in the SCAG region. He noted pavement condition was evaluated using the International Roughness Index (IRI), which evaluated cracking, rutting, and faulting on surfaces. He explained that surface conditions were assigned designations of good, fair, or poor. Mr. Johnson noted that 60 percent of the total local National Highway System pavement was in the SCAG region and 5 percent was rated as good, 83 percent was rated as fair, and 12 percent was rated as poor. Mr. Johnson reviewed regional bridge conditions and noted that the SCAG region contained NHS bridges.
that were designated as follows: 36 percent were rated as good, 49 percent were rated as fair, and 15 percent were rated as poor. He reviewed the established TAMP targets and noted that local NHS pavement targets called for a poor condition rating of no greater than 9 percent, and SCAG’s current poor pavement rating was 14 percent. He noted that the local NHS bridge targets called for a poor condition rating of no greater than a 1.5 percent, and SCAG’s current poor bridge rating was 15 percent.

8. **Trade Corridor Enhancement Program**

Item deferred to a future meeting.

**CHAIR’S REPORT**

No chair’s report provided.

**METROLINK REPORT**

Hon. Art Brown, Buena Park, reported that on December 18, 2017, Metrolink service would extend to the San Bernardino Transit Center providing connections to several Omnitrans local bus routes, sbX Green line, Pass Transit, Mountain Transit, Victor Valley Transit Authority, and Riverside Transit Agency’s new service starting January 2018. He shared that information on train service to Riverside’s Festival of Lights could be found at Metrolinktrains.com. He reported that the City of Claremont was hosting community meetings as part of the process of deciding whether to keep the Claremont Metrolink Station open upon the completion of the Metro Gold Line extension to Montclair scheduled for 2027. Finally, he reported that Metrolink hosted a community meeting regarding the future Hollywood Burbank Airport North Station that was scheduled to open in November 2018. He noted that with the opening of the new Hollywood Burbank Airport - North Station, a new station stop on the Antelope Valley Line would be added, and Metrolink was seeking community and stakeholder feedback regarding possible impacts of a reduction or elimination of service at the Sun Valley Station due to the fact that it was currently minimally utilized and would be very close to the new airport station.

**FUTURE AGENDA ITEMS**

Hon. Jim Clarke, Culver City, stated that he recently completed a tour of the tunnel project being pursued by Elon Musk and asked if staff could examine a similar tour for Transportation Committee members.

**ADJOURNMENT**

Hon. Randon Lane, Murrieta, adjourned the meeting at 12:03 p.m.

[MINUTES ARE UNOFFICIAL UNTIL APPROVED BY THE TRANSPORTATION COMMITTEE]
RECOMMENDED ACTION FOR EEC:
For Information Only - No Action Required

RECOMMENDED ACTION FOR CEHD, TC, and RC:
Receive and File.

EXECUTIVE SUMMARY:
On November 27, 2017, the Governor’s Office of Planning and Research (OPR) transmitted the final proposed Senate Bill 743 (SB 743) Implementation Guidelines to the California Natural Resources Agency for final rulemaking. OPR’s final proposal reflects and incorporates substantial input provided by a wide array of statewide stakeholders, including metropolitan planning organizations (MPOs), County Transportation Commissions, local implementation agencies, and environmental advocacy organizations. Since SB 743 was signed into law by the Governor in 2013, OPR has provided multiple forums for stakeholder discussion and various opportunities for input and comment into how the new law should be implemented. SCAG has worked closely and cooperatively with OPR throughout this process.

The final rulemaking process to be conducted by the California Natural Resources Agency will provide an additional opportunity for public review and comment, which may result in further revisions. At the time of this draft, the Natural Resources Agency had not yet announced details regarding the public review period. Any changes to the proposed Guidelines introduced through the rulemaking process or resulting from the accompanying public review period would only go into effect after the California State Office of Administrative Law reviews and approves the changes.

To provide information to our local stakeholders, SCAG hosted a CEQA Guidelines and SB 743 Workshop on January 31, 2018 at the Caltrans District 7 offices. Staff is currently reviewing comments and feedback received at the Workshop.
For more detailed information on SB 743 and the proposed SB 743 Implementation Guidelines, please visit the OPR website: [http://www.opr.ca.gov/ceqa/updates/guidelines](http://www.opr.ca.gov/ceqa/updates/guidelines), and the California Natural Resources Agency website: [http://resources.ca.gov/ceqa/guidelines/](http://resources.ca.gov/ceqa/guidelines/).

STRATEGIC PLAN:
This item supports SCAG’s Strategic Plan Goal 1: Improve Regional Decision Making by Providing Leadership and Consensus Building on Key Plans and Policies.

BACKGROUND:
The California Environmental Quality Act (CEQA) requires public agencies, as part of the project approval decision-making process, to evaluate and mitigate (as needed) a project’s potential environmental impacts. OPR is charged with developing the administrative regulations to implement CEQA, and the Natural Resources Agency adopts those regulations following a formal rulemaking process. Among the analyses required by CEQA is a transportation impact analysis.

In response to the passage of SB 743, OPR initiated a process to update the transportation impact analysis language in the CEQA Guidelines and to develop a corresponding ‘Technical Advisory’ to provide methodological assistance and implementation recommendations for local agencies. On November 27, 2017, OPR transmitted its final proposed SB 743 Implementation Guidelines to the California Natural Resources Agency to initiate the final rulemaking process.

Key dates in the SB 743 Implementation Guidelines development process included:

- Senate Bill 743 was signed by the Governor, assigning OPR the responsibility to update the CEQA Guidelines accordingly (September, 2013)
- OPR released an initial evaluation of several alternative transportation impact evaluation metrics to replace the existing ‘Level of Service’ (LOS) methodology (December, 2013)
- OPR released an initial draft of the Proposed Revised Guidelines for evaluating transportation impacts using a Vehicle Miles Traveled (VMT) metric (August, 2014)
- OPR released an updated draft of the revised CEQA Guidelines including the VMT metric, together with a draft Technical Advisory (January, 2016)
- SCAG, along with the other three major state MPOs, initiated a statewide consultant-led case study demonstration project to evaluate potential SB 743 implementation issues (July, 2016)
- Submittal of the final proposed CEQA Guidelines revision to the Natural Resources Agency for final rulemaking (November, 2017)

PROPOSED UPDATES TO THE SB 743 IMPLEMENTATION GUIDELINES
SB 743 charged OPR with the task of updating the CEQA Guidelines to emphasize current State planning priorities, including the reduction of greenhouse gas (GHG) emissions, streamlining infill and mixed-use transit-oriented development, and facilitating active transportation and transit improvement projects. The final OPR proposal contains several key revisions from the previous draft CEQA Guidelines and Technical Advisory proposal released in January, 2016.

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TC 02.01.18 - Page 9 of 68
The final proposed SB 743 Implementation Guidelines include several key revisions to the CEQA Guidelines:

**Transportation Impact Analysis:** The proposed final SB 743 Implementation Guidelines includes significant changes related to the analysis of CEQA transportation impacts. SB 743 required OPR to develop an alternative methodology to replace the existing ‘Level of Service’ (LOS) analysis for evaluating CEQA transportation impacts. The proposed OPR update designates vehicle miles travelled (VMT) as the most appropriate metric for evaluating transportation impacts for most projects. VMT was selected by OPR as the preferred methodology to replace LOS because of its potential value in facilitating transit-oriented projects in existing urbanized areas and for encouraging bicycle and pedestrian improvements in mixed use urban centers.

One of the guiding principles of SB 743 was to encourage infill development, facilitate the use of active transportation, and reduce greenhouse gas (GHG) emissions. The adoption of a VMT-based metric eliminates the exclusive focus on automobile delay as the primary parameter for evaluating CEQA transportation impacts as was the focus of LOS analysis. Transportation impact analysis based on VMT will improve the viability of infill and transit-oriented development projects, as well as other projects that serve to reduce GHG emissions through decreased dependency on single occupancy vehicles and increased use of active transportation and transit options.

**VMT Implementation Changes:** The final version of the proposed SB 743 Implementation Guidelines includes some significant revisions from the previous draft proposal released by OPR in January, 2016. These modifications are primarily related to implementation of the VMT methodology and were developed largely in response to concerns expressed by local implementation agencies and other statewide stakeholders. These proposed implementation changes include:

- Use of the VMT methodology for evaluating CEQA transportation impacts is now optional for highway capacity projects.
- Analysis of freight VMT is no longer required.
- Only the number of residential units prescribed in the Sustainable Communities Strategy (SCS) may be used to reference the average VMT for a city.
- Mixed-use development projects may limit VMT-based transportation impact analysis only to the predominant land use.

**STATUS OF STAFF REVIEW**

SCAG staff has reviewed the proposed final SB 743 Implementation Guidelines and Technical Advisory, and are appreciative of the considerations OPR has made in response to our concerns and those of our local stakeholders, most notably for the provision for added flexibility in the use of VMT analysis for transportation capacity improvement projects. Staff will continue its review and will also consider comments received at the workshop described further below. Throughout the more than three years since the passage of SB 743, OPR has collaborated closely with SCAG and the other state MPOs to
ensure that implementation of this ground-breaking new law will be implemented with minimal
added burden to our local jurisdictions.

PUBLIC REVIEW AND NEXT STEPS
As part of its final rulemaking process, the California Natural Resources Agency will initiate a public
review period for the proposed SB 743 Implementation Guidelines. At the time of this draft, details
regarding the scheduling of the public review period have not yet been released.

