Caltrans District 6 & 10 Forecasting On-Call
Reviewing Model from an IGR Perspective
Wednesday, March 8, 2017
2:00 pm – 4:00 pm – On-line Meeting*
(reserved 2hrs to allow Q&A, with primary content targeted at 1hr)

1. **Introductions – 5 minutes**
   - Caltrans D6, D10, HQ
   - Amador, Calaveras, Fresno, Kern, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, Tulare, Tuolumne
   - Consultants

2. **Questions on Homework Assignment – 10 Minutes**

3. **Representation of the Project in the Model – 30 Min**
   - Scenario years
   - Time of Day
   - Study Area\Locations
   - Infrastructure Project
     - Network detail
     - Roadway attributes
     - Turn movements
     - Select Link
   - Land Use Project
     - Zone Detail
     - Land Use Comparison (employees, square feet, development type)
     - Demographics

4. **Project Review (with and without project) – 10 Min**
   - Non-project infrastructure
   - Non-Project land use
   - Methods of evaluation
     - Project Contribution vs Performance Indicator\Threshold
     - Full Model Run
     - Partial Model Run
     - CEQA & SB 743

5. **Other Items and Wrap Up**

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https://global.gotomeeting.com/join/534416733

Use your microphone and speakers (VoIP) - a headset is recommended. Or, call in using your telephone.

Dial +1 (669) 224-3412
Access Code: 534-416-733

LOCAL DEVELOPMENT – INTERGOVERNMENTAL REVIEW PROGRAM INTERIM GUIDANCE

REVISED – NOVEMBER 9, 2016

Implementing Caltrans Strategic Management Plan 2015-2020

Consistent with SB 743 (Steinberg, 2013)

Table of Contents

I. Introduction and Background

Caltrans' Local Development-Intergovernmental Review (LD-IGR) program reviews land use and infrastructure plans and projects across the state for potential impacts and enhancements to the State's environment, natural resources and multimodal transportation system for the California public. Through the LD-IGR process, Caltrans advises Lead Agencies on what these impacts might be and ways to avoid, minimize, and/or mitigate adverse impacts. Caltrans also identifies land use and design strategies that may enhance connectivity and access to destinations. As required through a host of state and federal planning requirements, the LD-IGR program has historically supported smart growth policies designed to create vibrant communities with a sustainable multimodal transportation system. For example, the program's 2005 Deputy Directive 25-R1 states:

> *"The Department works to ensure that local land use planning and development decisions include the provision of transportation choices, including transit, intercity rail passenger service, air service, walking, and biking, when appropriate. The Department advocates community design (e.g., urban infill, mixed use, transit oriented development) that promotes an efficient transportation system and healthy communities."*

With the enactment of legislation such as AB 32 (2006), SB 375 (2008), SB 226 (2011), SB 743 (2013), etc. and the development of planning guidance such as the Smart Mobility Framework, Complete Streets Implementation Action Plan, the California Transportation Plan 2040, as well as Caltrans' adoption of its new mission, vision, goals and the Strategic Management Plan 2015 – 2020 (SMP), the LD-IGR program is strengthening its focus on transportation infrastructure that supports smart growth and efficient development. This is intended to help ensure that greenhouse gas (GHG) emissions reduction, good community design, improved proximity to key destinations, and a safe, multimodal transportation system are all integral parts of land use decision making throughout the state. Past LD-IGR practices primarily utilized Level of Service to identify various impacts to the State Highway System (SHS), and often limited its recommended mitigation to traditional road improvements. Although Caltrans recognized that Lead Agencies could implement other measures, such as improvements to other modes of transportation or incentive programs to encourage use of other modes, the Lead Agencies often rely on Caltrans' recommended measures. Going forward, efforts to fulfill our LD-IGR obligation should consider multimodal solutions from existing plans like regional transportation plans, general plans, transit plans, bicycle plans, and pedestrian plans. Multimodal solutions ~~to~~ not only improve access to destinations for all system users (motorists, transit riders, bicyclists, pedestrians), but also encourage efficient land use that helps achieve the multitude of goals sought, including quality of life, economic prosperity, the development of multimodal networks, and GHG emissions reduction.

The LD-IGR program provides an important opportunity to encourage Lead Agencies to implement the goals and targets of the Caltrans Strategic Management Plan (SMP) and the California Transportation Plan 2040. The SMP targets are intended to articulate statewide goals, and should not be interpreted or used as specific thresholds in the review of individual development projects. By year 2020, the SMP calls for several specific targets related to the LD-IGR program:

- a doubling of walking and transit, and tripling of bicycle trips as a percentage of overall trips
- a reduction of per capita vehicle miles traveled (VMT) by 15%
- a reduction of the number of fatalities in each travel mode by 10% a year

- a reduction of GHG and other pollutants consistent with the Air Resources Board's AB 32 Scoping Plan and State Implementation Plan
- an increase of freight system efficiency by 10%
- a reduction to an 8% rate of growth in Daily Vehicle Hours of Delay (DVHD) under 35 miles per hour on urban State highways

The SMP also contains several strategic objectives related to the LD-IGR program, including:

- reduce user fatalities and injuries by adopting a "Toward Zero Deaths" practice
- promote community health through active transportation and reduced pollution in communities
- effectively manage taxpayer funds and maximize the use of available financial resources
- improve the quality of life for all Californians by providing mobility choice, increasing accessibility to all modes of transportation and creating transportation corridors not only for conveyance of people, goods, and services, but also as livable public spaces
- reduce environmental impacts from the transportation system with emphasis on supporting a statewide reduction of greenhouse gas emissions to achieve 80% below 1990 levels by 2050
- improve economic prosperity of the State and local communities through a resilient and integrated transportation system
- improve travel time reliability for all modes
- reduce peak period travel times and delay for all modes through intelligent transportation systems, operational strategies, demand management, and land use/ transportation integration
- increase the number of Complete Streets features on State highways that are also local streets in urban, suburban, and small town settings
- improve collaborative partnerships with agencies, industries, municipalities and tribal governments and advance national engagement with the transportation research and policy committees

Many of the implementation highlights from the California Transportation Plan 2040 directly relate to the work of our LD-IGR program:

- improve transit
- reduce long-run repair and maintenance costs
- improve highways and roads
- improve freight efficiency and the economy
- improve communities
- reduce transportation-system deaths and injuries
- expand use of bike and pedestrian facilities
- make our vehicles and transportation fuels cleaner
- improve public health and achieve climate and other environmental goals
- secure permanent, stable, and sufficient transportation revenue

As highlighted in the Interim Guidance ~~below~~, the LD-IGR program's revised approach to commenting on plans and projects will help meet the goals and targets of the Strategic Management Plan and California Transportation Plan 2040. One important component to help achieve these goals is Caltrans' current process of creating a statewide Transportation Analysis Guide (TAG) and completing a comprehensive update of our Transportation Impact Study Guide (TISG). The TAG-TISG will better inform transportation infrastructure investment and land use and infrastructure project impact analysis, bring Caltrans practices in line with state policy (including those policies named above), and bring Caltrans analysis practices up

to state of the practice by providing a suite of methodologies, tools, and best practices. It will help public and private sector practitioners across the state perform the various types of analysis needed to identify multimodal transportation impacts from new land use, transportation, and infrastructure plans and projects.

In the interim, this Interim Guidance document intends to ensure that all Caltrans LD-IGR comments on growth plans, development projects, and infrastructure investments align with state policies through the use of efficient development patterns, innovative demand reduction mitigation strategies, and necessary multimodal roadway improvements. This is in addition to Caltrans' long-standing commitment to maintain a safe, multimodal transportation system that provides access to destinations for all users. We also continue to recognize that under the California Environmental Quality Act (CEQA), it is ultimately the Lead Agency's responsibility to perform a CEQA analysis, set local thresholds of significance, analyze potential impacts, determine significance, and identify, implement, and monitor any required mitigations.