To provide information to our local stakeholders, SCAG hosted a CEQA Guidelines and SB 743
workshop on January 31, 2018 at the Caltrans District 7 offices. OPR was invited to provide
information and answer questions regarding these regulatory modifications. Staff are currently
reviewing comments and feedback received at the workshop.

For more information on SB 743 and the proposed SB 743 Implementation Guidelines, please visit:

OPR website: http://opr.ca.gov/ceqa/updates/guidelines/, and

California Natural Resources Agency’s website: http://resources.ca.gov/ceqa/guidelines/.

FISCAL IMPACT:
Work associated with this item is included in the Fiscal Year 17/18 Overall Work Program
(080.SCG00153.04: Regional Assessment).

ATTACHMENT/S:
None.
To: Energy and Environment Committee (EEC)  
Community, Economic and Human Development Committee (CEHD)  
Transportation Committee (TC)  
Regional Council (RC)  

EXECUTIVE DIRECTOR'S APPROVAL

From: Roland Ok, Senior Regional Planner, 213-236-1839, ok@scag.ca.gov

Subject: Governor’s Office of Planning and Research (OPR) Proposed Updates to the CEQA Guidelines

RECOMMENDED ACTION FOR EEC:
For Information Only - No Action Required

RECOMMENDED ACTION FOR CEHD, TC and RC:
Receive and File.

EXECUTIVE SUMMARY:
On November 27, 2017, the Governor’s Office of Planning and Research (OPR) transmitted the final proposed amendments to the Guidelines implementing the California Environmental Quality Act (CEQA) to the California Natural Resources Agency. OPR’s comprehensive package contains a complete set of updates to the CEQA Guidelines. It reflects input from numerous public comment periods and input received during informal stakeholder meetings, conferences, and other venues. The package contains changes or additions involving nearly thirty different sections, addressing steps to facilitate the environmental review process. Key proposed updates are aimed towards improving efficiency, substantive analysis, and technical analysis. Updates also include the proposed SB743 Implementation Guidelines (For further details please refer to a separate February 2018 Staff Report titled: Governor’s Office of Planning and Research (OPR) Proposed SB743 Implementation Guidelines).

The Natural Resources Agency will soon begin the formal administrative rulemaking process under the Administrative Procedure Act. At the time of drafting this Staff Report, the Natural Resources Agency has not initiated its formal administrative rulemaking process. When initiated, the rulemaking process will entail additional public review and may lead to further revisions. After completing the rulemaking process, the Secretary for the Natural Resources Agency may adopt the changes. Changes would only go into effect after the Office of Administrative Law reviews and approves the changes. Additionally, SCAG hosted a CEQA Guidelines and SB 743 Workshop on
January 31, 2018 at the Caltrans District 7 office. SCAG Staff is currently evaluating comments received from the workshop and will consider incorporating them into SCAG’s comment letter, as needed.

For more information on the proposed updates to the CEQA Guidelines, please visit OPR’s website at: http://opr.ca.gov/ceqa/updates/guidelines/ and California Natural Resources Agency’s website at: http://resources.ca.gov/ceqa/guidelines/

STRATEGIC PLAN:
This item supports SCAG’s Strategic Plan Goal 1: Improve Regional Decision Making by Providing Leadership and Consensus Building on Key Plans and Policies.

BACKGROUND:
On November 27, 2017, the Governor’s Office of Planning and Research (OPR) transmitted the final proposed amendments to the Guidelines implementing the California Environmental Quality Act (CEQA) to the California Natural Resources Agency for final rulemaking.

CEQA requires public agencies, as part of the project approval decision-making process, to evaluate and mitigate a project’s potential environmental impacts. OPR is charged with developing the administrative regulations to implement CEQA, and the Natural Resources Agency adopts those regulations following a formal rulemaking process. The implementation regulations, commonly referred to as the CEQA Guidelines, are required to be updated on a regular basis. The last comprehensive update to the CEQA Guidelines was completed in the late 1990s.

In 2013, OPR initiated a process to comprehensively update the CEQA Guidelines. Since that time, the State Legislature has adopted numerous revisions to CEQA law in regard to specific elements of the Guidelines, including a change in the methodology for assessing transportation related impacts (Senate Bill 743, Steinberg, 2013), and the addition of tribal cultural resources (Assembly Bill 52, Gatto, 2014) as a consideration in environmental documents. Key dates in the OPR CEQA Guidelines update process included the following:

- Distribution of a formal solicitation for input on possible improvements (Summer, 2013)
- Publication of a list of potential topics to address in the update (December, 2013)
- Development of a draft Technical Advisory on the analysis of Tribal Cultural Resources pursuant to Assembly Bill 52 (May, 2015)
- Release of a first draft of the Comprehensive Update to the CEQA Guidelines (August, 2015)
- Development of proposed changes to Appendix G of the CEQA Guidelines addressing Tribal Cultural Resources (November, 2015)
• Coordination with the Natural Resources Agency to complete the changes to Appendix G related to Tribal Cultural Resources (August, 2016)


• Finalization of the comprehensive CEQA Guidelines update package and submission to the Natural Resources Agency for final rulemaking (November, 2017)

• Hosting of a webinar providing an overview of the proposed revised Guidelines in conjunction with the Association of Environmental Professionals (AEP) (December, 2017)

OVERVIEW OF PROPOSED UPDATES TO THE CEQA GUIDELINES
OPR has crafted a comprehensive package of updates to the CEQA guidelines that reflects input obtained through numerous public comment periods and feedback received during informal stakeholder meetings, conferences, and other venues. The OPR proposal contains changes or additions involving nearly thirty different sections, including steps to facilitate and streamline the environmental review process.

Key updates to the CEQA Guidelines include the following:

Efficiency Improvements
Regulatory Standards: Promotes the use of existing regulatory standards in the CEQA process. Using standards as “thresholds of significance” creates a predictable starting point for analysis and allows lead agencies to rely on the expertise of other regulatory bodies without foreclosing the consideration of any potential project-specific effects.

Updates to the Environmental Checklist: The OPR package proposes to update the environmental checklist that most agencies use to conduct their environmental review. Redundant questions in the existing checklist are eliminated and some questions are updated to address contemporary topics. The checklist has also been updated with several new questions related to transportation impacts and wildfire risk, pursuant to Senate Bill 743 (Steinberg, 2013), and Senate Bill 1241 (Kehoe, 2012), respectively. It also relocates questions related to paleontological resources as directed by Assembly Bill 52 (Gatto, 2014).

Tiering: The OPR package includes several changes to make the existing programmatic environmental review process easier to use for subsequent projects. Specifically, it clarifies the rules on tiering and provides additional guidance on when a later project may be considered within the scope of a program EIR, thereby obviating the need for additional environmental review.

Exemptions: The OPR package enhances several existing CEQA exemptions. For example, consistent with Senate Bill 743 (Steinberg, 2013), it expands upon an existing exemption for projects
implementing a specific plan to include not just residential, but also commercial and mixed-use projects that are located near transit. It also clarifies exemption rules for changes to existing facilities so that vacant buildings can more easily be redeveloped. Changes to that same exemption would also promote pedestrian, bicycle, and streetscape improvements within an existing right of way.

**Substantive Improvements**

**Energy Impacts Analysis:** The OPR package provides new guidance regarding energy impact analysis. Specifically, it requires an EIR to include an analysis of a project’s energy impacts that addresses not just building design, but also transportation, equipment use, location, and other relevant factors.

**Water Supply Impact Analysis:** The OPR package proposes guidance on the analysis of water supply impacts. The guidance is built upon the California Supreme Court decision in *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412. The new provision requires analysis of a proposed project’s possible sources of water supply over the life of the project and the environmental impacts of supplying that water to the project. The analysis must consider any uncertainties in supply, as well as potential alternatives.

**Greenhouse Gas Emissions Analysis:** The OPR package includes proposed updates related to the analysis of impacts from greenhouse gas emissions. The proposed changes reflect current appellate case law, including *Center for Biological Diversity v. Dept. of Fish & Wildlife* (2015) 62 Cal.4th 204; and *Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497.

**Transportation Impact Analysis:** Please refer to a separate February 2018 Staff Report titled: Governor’s Office of Planning and Research (OPR) Proposed SB743 Implementation Guidelines

**Technical Improvements**

**Evaluation of Hazards:** The OPR package includes changes related to the evaluation of hazards as mandated by the California Supreme Court in *CBIA v. BAAQMD* (2015) 62 Cal.4th 369.

**Environmental Baseline:** The OPR package clarifies when it may be appropriate to use projected future conditions as the environmental baseline.

**Mitigation Measures:** The OPR package clarifies when agencies may defer specific details of mitigation measures until after project approval.

**Responses to Comments:** The OPR package proposes a set of changes related to the duty of lead agencies to provide detailed responses to comments on a project. The changes clarify that a general response may be appropriate when a comment submits voluminous data and information without explaining its relevance to the project.

**Other Changes:** Other proposed updates address a range of topics such as selecting the lead agency, posting notices with county clerks, clarifying the definition of “discretionary,” and others. The package includes technical changes to Appendices D and E to reflect recent statutory requirements.
and previously adopted amendments to the CEQA Guidelines, and to correct typographical errors. Additional technical improvements include those related to pre-approval agreements, lead agency by agreement, common sense exemption, preparation of the initial study, consultation with transit agencies, citations in environmental documents, time limits for negative declarations, project benefits, joint NEPA/CEQA documents, use of the emergency exemption, discretionary projects, use of conservation easements as mitigation, and Appendices C and M to the CEQA Guidelines.