This guidance supersedes the 2002 Caltrans Guide for the Preparation of Traffic Impact Studies in comments to local agencies. Instead of referencing the 2002 guide, Districts should make specific analysis requests of the Lead Agency when additional information is needed. The District can offer to provide the Lead Agency assistance in developing the scope of any analysis and answering questions. Headquarters LD-IGR staff is also able to assist with scoping required analysis and developing recommended solutions for the Districts' and Caltrans' local and regional partners to consider.

In order to ensure alignment of Caltrans comments with state goals described above, LD-IGR comments henceforth should take into consideration whether the project exhibits low or high VMT (by place type e.g., urban, suburban, and rural areas) and should focus recommendations on smart land use, multimodal access, safety for all users, and reducing single occupant vehicle trips. Well planned urban infill projects which are located close to transit, bike and pedestrian facilities (see Appendix A: Project Type 1), which also have proximity benefits to employment centers, services and goods – will reduce travel demand on the entire transportation system and will therefore require significantly less review and mitigation than rural fringe projects (Project Type 5), which generate proportionately higher number of trips and vehicle miles traveled.

Senate Bill 743 (2013) mandated that CEQA review of transportation impacts of proposed development be modified by eliminating consideration of delay- and capacity- based metrics such as level of service (LOS) and instead focusing analysis on another metric of impact. The Governor's Office of Planning and Research (OPR) is currently updating its CEQA Guidelines to implement SB 743 and is proposing that vehicle miles traveled be the primary metric used in identifying transportation impacts. OPR has released a separate "Technical Advisory" outlining recommended techniques for measuring impacts with this new metric, which applies statewide. The General Plan Guidelines are also concurrently being updated to align with state policy, including SB 743.

The need to evolve LD-IGR comments on local development transportation analysis and local development mitigation responses was articulated in a California State Transportation Agency (CalSTA) commissioned review of Caltrans practices in the State Smart Transportation Initiative (SSTI). Their January 2014 report stated that *"SB 743 could do more to advance state planning goals than anything else Caltrans has done", and "would put California and Caltrans back at the leading edge of modern transportation practice ….. It would begin to make Caltrans a real contributor to the success of modern*

policy in the state, and it would provide a model for how the staff could help implement a challenging new charge." A December 2014 report titled *A Follow-Up to The California Department of Transportation: SSTI Assessment and Recommendations* noted that OPR, CalSTA and Caltrans have been collaborating closely on remaining CEQA rulemaking issues, such as "*to manage operational challenges, namely where congested exit ramps may back up onto freeways, in a way that is not simply level of service by another name, failing to deliver the relief to infill development as the law directs. The draft rulemaking would also base mitigation on a development's total vehicle-miles generated."*

The TAG-TISG will also help implement Caltrans Strategic Management Plan 2015-2020 objectives consistent with SB 743 changes to CEQA. The TAG-TISG focuses transportation analysis on VMT impacts, assessing impacts from growth plans and development projects on the multimodal transportation network, and quantifying VMT and GHG reductions achieved through smart mobility principles and Transportation Demand Management (TDM) strategies. Until the TAG-TISG is complete, the Interim Guidance provided herein is intended to help ensure that District LD-IGR comment letters evolve to carry out state law, reflect the State's strategic safety goals and planning priorities, and align with California's climate change goals.

Purpose of this Interim Guidance

With the Strategic Management Plan objectives and SB 743's changes to CEQA, LD-IGR coordinators and functional reviewers will transition away from using delay based analysis, such as LOS or similar measures of vehicular capacity or traffic congestion, to determine the impacts of land use and infrastructure plans and projects. Instead, they will identify opportunities for reduced VMT generation, advise Lead Agencies on maintaining safe operations, and provide recommendations on developing location-efficient (e.g., centrally located, infill) and travel-efficient (e.g., inclusion of TDM measures) land use.

This Interim Guidance will remain in effect until superseded by Caltrans Transportation Impact Study Guidelines (TISG), currently under development.