STATUS OF STAFF REVIEW
Since the release of the proposed update to the CEQA Guidelines, SCAG staff has been reviewing and are carefully evaluating the following potential topics for comments:

1. Environmental baseline (Proposed amendments to Section 15125)
2. Proposed language on tiering
3. Promoting the use of existing regulatory standards in the CEQA process
4. Discussion of energy based impacts under Appendix G
5. Proposed changes to greenhouse gas impact analysis (Proposed amendments to Section 15064.4)
6. Discussion of project benefits (Proposed amendments to Section 15124)

PUBLIC REVIEW AND NEXT STEPS
The Natural Resources Agency will soon begin the formal administrative rulemaking process under the Administrative Procedure Act. At the time of drafting this Staff Report, the Natural Resources Agency has not initiated its formal administrative rulemaking process. When initiated, the rulemaking process will entail additional public review, and may lead to further revisions. After completing the rulemaking process, the Secretary for the Natural Resources Agency may adopt the changes. Changes would only go into effect after the Office of Administrative Law reviews and approves the changes.

SCAG hosted a CEQA Guidelines and SB 743 workshop on January 31, 2018 at the Caltrans District 7 office and subject matter were presented by OPR staff. SCAG Staff currently evaluating comments from the workshop and will consider incorporating them into our comment, as needed.

For more information on the Proposed Update to the CEQA Guidelines, please visit OPR’s website at: http://opr.ca.gov/ceqa/updates/guidelines/ and California Natural Resources Agency’s website at: http://resources.ca.gov/ceqa/guidelines/

FISCAL IMPACT:
Work associated with this item is included in the Fiscal Year 17/18 Overall Work Program (080.SCG00153.04: Regional Assessment).

ATTACHMENT/S:
None
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EXECUTIVE SUMMARY:
SCAG staff will provide a summary of the California Department of Finance (DOF) year 2017 population growth estimates. DOF estimates are consistent with SCAG’s preliminary draft forecasts for the 2020 RTP/SCS, despite high growth numbers the SCAG region’s share of California’s population is decreasing modestly, and in 2017 the population who left the SCAG region for another state dropped significantly.

BACKGROUND:
On December 21, 2017, the California Department of Finance (DOF) released its official estimates for population growth from July 1, 2016 to July 1, 2017. Overall these estimates were consistent with SCAG’s preliminary draft forecasts for the 2020 RTP/SCS which were presented to the SCAG Policy Committees in July 2017, with annual growth rates within one-tenth of one percent. Two relevant points emerge from these updated estimates which are notable for the SCAG region.

First, four SCAG counties – Los Angeles, Riverside, Orange, and San Bernardino – were amongst the state’s top five for population gain. However only Riverside was in the state’s top five for population growth rate (in fifth place). The result of this is that while in 2010 the SCAG region represented 48.5%
of the state, today it only represents 48.1% of the state. This share is projected to continue to
decrease gradually and it is not likely that the SCAG region will ever represent “half of the state’s
population.”

Second, the DOF report highlights that despite decreasing birth rates and increasing death rates due
to ageing baby boomers, the source of population growth continues to be natural increase: 113,821
were born in the SCAG region. While growth due to natural increase has been on a downward trend
for several years, this 2017 figure is consistent with expectations. Similarly, net international
immigration remains stable and consistent with SCAG projections at 89,359 per year.

However, net domestic migration shifted dramatically in 2017. In 2015 the region lost 83,222 net
residents to out-of-state and in 2016 lost 107,343. However in 2017 the region lost only 70,060 net
migrants to out-of state, mirroring the trends seen elsewhere in California.

The recent run-up in domestic out-migration was believed to be related to high housing/living costs;
in particular Orange County gradually flipped from a net landing point for migrants from out-of state
to a net jumping off point. Riverside County continues to be the only county in the region since 2012
to have positive net domestic migration. While all counties saw a net decrease in out-of-state movers
in 2017, Los Angeles County lost 22,005 fewer residents in 2017 than it did in 2016. This trend is likely
reflective of improving economic fundamentals, despite the region’s overall housing shortage.

While SCAG’s preliminary 2020 RTP/SCS estimates are generally supported by the updated DOF
estimates, DOF and other updated sources of information, such as the 2016 American Community
Survey results released last month, will be investigated further and incorporated into the final 2020
RTP/SCS population projections as appropriate.

**FISCAL IMPACT:** None.

**ATTACHMENT/S:** PowerPoint Presentation
SCAG region population growth during 2017

February 1, 2018

Kevin Kane, PhD, Associate Regional Planner

Population Growth: 7/1/16 – 7/1/17

- CA Dep’t of Finance Mid-Year estimates
- SCAG counties: “Highest growth, but not the highest growth rate.”
- Result: SCAG region contains 48.1% of California’s population; down from 48.5% in 2010

<table>
<thead>
<tr>
<th>County</th>
<th>Population, 7/1/17</th>
<th>Growth rate, prior 12 mos.</th>
<th>Growth, prior 12 mos.</th>
<th>Growth by natural increase</th>
<th>Growth by net immigration</th>
<th>Growth by net domestic migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imperial</td>
<td>188,650</td>
<td>1.14%</td>
<td>2,130</td>
<td>1,911</td>
<td>1,843</td>
<td>(1,624)</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>10,271,792</td>
<td>0.55%</td>
<td>56,689</td>
<td>59,395</td>
<td>55,783</td>
<td>(58,489)</td>
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<tr>
<td>Orange</td>
<td>3,200,748</td>
<td>0.68%</td>
<td>21,626</td>
<td>18,030</td>
<td>17,568</td>
<td>(13,972)</td>
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<tr>
<td>Riverside</td>
<td>2,389,723</td>
<td>1.28%</td>
<td>30,135</td>
<td>14,037</td>
<td>6,285</td>
<td>9,813</td>
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<tr>
<td>San Bernardino</td>
<td>2,163,680</td>
<td>0.94%</td>
<td>20,102</td>
<td>16,704</td>
<td>5,703</td>
<td>(2,305)</td>
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<tr>
<td>Ventura</td>
<td>856,111</td>
<td>0.29%</td>
<td>2,438</td>
<td>3,744</td>
<td>2,177</td>
<td>(3,483)</td>
</tr>
<tr>
<td><strong>SCAG TOTAL</strong></td>
<td><strong>19,070,704</strong></td>
<td><strong>0.70%</strong></td>
<td><strong>133,120</strong></td>
<td><strong>113,821</strong></td>
<td><strong>89,359</strong></td>
<td><strong>(70,060)</strong></td>
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<tr>
<td>California</td>
<td>39,613,045</td>
<td>0.77%</td>
<td>300,816</td>
<td>220,597</td>
<td>185,430</td>
<td>(105,211)</td>
</tr>
</tbody>
</table>

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Fewer leaving for out-of-state

Net Domestic Migration in the SCAG Region, 2011-2017

Thank you
Kevin Kane, PhD
Associate Regional Planner
kane@scag.ca.gov
To: Transportation Committee (TC)  
From: Annie Nam, Manager, Goods Movement and Transportation Finance, (213) 236-1827, Nam@scag.ca.gov  

Subject: California Road Charge Pilot Program

RECOMMENDED ACTION:  
For Information Only – No Action Required.

EXECUTIVE SUMMARY:  
Norma Ortega, California Department of Transportation Chief Financial Officer will provide an update on the California Road Charge Pilot Program.

STRATEGIC PLAN:  
This item supports SCAG’s Strategic Plan Goal 1, Improve Regional Decision Making by Providing Leadership and Consensus Building on Key Plans and Policies, a) create and facilitate a collaborative and cooperative environment to produce forward thinking regional plans.

BACKGROUND:  
SB 1077 (DeSaulnier, Chapter 835, Statutes of 2014) created the California Road Charge Pilot Program (Pilot Program) and tasked the Chair of the California Transportation Commission (CTC) to convene a fifteen-member Technical Advisory Committee (TAC) to study road charge alternatives to the gas tax, gather public comments, and make recommendations to the California State Transportation Agency (CalSTA) regarding the design of a road charge pilot program. The TAC membership includes representatives from the telecommunication industry; highway user groups; data security and privacy industries; privacy rights advocacy organizations; the social equity community; regional transportation agencies; national research and policymaking bodies (including members of the Legislature); and other relevant stakeholders. SCAG Regional Council and TC member Pam O’Connor from the City of Santa Monica serves on the TAC.

In December 2015, the TAC adopted its Road Charge Pilot Design Recommendations to provide direction to the development of the Pilot program. Caltrans designed the Pilot Program consistent with the TAC’s recommendations. The Pilot Program ran for nine months from July 2016 to March 2017 with over 5,000 vehicles enrolled and 37 million miles reported.

SB 1077 requires the CalSTA to report on the operation and evaluation of the Pilot Program, and requires the CTC to provide recommendations to the Legislature for next steps based on that
evaluation. The CalSTA’s evaluation of the Pilot Program addresses factors including the cost, privacy, jurisdictional issues, feasibility, complexity, acceptance, use of revenues, security, compliance, data collection technology, potential for additional driver services, and implementation issues. A summary of pilot program findings is attached. The TAC continues to meet to discuss policy issues related to alternatives to the gas tax. Beyond the recommendation to continue the TAC’s oversight of future road charge pilots, the CTC will incorporate the CalSTA’s findings report in their recommendations to the Legislature regarding future road charge efforts.

FISCAL IMPACT:
Work associated with this item is included in the Fiscal Year 2017-18 Overall Work Program (015.0159.02: Transportation User Fee – Planning Groundwork Project Phase II).

ATTACHMENT/S:
California Road Charge Pilot Program 2017 Summary Report
ACKNOWLEDGEMENT
The California State Transportation Agency would like to thank the following partners for their commitment and continued collaboration on the California Road Charge Pilot Program:

The California Department of Transportation
The California Transportation Commission
The Road Charge Technical Advisory Committee
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4. **CONCLUSION**  

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Nearly all of the 350 billion miles driven each year on California’s highways and roads are powered by gasoline or diesel fueled vehicles. Historically, the taxes on those fuels provided the majority of the revenue required to maintain and operate our transportation network. As future consumption of gasoline and diesel fuel declines, due to increased fleet efficiency, California will be challenged to sustain its $2.5 trillion economy. Continuing to depend on a consumption based transportation model, while at the same time adopting policies to increase vehicle fuel efficiency and promote the reduction of vehicle miles traveled, puts into question the long-term viability of the gas tax as a sustainable revenue model.

Historically, transportation funding has been impacted by two main factors: inflation and vehicle fuel efficiency. Until this year, with the passage of the Road Repair and Accountability Act of 2017 (Senate Bill 1), the state gas tax had not been adjusted for inflation since 1994, which significantly reduced its purchasing power. Senate Bill 1 adjusted fuel rates for past inflation and includes future inflation adjustments, solving the inflation issue and delaying the expected transportation funding shortage by a decade or more. However, the impact of improving vehicle fuel efficiency remains an issue, especially as new vehicles sold in the coming decades are expected to be much more fuel efficient.

Without Senate Bill 1’s inflation adjustments, the transportation funding shortfall would be quickly approaching. The new Senate Bill 1 revenues, as illustrated in Figure 1, stabilize the state’s short-term transportation infrastructure funding needs and provides time to explore alternatives to continued reliance on fuel taxes.
Senate Bill 1 took important steps to address the fuel efficiency issue with the inclusion of a new transportation revenue stream from vehicle registration, including electric vehicles, which diversifies the funding for transportation, and at the margin, makes transportation investments less dependent on fuel taxes. However, the majority of revenue will still be derived from the consumption of fossil fuels.

In response to the 1973-74 Arab Oil Embargo, the United States Congress enacted the Corporate Average Fuel Economy (CAFE) Standards in 1975, with the goal of reducing oil consumption by increasing the fuel economy of cars and light trucks, as seen in Figure 2. Throughout the 1980s and 90s, the pressure to reduce fuel consumption lessened due to increased production and inventory of fuel, driving down the cost to the consumer. However, with gas prices reaching in excess of $4.00 per gallon in 2008, renewed interest in the CAFE standards, and the desire to reduce greenhouse gas emissions prompted President Obama to propose a new national fuel economy program which adopted uniform federal standards to regulate both fuel economy and greenhouse gas emissions.

Additional anecdotal data supporting this phenomenon, based on national data collected by the U.S. Department of Energy, illustrates that the relationship between fuel economy and consumption is not linear. Figure 3 further illustrates fuel economy improvements in vehicles with lower miles per gallon ratings (suburban/truck) have a greater impact on reducing fuel consumption than improvements to vehicles with higher miles per gallon ratings.
per gallon ratings (hybrids). This is because increasing fuel economy by percentage has a greater impact than the numerical increase of fuel economy (miles per gallon). For instance, an increase in the miles per gallon from 10 to 12 mpg represents a 20 percent improvement in fuel economy, while increasing the same 2 miles per gallon from 20 to 22 is only a 10 percent improvement. In other words, if a driver trades in their average light duty truck for an average passenger car, they save over four times (4X) as much fuel as a driver that switches from a plug-in electric vehicle to a fully electric vehicle.

To advance the integration of fuel efficient vehicles into the fleet, California has adopted measures that enhance the vehicle fleet efficiency in an effort to reduce greenhouse gas (GHG) emissions. In 2012, Governor Brown issued Executive Order (B-16-2012) establishing the goal of the California fleet consisting of a minimum of 1.5 million zero-emission vehicles (ZEVs) by 2025.

Similarly, in 2016, Governor Brown issued Executive Order (B-30-15), and signed Senate Bill 32 mandating a 40 percent reduction in California’s GHG emissions by 2030. The California Air Resources Board (ARB), in response to Senate Bill 32, drafted “The 2017 Climate Change Scoping Plan Update - The Proposed Strategy for Achieving California’s 2030 Greenhouse Gas Target” to further define the efforts needed to reach the 2030 GHG target. Included in ARB’s Scoping Plan is a call for 4.2 million ZEVs on California roads by 2030. To add to the adoption of alternative fuel vehicles, in 2015 Governor Brown recognized the necessity for cars and
trucks to reduce gas consumption by 50 percent by 2030.

Policies promoting fuel efficiency are clearly beneficial for California’s environment and for its efforts to combat climate change. However, measures to achieve these goals will adversely impact the revenues collected for transportation infrastructure based on the current gas tax model. In the long-term, California cannot rely primarily on the gas tax to fund the maintenance and operations of our vital transportation system, which directly impacts the overall quality of life for Californians.

Acknowledging the long term viability of the gas tax, the California Legislature and Governor Brown demonstrated the foresight to investigate a sustainable transportation funding mechanism, known as a road charge, with the passage of Senate Bill 1077 (Statutes of 2014, DeSaulnier). The legislation directed the Chair of the California Transportation Commission (CTC), in collaboration with the Secretary of the California State Transportation Agency (CalSTA), to create a Road Charge Technical Advisory Committee (TAC) to study road charge as an alternative to the gas tax.

Senate Bill 1077 provided general policy direction and design parameters to guide the TAC’s investigation, deliberation and recommendations in the design of a pilot to test the road charge concept in California. In December 2015, the TAC delivered their Road Charge Pilot Design Recommendations Report to CalSTA for implementation.

Building off of the TAC’s recommendations, CalSTA, with the assistance of the Department of Transportation (Caltrans), used the following four overarching principles in the preparation, implementation, and assessment of the Road Charge Pilot Program:

- **Feasibility** – the viability of recording and reporting of vehicle miles traveled for a statewide road charge system
- **Complexity** – the degree of difficulty of implementing a statewide road charge system
- **Security** – ensuring the safeguarding of personally identifiable information and data in a statewide road charge system
- **Acceptability** – surveying the acceptability of a road charge as an alternative to the gas tax

Working under the direction of CalSTA, Caltrans was tasked with the development, deployment, and evaluation of the Road Charge Pilot Program.

The remaining sections of this document focuses on the California Road Charge Pilot Program development, implementation, findings and next steps.
1. California Road Charge Pilot Program

With policy direction established by the Legislature, and pilot design parameters prescribed by the TAC, Caltrans, working under the direction of CalSTA, advanced and implemented the Road Charge Pilot Program.

In preparation for the road charge pilot launch in July 2016, Caltrans began preliminary pilot program development in late 2015, as the TAC was completing its recommendations. Pursuant to the TAC recommendations, the Road Charge Pilot Program sought to recruit and retain 5,000 volunteer vehicles, report miles traveled, pay mock road charges, and provide valuable feedback on the overall pilot program.

Vehicles enlisted in the pilot came from every segment of California’s driving population, including a wide range of passenger vehicles, agency and business fleets, and for the first time, commercial trucking. In order to collect a large and valid set of perspectives, the pilot sought comprehensive representation of California’s diverse demographic, geographic and socioeconomic population, including, participants from various communities (rural/agricultural and urban/suburban), income levels, races and ethnicities, gender, and age groups throughout the state.

In order to reach the 5,000 vehicle target in the pilot, Caltrans invited volunteers from a volunteer pool representing over 10,000 vehicles to enroll into the pilot. The statewide recruitment effort included in-person presentations at civic, community, and stakeholder meetings around the state, flyers placed in the Department of Motor Vehicle (DMV) registration renewal sticker distribution, ongoing monthly newsletters, public service announcements (in English and Spanish), and social media advertisements. A dedicated website (www.CaliforniaRoadChargePilot.com) was one of the most effective tools for encouraging volunteer sign-ups, disseminating pilot information to participants, communicating to the general public, and providing a central place to accept any public questions or feedback.
To ensure the pilot represented the diverse demographic, geographic and socio-economic aspects to the state, the participant recruitment process was designed to:

- Encourage maximum enrollment of targeted groups; and
- Prioritize volunteers who provided demographic information

In June 2016, volunteers were invited to become pilot participants, providing ample time to complete the conversion process from volunteer to participant. The conversion process included selecting an account manager, choosing a mileage reporting method, and setting up an online account. An interactive decision tree on www.CaliforniaRoadChargePilot.com provided side-by-side comparisons of the options available and provided a direct link to account manager web portals, where participants established their online accounts.

### 1.1 ACCOUNT MANAGEMENT

Fulfilling the recommendation of the TAC to offer drivers a choice in account managers in the deployment of the Road Charge Pilot Program, Commercial Account Managers (CAM)s were employed to manage pilot participant accounts, collect mileage traveled data, generate and issue simulated invoices,
and manage receipt of mock payments. Additionally, a state account manager (CalSAM) was utilized to simulate a state run road charge function.

The use of third-party vendors is not an entirely foreign concept for California. For example, the California Department of Motor Vehicles (DMV) established a Business Partner Automation Program\(^2\) that allows qualified industry businesses to process over 20 different vehicle related transactions on their behalf.