Henceforth, LD-IGR comment letters should reflect the "top six" elements discussed below, as well as the more detailed guidance in the accompanying appendices. It is important to note that this Interim Guidance is intended to be the overarching policy and guidance of the LD-IGR program, aside from any Director's Policies or Deputy Directives. The Headquarters LD-IGR program will be updating guidance and training to be aligned with the Strategic Management Plan 2015-2020 lens over the upcoming months. If reviewers notice any discrepancies in policy and direction between the existing guidance on the Caltrans intranet and this Interim Guidance, please notify the LD-IGR program manager for further direction. Similarly, if reviewers experience any difficulties in applying this Interim Guidance to individual development-related plans, programs, or projects, they are encouraged to contact Alyssa Begley, Caltrans SB 743 Program Implementation Manager, for assistance on a statewide perspective, and suggested solutions that might be useful.

Active participation by the Districts in regularly scheduled LD-IGR Teleforum meetings with Headquarters will also help District staff keep abreast of emerging methodologies, relevant examples, and current events that may further inform this Interim Guidance while OPR's CEQA Guidelines Update and Caltrans' TAG-TISG Update are in progress.

The existing LD-IGR program's intranet guidance and the technical resources are found at:
http://transplanning.onramp.dot.ca.gov/local-development-intergovernmental-review-ld-igr-branch

II. Key Elements to Include in LD-IGR Letters

This section summarizes the "top six" elements to emphasize when reviewing development plans and project proposals for transportation impacts and when drafting LD-IGR comment letters. The following appendices provide explicit guidance, technical considerations, and template language for District LD-IGR coordinators and functional reviewers to incorporate as needed.

A. Comment on Vehicle Miles Traveled associated with the project.

Reviewers should comment on vehicle miles traveled resulting from the land use project, applying local agency thresholds or absent those, thresholds recommended ~~by the most recent draft of~~ in ~~OPR's~~ adopted CEQA Guidelines ~~and~~ or OPR's approved Technical Advisory. If an assessment of VMT is not presented, Caltrans should request it be presented. Though SB 743 clarifies requirements for transportation analysis, a VMT analysis is already needed to meet other CEQA requirements.[1] Methods for assessing VMT should be compared to the methods recommended in the OPR's approved Technical Advisory. Where methods are not consistent with the recommendations in the Technical Advisory, Caltrans should comment on those methods. Where the project exhibits less than threshold VMT, Caltrans comments should acknowledge the project's transportation efficiency. Where the project exhibits greater than threshold VMT, Caltrans should request mitigation. Examples of mitigation measures are included in the OPR Technical Advisory. Contact ~~the~~ Caltrans SB 743 Program Implementation Manager, Alyssa Begley, for assistance with VMT calculation.

B. Rather than providing recommendations that primarily accommodate motor vehicle travel, provide recommendations that strive to reduce VMT generation; improve pedestrian, bike, and transit service and infrastructure; and which don't induce additional VMT.

As demonstrated by the template language provided in Appendix C of this Interim Guidance, it is important that Caltrans comment letters express the intent and purpose of the LD-IGR program and Caltrans' review of land use and infrastructure plans and projects through the new lens of the Caltrans Strategic Management Plan 2015-2020. In other words, providing recommendations for solutions that reduce automobile travel rather than recommendations that accommodate more of it. For example, consider the following sample paragraph intended for letter introductions:

> *"The mission of Caltrans is to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. The Local Development-Intergovernmental Review (LD-IGR) Program reviews land use and infrastructure plans and projects through the lenses of our mission, vision, and goals as guided by the State's planning priorities of prioritizing infill, conservation, and efficient development."*

Consider also the following paragraph intended to discuss demand reduction and mitigation strategies:

> *"Caltrans seeks to reduce vehicle trips and new vehicle miles traveled associated with development and recommends appropriate measures to avoid, minimize, or mitigate transportation impacts*

[1] See CEQA Guidelines §15064.4 (analysis of greenhouse gas emissions) and Appendix F (requiring analysis of "the project's projected transportation energy use requirements and its overall use of efficient transportation alternatives". See also California Clean Energy Committee v. City of Woodland (2014) 225 Cal. App. 4th 173, 210.

through smart mobility community design and innovative multimodal demand reduction strategies."