Rather than become constrained by proprietary technology, that would limit options for future implementation, the pilot program tested an open system, which fosters technological innovation and efficiencies in operations, and encourages competitive pricing, making road charge an effective revenue collection process.

From the perspective of the state and the participants, road charge account management proved no different from any other online retail or utility account services. The CAMs and the CalSAM featured a secure web portal to display information, such as road charges and payments. The CAMs also provided value-added services to some participants, such as smartphone apps, trip logs, vehicle health and battery monitoring, driver safety scores, and carbon emissions.

1.2 MILEAGE REPORTING METHODS AND DATA COLLECTION

Fundamental to establishing a road charge, each driver reported the amount of road usage (or miles traveled) over a designated period. The pilot program offered a range of reporting options, from no technology (did not require reporting any personal information) to high-technology (with or without location-based services). These reporting options were classified into two main categories: manual and automated, with additional technology choices for automated methods.

Manual reporting methods:

- **Time Permit.** A reporting method in which the participant pre-pays for an unlimited amount of driving for a fixed time period.
- **Mileage Permit.** A reporting method in which the vehicle owner pre-pays for a fixed number of miles.
- **Odometer Charge.** A reporting method in which a driver reports miles driven periodically and post-pays for the number of miles traveled since the last odometer reporting.

Automated reporting methods:

- **Automated Reporting with No Location.** Allowed participants, to utilize a technology options without the location-determination technology, such as GPS.
- **Automated Reporting with General Location.** Allowed participants to avoid paying the road charge for non-chargeable travel, such as driving out-of-state, or on private roads. These methods contain location-determination technology, but only report general location through a process known as map matching, which deletes precise location information once the system can accurately categorize travel as chargeable or non-chargeable.

1.3 REPORTING TECHNOLOGIES

As mentioned earlier, the automated methods of reporting offered a variety of reporting methods.

\(^2\)https://www.dmv.ca.gov/portal/dmv/?1dmy&urile=wcm:path:/dmv_content_en/dmv/otherser/bpa/bpa
technologies. Options recommended by the TAC for testing included: on-board diagnostic (OBD-II) plug-in devices with and without location services, smartphone apps with and without location awareness, in-vehicle telematics (with measurement and reporting technology built into the vehicle), and electronic logging devices specially designed for heavy commercial trucks.

Plug-in Device. Is an electronic device that plugs into a vehicle’s data port, more formally known as the on-board diagnostics (OBD-II) port. It then uses wireless technology to transmit mileage information to the Account Manager. Such plug-in devices often offer a range of additional functions to the driver called value-added services, such as keeping a log of trips taken.

Smartphone with No Location. The pilot deployed a smartphone application which measures mileage through vehicle odometer images drivers submit once a month, which included a range of security features that make fraud attempts easily detected.

Smartphone with General Location. Is an application that measures mileage through a proprietary algorithm that determines when a driver is driving in his/her vehicle using available data (GPS location data, Wi-Fi signals, and other data), using the location data to measure miles driven. As a backup to this algorithm, the pilot required participants to submit odometer images once a month within the smartphone application.

In-vehicle Telematics. Consists of technology integrated into vehicles. This option allows the transmission of a range of vehicle data to an internet-based system operated by the carmaker, such as Ford’s Sync or GM’s OnStar.

Commercial Vehicle Mileage Meter. Is a device that is professionally mounted into commercial trucks to measure distance traveled for the purposes of paying a road charge. Such devices offer a range of services to the operators of commercial vehicle fleets, such as fleet monitoring.

1.4 PRIVACY PROTECTION

Building on SB 1077 privacy requirements, the TAC developed additional privacy provisions when developing their design recommendations. Specifically, the TAC

Providing a breakdown of reporting methods:

80% of vehicles used automated mileage reporting methods at the conclusion of the pilot.
identified three different approaches for protecting privacy: governance, accountability, and model protection provisions.

- The **Governance Approach** is a holistic approach that relies on the application of high-level Privacy Protection Principles to govern all decisions throughout the entire road charge program lifecycle: design, implementation, operations, independent evaluation, close-out and reporting of pilot program activities.

- The **Accountability Approach** called for an Independent Evaluator to evaluate the road charge pilot program’s performance against a set of specific privacy protection criteria, similar to a performance audit.

- The **Privacy Protection Provisions Approach** calls for the design, implementation and operation of the road charge pilot program to be developed primarily through model privacy protection provisions.

For deployment of the pilot program, all of the privacy recommendations provided by the TAC were incorporated into a Road Charge Privacy Policy document, which was shared with all of the volunteers in advance of enrollment. The Road Charge Privacy Policy makes it clear that participant demographic information would only be used for pilot purposes, helping policymakers better understand how a road charge might affect groups in distinct ways, depending on where they live, their general income level, the number of people in their household, and other factors.

### 1.5 DATA SECURITY

In this digital age, Californians expect their data will be secure, especially in a government program. Yet maintaining the security of personally identifiable information and data continues to be a challenge. Maintaining security of systems to protect personal data and information requires the design and management of data security according to international best practices. The pilot adopted specific data security measures based on industry standards for online financial-grade transactions, including authentication and authorization for data access, notification of data modification, data masking, encryption and storage, data transmittal, ISO requirements for network security, and data destruction.

To provide an added level of assurance to participants, the TAC recommended a third party expert complete a security verification of all entities involved in data collection for the pilot. This independent security verification ensured that account managers and mileage reporting vendors had secure systems, reducing the likelihood of any data compromises.

### 1.6 ENFORCEMENT AND COMPLIANCE

As a strictly voluntary program, with no money changing hands, there was minimal benefit to engage in rigorous enforcement and compliance activities for the pilot program. However, any system that includes actual collection of revenue and millions of users will undoubtedly need to define and develop
enforcement and compliance measures prior to implementation.

While the TAC identified stages of enforcement in their report, they recommended not testing it in the pilot, rather focusing on anomalies in mileage data. Compliance activities therefore consisted of direct communications from account managers to non-compliant participants to encourage both initial and ongoing compliance.

1.7 PARTICIPANT EXPERIENCE

Once enrolled in the pilot, having selected an account manager, mileage reporting method and technology, the participants began driving. Account managers collected mileage and fuel consumption via secure wireless communications for the automated methods, and periodic readings for manual options. Monthly simulated invoices were generated based on the reported miles driven providing a comparison of the estimated gas tax paid and what would have been paid in a road charge system (Figure 4). Thereafter, each participant submitted a mock road charge payment via an on-line wallet.

1.8 INDEPENDENT EVALUATION

Pursuant to the TAC recommendations, a third-party Independent Evaluator was hired to assess the pilot performance based on criteria developed by the TAC. The Independent Evaluator was tasked with measuring the data collected during the pilot, and more importantly, collecting attitudinal and experiential information from the pilot participants.

To measure the pilot participants experience, the Independent Evaluator invited all participants to complete at least three surveys: at the beginning, mid-point, and

Figure 4 - Participant Experience

86% satisfied with mileage reporting method

74% satisfied with account manager chosen for the pilot

62% using technology chose a location-based mileage reporting method

Road Charge Details For March

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mileage Fees for March</td>
<td>$38.44</td>
</tr>
<tr>
<td>Fuel Tax Credit for March</td>
<td>-$47.13</td>
</tr>
<tr>
<td>Net March Road Charge (Mileage Fees - State Fuel tax)</td>
<td>-$8.69</td>
</tr>
</tbody>
</table>

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Road Charge Pilot Program | 10
end of the pilot. Overall, surveys revealed high levels of participant satisfaction, and an increased understanding of road charge from the beginning to the end of the pilot. At the conclusion of the pilot, five focus groups were conducted throughout the state. These focus group conversations were employed to investigate the complexity and depth of opinions around the pilot program and elicit responses that would not have otherwise been available as part of the data research and surveys.

**Participant Views of Road Charge Fairness**

Would you say that paying for road maintenance and repair based on the miles you drive is more fair or less fair than paying based on the amount of gas you buy?

<table>
<thead>
<tr>
<th></th>
<th>Pre Pilot</th>
<th>Mid Pilot</th>
<th>Final Pilot</th>
</tr>
</thead>
<tbody>
<tr>
<td>More fair</td>
<td>66%</td>
<td>71%</td>
<td>73%</td>
</tr>
<tr>
<td>About the same</td>
<td>8%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>Less fair</td>
<td>9%</td>
<td>11%</td>
<td>10%</td>
</tr>
<tr>
<td>Not sure</td>
<td>17%</td>
<td>11%</td>
<td>9%</td>
</tr>
</tbody>
</table>

73% felt a road charge was a more equitable transportation funding solution than the gas tax

87% found participating in the pilot easy

85% overall pilot satisfaction, which is further supported by the low rate of 4% attrition

61% are more aware of the amount they pay for road maintenance
2. California Road Charge Pilot Observations

The Road Charge Pilot participants drove in excess of 37 million miles during the nine month pilot period, demonstrating the desire for mobility. It also is a testament to California’s commitment to being a leader in innovation, having achieved many firsts during the pilot:

• Maintaining over 5,000 participating vehicles over a nine-month pilot
• Demonstrating six reporting and recording methods
• Offering various technology options, including no technology and high-technology options; and
• Including, for the first time, heavy commercial vehicles

In keeping with the four overarching pilot principles: feasibility, complexity, security and acceptability, the following are observations made during the development, implementation, and evaluation of the Road Charge Pilot Program:

2.1 PILOT PARTICIPATION

The Road Charge Pilot Program represented vehicles from every segment of California’s driving population, including a wide range of passenger vehicles, agency and business fleets, household vehicles, and commercial trucking. In order to collect a large and valid set of perspectives, the pilot sought comprehensive representation of California’s diverse demographic, geographic and socioeconomic population, including participants from various communities (rural/agricultural and urban/suburban), income levels, races and ethnicities, genders, and age groups throughout the state.

Observation: Certain demographic targets and sub-targets set by the TAC were unattainable. This was due in large part to the truncated pilot delivery schedule, as well as limited resources for pilot recruitment. The most difficult targets to convert from volunteer to participant were rural, low-income, and certain ethnicities/races. In an operational system, where all vehicles are participating, this issue will be mute.
2.2 THIRD PARTY VENDORS

The Road Charge Pilot Program was successful in studying the viability of utilizing third-party vendors (account managers), to provide the necessary services and technologies used to record and report miles driven.

*Observation:* Account managers provided the flexibility of services to pilot participants, and demonstrated the ability to offer other value-added features, thus enhancing the user experience. However, the state did not contract directly with the vendors during the pilot, reducing the risk to the state, but at the same time reducing the state's ability to ensure performance goals were met.

2.3 MILEAGE REPORTING METHODS

Pilot participants had a variety of manual and automated mileage reporting and recording methods to select from based on their unique needs and interests.

*Observation:* Offering a multitude of choices caused a level of concern from the participants. In particular, the clarity of communications and instructions regarding the mileage reporting methods and technology options available during enrollment. Nevertheless, at the conclusion of the pilot the majority of the participants were happy with the method they chose.

2.4 PRIVACY AND DATA SECURITY

As stated earlier, privacy and data security were paramount to the Legislature, CalSTA, the TAC, and Caltrans. Incorporation of the TAC recommended privacy and data security provisions assured pilot participants that the information and data they provided for the pilot was secure.

*Observation:* There were no data breaches or data security concerns throughout the duration of the pilot. However, the importance of data security should not be discounted and any future systems should strive to exceed standard security practices.

Based on participant feedback there was an overall 78 percent satisfaction rating in regards to the pilot privacy and data security. At face value, survey satisfaction rating could indicate that privacy and data security were not as critical as first assumed. However, due to the small sample size, compared to the overall state driving population, and the fact that the pilot participants are more likely early adopters, it is difficult to rely on these results to reflect perceptions of all California motorists.

2.5 PARTICIPANT PERCEPTIONS

Overall participant satisfaction was favorable with an overall approval rating of 85 percent, which is further supported by the low dropout rate of 4 percent.

*Observation:* Some of the high-level survey results indicate that participants felt a road charge is a more equitable transportation funding solution than the current gas tax, but additional research is needed before implementation. Additionally, over 90 percent of the participants expressed willingness to participate in future road charge demonstrations.

2.6 PER-MILE RATE

For purposes of evaluating the effectiveness of a road charge, the TAC recommended establishing a revenue neutral rate to simulate a road charge. Given that direction, a rate was established prior to the deployment of
the pilot, taking the five-year average of the
gas tax (base and price-based excise) and
dividing by the average miles per gallon of
the entire California fleet. As a result, the rate
used for the pilot was set at 1.8 cents per mile.

**Observation:** While this rate reflects a
revenue-neutral rate based on the California
fleet average. When compared to the sample
of vehicles participating in the pilot, the
simulated road charge rate was not revenue
neutral. This was due to the pilot sample fleet
having an average miles per gallon higher
than the statewide average. At the time of
the rate setting exercise, there was no way to
predict what composition of vehicles would
actually participate in the pilot.

### 2.7 ENFORCEMENT AND COMPLIANCE

From an operational perspective, the elements
tested were successful. The pilot was able to
test and audit the operational systems and
requirements of the program.

**Observation:** The inability to adequately test
the compliance and enforcement aspect of a
road charge provides a level of uncertainty
on the methodologies to employ, and the
overall cost to enforce. Due to this program
being volunteer based, and the fact that no
revenue was collected, there is no measure of
compliance to be extrapolated for a statewide
program. The testing of enforcement and
compliance is critical to reasonably estimate
the administrative costs of a road charge
program.

### 2.8 TECHNOLOGY

All the mileage reporting options tested
worked to some degree.

**Observation:** The manual options provided
the highest degree of privacy and data
security, but will in all likelihood be the most
difficult to enforce, and in some cases, such
as the odometer reading, could be costly
to administer. Of the automated methods,
the plug-in (OBD II) devices are the most
reliable options. However, as new technology
emerges, this methodology could be obsolete
by the time a road charge program is adopted.
The more technologically advanced methods
of the smartphone application with location
services and in-vehicle telematics show
great promise, but they both need further
refinement.

With in-vehicle telematics becoming standard
equipment, this method of recording and
reporting a road charge has the potential of
being a cost effective option. However there
are a number of issues needing resolution.
• Within the existing fleet, with telematics, there are a limited number of manufacturer’s allowing access to the mileage data collected. Of those manufacturers represented in the Road Charge Pilot Program, participants were required to subscribe to telematics services (i.e. OnStar, AccuraLink), and in some instances at a cost to the vehicle owner.

• The pilot participants were required to provide login credentials to their Account Manager to access the mileage data. This is due in large part to the vehicle software not residing in the vehicle, therefore requiring the Account Managers, through a third-party vendor, to extract the mileage data directly from the manufacturer via cloud, or internet-based, computing.

• The current configuration tested does not allow for the continuous transmission of location data due to the high frequency rate required to ping, or query the vehicle to establish connection and determine location, to verify out-of-state or private road mileage for automatic mileage exemptions. Currently, the cost of this query methodology employed during the pilot is too exorbitant to be feasible for a statewide system.

The resolution of these issues will require close coordination and cooperation with vehicle manufacturers and regulators to ensure the data and services needed to support a road charge program are standardized and readily available for use.
3. Next Steps

The Road Charge Pilot Program successfully tested the functionality, complexity, and feasibility of the critical elements of this potential revenue system - road charge - for transportation funding. However, some questions remain unanswered, necessitating additional investigation into the mechanics and policy issues of implementing a road charge in California.

3.1 PAY-AT-THE-PUMP

In the future, Caltrans in collaboration with the Federal Highway Administration, will be investigating the feasibility of a pay-at-the-pump option for a road charge system. While the mileage reporting methods tested in the Road Charge Pilot Program are all feasible, they cannot compete with the simplicity, cost effectiveness, and public acceptance of the current gas tax collection process. Acknowledging the need to investigate a road charging mechanism that replicates the current user experience, Caltrans is embarking on a study of a pay-at-the-pump model that could produce reduced administrative costs over the other methods tested. This method could garner greater public acceptance, as the road charge would be assessed on a pay-as-you-go approach.

If this study results in one or more potential pay-at-the-pump options, the next step will be to continue the partnership with the Federal Highway Administration to conduct a limited demonstration of this mileage reporting option.

As innovators, Californians will continue to stay at the forefront of the ever-evolving technology used to communicate from our vehicles through our transportation infrastructure. The Road Charge Pilot Program was a first step in researching ways for a long-term stable transportation financing model.”

- Malcolm Dougherty
Director of the California Department of Transportation
3.2 REVENUE COLLECTION

The collection of revenue was simulated in the Road Charge Pilot Program, through mock invoices and payments. The actual flow of revenue through the state system was not tested, but was reviewed through an institutional analysis. Depending on how the road charge program is designed, there could be a number of state agencies/departments involved in the revenue collection process. Conducting a tandem test of collecting a road charge with the pay-at-the-pump demonstration will provide a controlled environment to evaluate the revenue flows through the state system, allowing identification of challenges, efficiencies, and synergies for future implementation.

3.3 IN-VEHICLE TELEMATICS

The pay-at-the-pump study will address the internal combustion engine mileage collection, but the proliferation of alternative fuel vehicles requires a method for collecting mileage data, such as in-vehicle telematics. More and more auto manufacturers are offering in-vehicle telematics on their new vehicles, and industry analysts are projecting the majority of new vehicles will include in-vehicle telematics by 2020. Developing a road charge program that allows for the collection of mileage data via in-vehicle telematics will provide for the immediate solution for alternative fuel vehicles and a long-term solution for the complete transition off of the gas tax.

The adoption of in-vehicle telematics, as a means for collecting mileage data, could dramatically reduce the impact of the adoption, administration, and enforcement costs of a road charge program. However, standardization of the mileage information collection and data transference needs to be investigated to allow for open-market application of a road charge. As seen with the telecommunications and tolling industries, proprietary systems reduce or delay entry into the market, thus limiting competition and driving up costs. Early discussions, planning, and development of technical specifications and standards will allow for the greatest level of innovation and competition.

3.4 TECHNOLOGY COLLABORATIVE

With the continuous evolution in technology, the engagement of various state agency/departments, federal and regional/local entities, academia, as well as the private sector interests, would assist in the alignment of emerging technology and road charge. The formation of a technology collaborative, with representatives from the public and private sector will ensure the latest technology will be considered in the formation and development of a road charge program, providing the framework for future evolution of the program.
3.5 ORGANIZATIONAL CONSIDERATIONS

The implementation of a road charge program will not happen overnight. Thoughtful consideration of a multitude of variables is needed to proceed with a statewide road charge program.

One of the initial issues to be studied is the organizational design of the road charge program. There are a number of agencies/departments impacted by the potential transition from the gas tax to a road charge. The early identification of the implementing agency/department will be crucial to the coordination, development, and transition to a statewide road charge program.