C. Focus on travel efficiency

Coordinators and reviewers should use the terms *"transportation impact study"* rather than *"traffic impact study"* and note that the study should analyze all modes. Such terminology helps developers, decision makers, and the public better understand that Caltrans seeks a holistic perspective on the infrastructure (roadways, bicycle facilities, sidewalks, transit stations, etc.), the service (e.g. transit, rail, etc.) needs, opportunities for closer proximity to key destinations, and other factors that may be created by growth plans and development projects under review. This language acknowledges and builds upon the multimodal perspective taken by the LD-IGR program since its inception, but not always followed in practice. This approach will also help shape the analysis techniques applied to the review so that the right kinds of data and analyses are provided for consideration. For example, Districts should help the Lead Agency contextualize the project by describing not just what and where it is, but also how those factors relate to both the multimodal transportation system and parallel objectives such as job creation, resource and open space conservation, or housing affordability—especially for projects and plans that generate high VMT. If the project is on the suburban edge of a region or far from transit, it is likely to induce more VMT than an infill project. In assessing how the project might be able to reduce its VMT generation, it is also critical to understand how the project can enhance a multimodal transportation network, how the project may increase access to key destinations (by foot or bicycle), and what aspects of the system can be utilized as feasible TDM mitigation measures. See Appendix D for additional information.

Districts should be cognizant of land use economics when reviewing local development projects in order to be mindful of all factors that lead to viability of individual project, more specifically, for projects that generate less overall vehicle miles traveled.

Districts are strongly encouraged to work with Lead Agencies to address transportation deficiencies and enhancements through policies at the planning level and through mitigation fee programs. Districts should still encourage Lead Agencies to share plans and projects for review that directly abut the SHS, are in vicinity of a State Highway, or projects for which Caltrans must approve and issue an encroachment permit.

Headquarters LD-IGR staff recognizes that this type of analysis will be a dramatic shift in process for Caltrans, and that Headquarters programs, District coordinators, and functional reviewers will need extensive training to adapt to the new analysis methods. Headquarters LD-IGR staff will coordinate with the Districts to ensure additional training and tools are provided throughout the Department. If Districts have training requests or concerns, please contact their Headquarters LD-IGR coordinator.

D. Remain neutral on project purpose while framing recommendations for mitigation of the project's impacts within statewide policy.

Commenting on local development can be controversial and should be written in a tone that promotes partnership, promotes collaboration, focuses on technical aspects of plans and projects, and is deferential to the Lead Agency's discretionary authority. However, Caltrans has a responsibility to advance the state's legislative priorities and carry out its role as a Responsible or Commenting Agency

under CEQA. In order to strike this balance, our response letters should convey Caltrans' desire to be an active partner in Lead Agencies understanding the transportation implications of development and to assist Lead Agencies in shaping projects to make more efficient use of our transportation system. Districts may choose to, for example:

- State whether the project is location-efficient (e.g. transit-oriented infill), with safe and adequate access to a multimodal transportation system and key destinations, that will help the state meet its GHG reduction targets under AB 32; or if it is sprawl that will increase VMT and regional emissions. As described in Section A above, ascertain VMT per OPR's guidance. Residential development should be assessed on a per capita basis. Office development VMT should be assessed on a per employee basis. Retail project VMT should be assessed on an absolute basis, but need not be calculated for local-serving retail (which generally reduces VMT). Land use project VMT should be compared to thresholds created by the local agency. In the absence of local agency thresholds, use recommendations in the approved version of OPR's Technical Advisory. ~~15 percent below overall regional or city VMT per capita for residential projects, 15 percent below regional VMT per employee for office projects, and any increase in overall VMT for retail (further details can be found in the Technical Advisory).~~ For residential and office development, VMT Maps produced by either regional travel demand models, or the California Statewide Travel Demand Model may be used as a shortcut to estimating VMT. VMT Calculation training will be made available to District staff. Sample language is provided in Appendix C.
- Note if the project is consistent or inconsistent with the growth patterns and future infrastructure features identified in the General Plan or Master-Specific Plans, as well as Regional Transportation Plans (RTP) or Sustainable Community Strategies (SCSs).
- Note if the project is consistent or inconsistent with State planning priorities of infill, conservation, and efficient development. For more information on the State's planning priorities, see the text from AB 857 (2002) and SB 226 (2011).