Based on the information gathered during the Road Charge Pilot Program, and the acknowledgement of the complexities of developing and adopting a new transportation revenue mechanism, implementing a road charge program prior to 2025 could be problematic. Reviewing the feasibility of a target date for implementation of 2025, or later, will allow time for the designated responsible agency/department to establish the required specifications and regulations, coordinate with other impacted departments, procure vendors, thoroughly design and test systems, and to educate and gather input from the public on the transition.

California currently has over 34 million registered vehicles. Determining the phasing and timing of a potential future transition from the gas tax to a road charge will require careful consideration of the costs and the risks. There are a number of transition scenarios that range from conservative to very aggressive.
4. Conclusion

California is known for its pioneering spirit and environmental leadership. Over the next several decades, California’s fleet will become more fuel efficient and less dependent on fossil fuels. These advancements will require an innovative and sustainable approach to how the state funds transportation infrastructure.

When initially instituted, the gas tax methodology was an equitable revenue system, generally due to vehicles having comparable fuel consumption rates. However, as more fuel efficient vehicles are entering the California fleet, the gas tax limitations have become more apparent. As fuel efficiency continues to rise, and more affordable alternative fuel vehicles enter the market, California will experience an overall increase in the average fuel efficiency of the fleet. Continuing to base transportation funding on fuel consumption is not a long-term, sustainable option. Establishing a transportation funding mechanism, based on actual use of the road, instead of the fuel consumption of the vehicle, could provide a fair, equitable, and sustainable transportation funding mechanism for decades to come.

Compounding the effect of improved fuel efficiency was the stagnant gas tax rate. However, after over two decades without an adjustment for inflation, the passage of Senate Bill 1 restored the purchasing power of the gas tax, helping the state address the immediate backlog of transportation maintenance and repair needs.
Yet, many obstacles must still be evaluated before transitioning from a gas tax to a road charge is considered. Purposeful research, deliberative planning, and careful application, in a fully transparent process, will help to minimize the risks associated with adopting any new transportation funding mechanism.

The Road Charge Pilot Program confirmed the viability of many aspects of a user-based transportation revenue mechanism.

Learn more at: www.californiaroadchargepilot.com/final-report
To: Transportation Committee (TC)  
From: Naresh Amatya, Manager of Transportation Planning, (213) 236-1885, amatya@scag.ca.gov

Subject: How Transit Affects Job Seekers

RECOMMENDED ACTION:
For information and discussion only.

EXECUTIVE SUMMARY:
USC Professor Marlon Boarnet will share a presentation on the findings from a study assessing how transit affects job seekers.

STRATEGIC PLAN:
This item supports SCAG’s Strategic Plan, Goal 1: Improve Regional Decision Making by Providing Leadership and Consensus Building on Key Plans and Policies; Objective (a) Create and facilitate a collaborative and cooperative environment to produce forward thinking regional plans.

BACKGROUND:
Previous transportation studies have established that residents of low-income neighborhoods in major metropolitan areas have access to many more jobs by car than by transit. USC researchers revisited this conclusion and assessed how the mode of transit station access/egress (by walking, bicycling, or driving) can influence the gap between car and transit accessibility. The researchers focused their analysis on San Diego, an area that is more sprawling and has less extensive transit infrastructure – similar to certain areas in the SCAG region. Dr. Marlon Boarnet, USC Professor and Chair of the Department of Urban Planning and Spatial Analysis, will present findings from the study as well as its implications.

FISCAL IMPACT:
None.

ATTACHMENT:
PowerPoint Presentation: How Transit Affects Job Seekers
First/Last Mile Transit Access as an Equity Planning Issue

Marlon Boarnet, Genevieve Giuliano, Yuting Hou, Eun Jin Shin

University of Southern California
Department of Urban Planning and Spatial Analysis
Sol Price School of Public Policy
Presented to Southern California Association of Governments
Feb. 1, 2018

Presentation Outline

• Overview
• Research Questions
• Research Approach and Data
• Findings/Scenario
• Conclusion
Overview

• Transportation access to employment has long been thought of as an equity issue.

Commute time by travel mode, CA (2013)

<table>
<thead>
<tr>
<th>Mode</th>
<th>Commute Time (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automobile</td>
<td>27.16</td>
</tr>
<tr>
<td>Bus/street car</td>
<td>48.57</td>
</tr>
<tr>
<td>Subway</td>
<td>51.2</td>
</tr>
<tr>
<td>Railroad</td>
<td>70.23</td>
</tr>
</tbody>
</table>

Source: PUMS 2013

Overview

• Transportation access to employment has long been thought of as an equity issue.

% public transit commuter by household income, CA (2013)

<table>
<thead>
<tr>
<th>Household Income</th>
<th>% Public Transit Commuter</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20K</td>
<td>8.98</td>
</tr>
<tr>
<td>20K-40K</td>
<td>6.85</td>
</tr>
<tr>
<td>40K-60K</td>
<td>5.2</td>
</tr>
<tr>
<td>60K-80K</td>
<td>4.59</td>
</tr>
<tr>
<td>80K-100K</td>
<td>4.21</td>
</tr>
<tr>
<td>More than 100K</td>
<td>4.46</td>
</tr>
</tbody>
</table>

Source: PUMS 2013
Overview

- Transit travel time can be decomposed into: (1) time spent accessing/egressing to/from transit stops, (2) waiting or transferring on transit, and (3) in-vehicle time.

- Access and egress time accounts for a large proportion (0.2-0.5) of total transit travel time, and varies by travel mode.

![Graph showing the ratio of access/egress time to total travel time](Source: Krygsmana et al. (2004))

Literature Review

- Earlier research on Spatial Mismatch Hypothesis (SMH) since Kain (1968): emphasized physical distance to employment.

- Modal mismatch perspective added to the SMH literature (Taylor & Ong, 1995):
  
  *Travel modes matter than location in poor or ethnic neighborhoods*
Literature Review

• Earlier research on Spatial Mismatch Hypothesis (SMH) since Kain (1968): emphasized physical distance to employment

• Modal mismatch perspective added to the SMH literature (Taylor & Ong, 1995):

  Travel modes matter than location in poor or ethnic neighborhoods

• Limited policy or planning discussion about how to overcome this problem
  —Existing policy suggestions: (1) provision of automobiles to the disadvantaged,
    (2) Improvement of public transit
  —But less attention paid to mode of access to & egress from transit stations

Research Questions

• To what extent is employment access by car superior to access by transit in low-income neighborhoods?

• How does the degree of disparity in job accessibility by the two modes (car versus transit) change when we improve “first/last mile” access to transit stations?
Study area

- San Diego County

Research approach and data: low-income neighborhoods

- Definition of very-low-income census tracts
  - Census tracts that have a median household income level lower than $32,000 (=50 percent of San Diego’s median household income)
  - Identify 37 very-low-income census tracts

<table>
<thead>
<tr>
<th></th>
<th>All tracts in SD County</th>
<th>Very-low-income census tracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population density (per acre)</td>
<td>10.8</td>
<td>22.5</td>
</tr>
<tr>
<td>Median Household Income($)</td>
<td>67,976</td>
<td>27,591</td>
</tr>
<tr>
<td>Poverty Rate (%)</td>
<td>13.4</td>
<td>36.8</td>
</tr>
<tr>
<td>Unemployment Rate (%)</td>
<td>8.9</td>
<td>13.2</td>
</tr>
<tr>
<td>Percentage of zero-vehicle households (%)</td>
<td>6.4</td>
<td>20.8</td>
</tr>
<tr>
<td>Percentage of car commuters (%)</td>
<td>86.2</td>
<td>79.1</td>
</tr>
<tr>
<td>Percent of transit commuters (%)</td>
<td>3.6</td>
<td>10.2</td>
</tr>
<tr>
<td>N</td>
<td>626</td>
<td>37</td>
</tr>
</tbody>
</table>
Research approach and data: accessibility to low-wage jobs

- Definition of low-wage jobs
  - Data source
    - National Employment Time Series (NETS) data
  - Methodology
    - The probability that wage levels of each sector takes on a value less than or equal to the national median hourly wage level ($15.95 as of May 2009) is estimated

\[
\text{low wage job}_i = \sum_j \text{Emp}_{ij} \times \Pr(wage_j \leq \$15.95 \text{ per hour})
\]

where \(i\) denotes census tract and \(j\) denotes NAICS-2 sectors

Data source for wage distribution: BLS

Spatial Distribution of low-wage jobs
Research approach and data: accessibility measures

• First measure: Tract-to-tract travel time

  ▪ Data source
    • Highway network files of San Diego County, 2008 (SANDAG)
    • Transit network files from SANDAG’s 2009 San Diego Regional Transit Survey

  ▪ Methodology
    • By car: Apply the shortest path algorithm to estimate travel time between centroids of all tract pairs
    • By transit: 1) Assign Transit Access Points (TAPs) to census tracts; 2) convert TAP-to-TAP travel time to tract-to-tract travel time by adding estimated walking time from centroids to the TAPs; 3) fastest transit route is used

• Second measure: Absolute low-wage job accessibility

  ▪ Number of low-wage jobs that can be reached from City Heights in 30-minute travel time threshold by car or transit

• Third measure: Relative low-wage job accessibility (Shen 1998)

  ▪ Compare low-wage jobs to the potential low-income labor supply within 30 minutes to measure labor supply and demand
  ▪ Larger values of this index indicate more low-wage jobs relative to the available low-income labor supply
Findings: Mean tract-to-tract travel time

- By any mode the very-low-income tracts have shorter tract-to-tract mean travel times than all other census tracts.
- *Transit takes far longer than car travel even in 37 very-low-income tracts.*

<table>
<thead>
<tr>
<th>Travel Mode</th>
<th>37 Very-Low-Income Census Tracts</th>
<th>All Other Census Tracts, not Very-Low-Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>14.5</td>
<td>16.1</td>
</tr>
<tr>
<td>Walk+Transit+Walk</td>
<td>63.5</td>
<td>70.0</td>
</tr>
<tr>
<td>Bike+Transit+Bike</td>
<td>55.3</td>
<td>61.2</td>
</tr>
<tr>
<td>Auto+Transit+Auto</td>
<td>52.8</td>
<td>58.4</td>
</tr>
<tr>
<td>Auto+Transit+Walk</td>
<td>58.4</td>
<td>64.1</td>
</tr>
</tbody>
</table>

Access and transportation mode: Transit Versus Car Access to Low-Wage Jobs, San Diego, California

Lightest grey is 30-minute travel time

Left panel is car access, right panel is transit (bus plus rail) access, light grey is distance that can be reached in 30 minute commute at peak hour.
How Much Better is Car Access Versus Transit Access?