While it is not necessary to "take a stand" by commenting on a Lead Agency's actual decision to adopt a plan or approve-deny a project, comment letters should express findings of consistency or concern related to the implications and impacts, particularly VMT impacts, of development projects. And remember, Caltrans can recommend plan changes or project re-design where impact avoidance or minimization could be achieved. For example, a high-VMT-inducing edge development may consider walking or biking connectivity around a new major transit station with high-quality transit service (see SB 375), or if such a transit station is not present or planned, then around a neighborhood town center. Similarly, a jurisdiction or developer might be able to take advantage of reduced parking requirements or affordability density-bonus credits for projects located in infill areas to achieve a more efficient growth pattern. Such suggestions can point to a "win-win" by substantially reducing the plan's or project's VMT generation while still meeting the developer and Lead Agency's overarching economic and community development objectives. Our comment letters should note when Caltrans has had discussions in person with Lead Agency staff.

E. Be collaborative – Create paths for workable solutions and overcome roadblocks.

Cities, counties, and developers, as well as Regional Transportation Planning Agencies (RTPAs), Metropolitan Planning Organizations (MPOs), transit and inner-city rail operators, and a wide array of employers and service providers across the State face increasing pressures to accommodate California's population growth with limited funding, while also facing environmental and community-acceptance constraints. Caltrans, through our LD-IGR role, can work collaboratively to assist these

agencies. Comment letters should not just identify potential concerns or problems, but offer suggested solutions that could be taken toward their resolution.

District staff should proactively establish early consultation in the planning and development project process. For example, request face-to-face meetings with Lead Agencies and project proponents to discuss how state law and the multimodal policies in city/county General Plans and RTPA/MPO RTPs and SCSs apply to the development project being reviewed or plan amendments being considered. This would allow both plan-level and project-specific technical concerns to be conveyed and, if possible, resolved with Lead Agencies as part of on-going information sharing. Such meetings can be used to link "early" and "late" steps in the development approval process by identifying potential planning policies and avoidance or minimization strategies, and developing mitigation implementation programs that help achieve Caltrans Strategic Management Plan 2015-2020 and California Transportation Plan 2040 objectives and other state goals. Specifically, Districts should perform robust review of the land use and transportation analysis contained in the transportation impact studies for the environmental impact reports performed on General Plans, Specific/Master/Community plans, Regional Transportation Plans, Sustainable Community Strategies, etc.. This affords District staff a better understanding of how individual "streamlined" developments and infrastructure investments "tier" off of the analysis in plan- or program-level EIRs and provides opportunities for Caltrans to encourage and help shape new VMT-based impact fees.

F. Comments related to impacts to the State Highway System (SHS) will be focused on VMT impacts not delay or effects on road capacity.

Transportation analysis under CEQA is evolving~~, in part because of SB 743,~~ to measure impacts using vehicle miles traveled. Similarly, Caltrans has adopted Strategic Management Plan goals related to reducing VMT per capita and increasing use of non-auto modes. Therefore, in reviewing project proposals and related CEQA documents, LD-IGR will focus its comments on reducing demand on the SHS as measured with VMT. Caltrans continues to be responsible for ensuring that encroachments on or changes to the SHS are designed to provide for safe operations.

The use of LOS as a CEQA threshold of significance will soon be disallowed and replaced with vehicle miles traveled. SB 743 did not alter a Lead Agency's responsibility to "analyze a project's potentially significant transportation impacts related to air quality, noise, safety, or any other impact associated with transportation."[2] Any information requests should be consistent with the guidance found in Appendices A and B.

This section will not address specifics of how to conduct an operational impacts analysis for all modes of transportation. This section is focused on the general policy, tone, and approach.

Improvements on conventional roadways should, as appropriate to the context, emphasize a complete streets approach to improvements (improvements such as lane width reduction, landscaped medians, pedestrian bulb outs, etc.) and should avoid increasing automobile capacity and/or other measures that would significantly increase VMT.

[2] A safety-related transportation impact under CEQA is not the same as, and does not establish, an unsafe condition. Instead, the CEQA determinations are based on modeling and projections of potential future conditions and any mitigation is focused on making conditions safer.