<table>
<thead>
<tr>
<th>By car</th>
<th>Basic Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Access and egress to transit by walking</td>
</tr>
<tr>
<td>Low-wage jobs accessible within 30 minutes</td>
<td>444,677</td>
</tr>
<tr>
<td>Ratio of car/transit access</td>
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</tbody>
</table>

Answer: Approximately 30 times more jobs can be accessed by car than by transit.

How Can Transit Access Improve Relation to Car Access? Improve Access/Egress Rather than Reduce Headway

<table>
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<th>Basic Scenario</th>
<th>Simulated Scenarios 1 (Using faster modes for accessing to/egressing from transit stops)</th>
<th>Simulated Scenarios 2 (Reducing headway)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Access and egress to transit by walking</td>
<td>By bike</td>
<td>By auto</td>
</tr>
<tr>
<td>Low-wage jobs within 30 minutes</td>
<td>444,677</td>
<td>24,703</td>
<td>46,874</td>
<td>56,793</td>
</tr>
<tr>
<td>Ratio of car/transit access</td>
<td>--</td>
<td>30.9</td>
<td>12.8</td>
<td>10.6</td>
</tr>
<tr>
<td>% change in ratio of car to transit job access</td>
<td>--</td>
<td>--</td>
<td>-49.9</td>
<td>-58.2</td>
</tr>
</tbody>
</table>
By car  | Basic Scenario | Simulated Scenarios 1 (Using faster modes for accessing to/egressing from transit stops) | Simulated Scenarios 2 (Reducing headway) |
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</table>
Relative job access: The Same Result

<table>
<thead>
<tr>
<th>(Mean values by census tracts)</th>
<th>By car</th>
<th>By transit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Scenario</td>
<td>Simulated Scenarios 1</td>
</tr>
<tr>
<td>Job access</td>
<td>1.30</td>
<td>0.06</td>
</tr>
<tr>
<td>Ratio of car/transit access</td>
<td>--</td>
<td>35.2</td>
</tr>
<tr>
<td>% changes in the ratio of car/transit access</td>
<td>--</td>
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</tr>
</tbody>
</table>

**Conclusion**

- Certainly car travel is a valuable accessibility tool for low income populations.
- But improvement of transit access/egress can be an effective equity planning tool by reducing car-transit job accessibility disparity.

- (1) **Bicycles** or **bike sharing programs** with seamless transit integration in low-income neighborhoods
- (2) **Shared car services** accessible to low-income populations

More information: “Transit Access to Employment in City Heights”
[https://socialinnovation.usc.edu/files/2013/01/TransitAccessCityHeights.pdf](https://socialinnovation.usc.edu/files/2013/01/TransitAccessCityHeights.pdf)

**Thank you**
This Page Intentionally Left Blank
To: Transportation Committee (TC)
From: Naresh Amatya, Manager of Transportation Planning, (213) 236-1885, amatya@scag.ca.gov
Subject: Metro’s First/Last Mile Program Update

RECOMMENDED ACTION:
For information and discussion only.

EXECUTIVE SUMMARY:
Los Angeles County Metropolitan Transportation Authority (Metro) staff, Katie Lemmon, will provide an update on Metro’s First/Last Mile Program.

STRATEGIC PLAN:
This item supports SCAG’s Strategic Plan, Goal 1: Improve Regional Decision Making by Providing Leadership and Consensus Building on Key Plans and Policies; Objective (a) Create and facilitate a collaborative and cooperative environment to produce forward thinking regional plans.

BACKGROUND:
When relying on public transportation as part of any trip, users typically must complete the first and last portion of their journey on their own; they must first walk, drive or roll themselves to the nearest station. This is referred to the first/last mile of the user’s trip (even though actual distances vary by users). First/last mile as a concept represents a broader view of planning for accessibility to transportation and responds to Metro's core challenge to improve the reach of transit and increase transit ridership throughout the Los Angeles County. Metro envisions a countywide network of streets radiating out from transit stations that facilitate safe, convenient, and pleasant journeys for transit riders and potential riders. This vision cannot be accomplished by Metro in isolation from communities and local jurisdictions; their input and concurrence is crucial. In April 2014, the Metro Board approved of the First Last Mile Strategic Plan & Planning Guidelines, which outlines an approach for identifying barriers as well as planning and implementing improvements for the first/last mile portions of an individual’s journey. Since 2014, Metro has continued to expand its first/last mile activities and is now undertaking extensive actions on first/last mile implementation that will shape Los Angeles County for years to come.

FISCAL IMPACT:
None

ATTACHMENT:
PowerPoint Presentation: Metro’s First/Last Mile Program Update
What is First/Last Mile (FLM)?

The “first/last mile” is the part of a person’s “trip” that happens beyond the stations.

If people cannot easily connect to stations, they will not use transit.

Metro wants to connect people to stations, so they can get to where they need to go.
First/Last Mile at Metro

FLM Program Objectives

- Expand the reach of transit through infrastructure improvements.
- Maximize multi-modal benefits & efficiencies.
- Improve the safety and experience of transit users.
- Create transit oriented communities.

Policy Background

Board Motions 14.1 and 14.2

Expanded direction for first/last mile planning and implementation:
- Planning for 254 Stations
- Incorporation of Countywide FLM Priority Network into LRTP
- Technical and Grant Assistance for Local Jurisdictions
- Implementation of Purple Line Phase 2 (and beyond)
- Integration of FLM into future transit capital projects
- Local jurisdictions may count FLM improvements toward 3%

Local Contribution

LINKS:
(http://metro.legistar1.com/metro/attachments/530ed98d-323a-49de-a509-1bb581aeb1db.pdf)
(http://metro.legistar1.com/metro/attachments/3d3490bd-8aec-471d-bbab- fced8b15141f.pdf)
Why is FLM Important?

- Improve safety
- Increase access to:
  - Schools/training
  - Jobs
  - Shopping
  - Recreation
  - Other key destinations.
- Encourage walking and biking which improves health through physical activity and decreased GHG emissions

Typical Barriers

Some arterials have long blocks with few available pedestrian crossings.

Many sidewalks are broken or uneven, and lack curb cuts with truncated domes. Some areas have no sidewalks.

On some streets, vehicle speed and a lack of well-maintained bicycle lanes cause cyclists to use the sidewalk rather than the available bicycle facilities in the roadway.
Underpasses have poor lighting and lack basic safety and aesthetic enhancements. People experiencing homelessness are also encamped in the otherwise underutilized space.

Major intersections lack quality crosswalks, curb-cuts, and countdown timers. Long corridors do not have mid-block crossings.

Many streets do not have properly functioning drainage, causing water to pool and create a potential public safety hazard and blocking off pedestrians.

Typical Barriers

Some station areas lack sufficient pedestrian-scale lighting.

Most bus stops lack shelter, benches, amenities, and lighting.

Some station areas lack sufficient transit-supportive way-finding signage for pedestrians, bicyclists, and transit users.
First/Last Mile Methodology

Overview:
- Define Site Area
- Analyze Existing Conditions
- Layout Pathway Network
- Pursue Funding

FLM Methodology:
Define Site Area

- Identify route and station
- Access sheds
  - ½ mile for pedestrians
  - 3 miles for bicyclist

LINKS:
https://www.metro.net/projects/active-transportation-strategic-plan/
http://gis.fehrandpeers.com/metroatsp/
FLM Methodology: Analyze Existing Conditions

- Develop Overlay Map
- Determine walking and bicycling routes
- Conduct Station Survey (Walk Audit)
  - Safety
  - Aesthetics
  - Accessibility
  - Transfers

FLM Methodology: Layout Pathway Network

Engage community:
- Residents
- Stakeholders
- Business owners

Conduct:
- Walk audits
- Community events
- Trainings

Determine:
- Existing conditions
- Each station needs

Develop a summary for each station based on findings and feedback
FLM Projects:
Current Status

- Blue Line
- Purple Line Extension
  Phase 2 & 3
- Crenshaw/LAX Line
- Gold Line Extension 2B

Funding Sources

- Senate Bill 1 (State)
- Active Transportation Program (State)
- Cap and Trade (State)
- Measure M (Regional)
- Local Sources
Implementation

- Collaboration with cities, communities, and developers
- Related projects and programs
- Future transit capital projects

Related Projects/Programs

- Complete Streets
- Bike Share
- Bike Hubs
- Active Transportation Corridors
Thank You

Katie Lemmon, Manager, Transportation Planning
lemmonk@metro.net