Suggested improvements to address operational impacts should not result in increased speeds that are not suitable for vulnerable users on the conventional facility. Operational impact improvements should be appropriate to the context and consistent with complete streets principles wherever feasible. Capacity improvements to freeway ramps and freeway mainlines to address operational impacts should be a last resort. Improved crosswalk signal timing, intelligent transportation systems improvements, enhanced signage, roadway designs that result in reduced speed limits, and other effective methods that do not significantly increase VMT should first be explored as potential solutions.

Appendix A: Recommended Guidance for Site-Specific Development Project Review

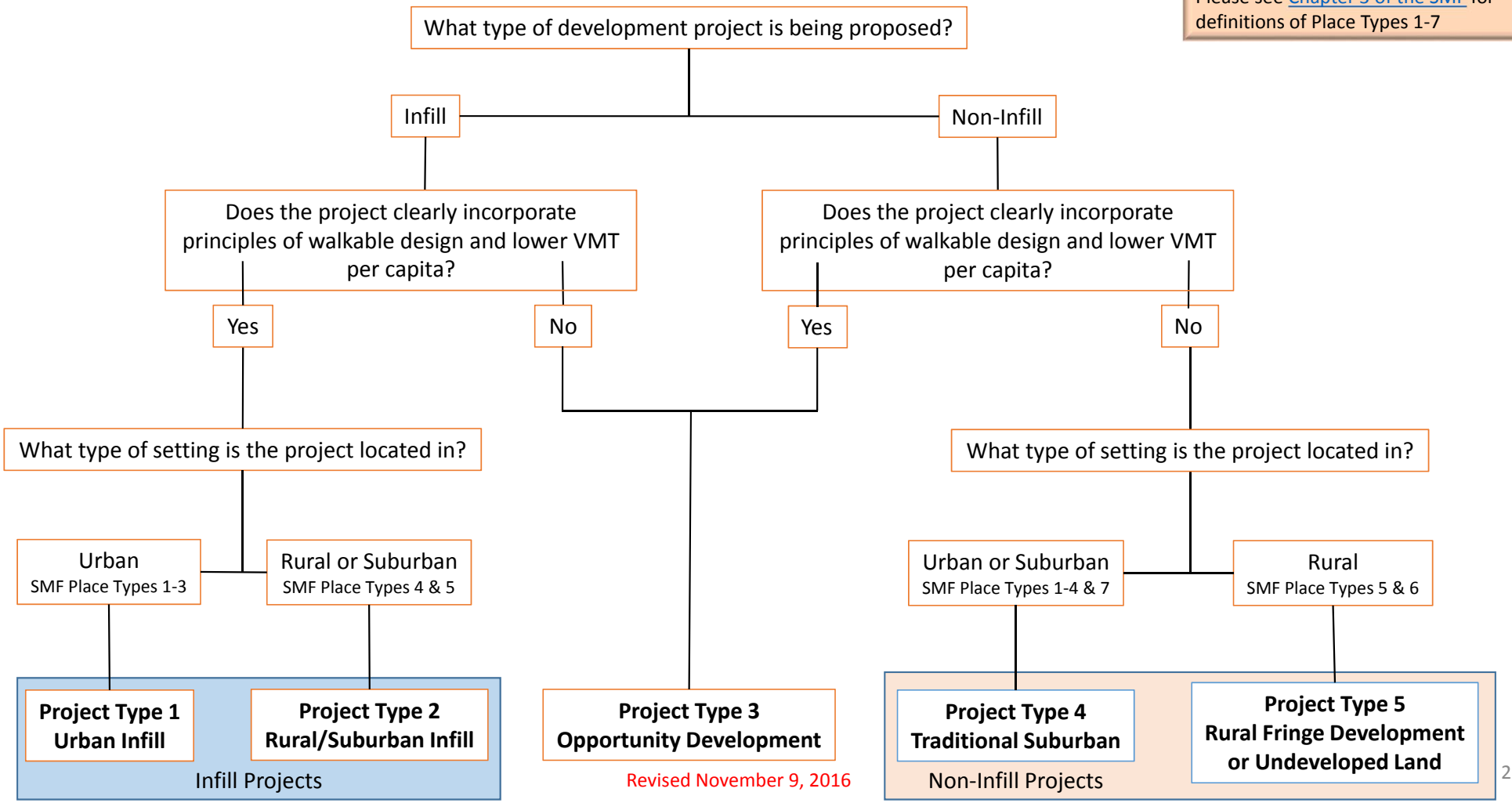
Please use this flow chart and the guidance following it to determine whether to comment on site-specific projects and what types of comments to make based on the type of project and its location. Reviewers should first consider the project's geographic setting and whether projects are located in an infill location, have a walkable project design, and assess VMT generation (definitions of key terms are at the end of this appendix). Projects may not fall perfectly into the place type categories below, so please use your best judgment on types of comments to make. We recognize every project is different.

Before sending a comment letter, the District LD-IGR coordinator should consider what the main objective of sending a letter is, what point of the process the project is in, and if it is necessary to even make comments. A request for additional analysis should be followed by an explanation of why that analysis is needed. If we request a Lead Agency to provide additional analysis on how a project impacts the SHS, we should articulate our concerns. Districts should not just ask for studies or analysis for projects just to have the information. For high-VMT projects, comments should have a primary focus on helping a project reduce VMT loaded onto roadway networks, including the State Highway System.

LD-IGR Site-Specific Development Project Review Decision Tree

See the definitions section on p. 7 of this appendix for guidance on terminology used in this decision tree

SMF = Smart Mobility Framework
Please see Chapter 3 of the SMF for definitions of Place Types 1-7



Revised November 9, 2016

Guidance for Site-Specific Development Project Review by Place Type

	Urban Infill Project Type 1	Rural/Suburban Infill Project Type 2	Opportunity Development Project Type 3	Traditional Suburban Project Type 4	Rural Fringe/ Undeveloped Land Project Type 5
a. General Review Approach	• Generally Districts should have minimal comments (or no comments) on Type 1-2 because they are well planned infill projects which are located close to transit, bike and pedestrian facilities which also have proximity benefits to employment centers, services, and goods that will reduce travel demand on the entire transportation system and will therefore require significantly less review and mitigation than rural fringe projects (Project Type 5) which generate proportionally higher number of trips and vehicle miles traveled. Districts should coordinate with Caltrans SB 743 Program Implementation Manager when developing letters for Type 1 land use projects. • Consistent with the new Caltrans mission, vision, and goals, and other statewide laws and policy, projects meeting Type 1-2 criteria typically minimize the overall demand on the SHS compared to what would be built in their place to accommodate demand. • Infill projects have the benefit of proximity to employment, services, and retail that helps reduce trip length and increase accessibility for all modes. • While in some cases, projects with a walk and bike friendly design may actually increase regional VMT in rural areas, projects in town centers that incorporate pedestrian friendly designs could encourage more trips by walking, biking, and transit for local residents. Districts may still encourage project construction traffic to avoid peak hours when specific non-delay operational concerns arise.		• Opportunity development projects are similar to those in Type 1 and Type 2, but they are typically designed in such a way that is traditional suburban type development that happens to reduce VMT due to its location. Or they are projects on the fringe of urban areas designed in a way that minimizes VMT impacts. • Districts may encourage the Lead Agency to improve pedestrian connectivity both within the project and its connections to surrounding areas. The Districts may also encourage a reduction in parking spaces (when warranted), and potentially reorienting the development so that parking lots are not located between buildings and the streets. • If some of the individual components of the project exceed VMT thresholds on page ~~6~~ 7 of this appendix (when accounting for mixed-use trip reduction), then Districts can encourage transportation demand management (TDM) measures. See the Appendix D section on Demand Management for suggestions on TDM. • Other projects that typically do not generate permanent traffic (such as levee repairs, signs, pipelines, solar farms, etc.) should follow existing LD-IGR guidance. Comments related to these types of projects should not focus on congestion.		• Type 4 and 5 projects generally are considered traditional suburban or rural fringe development that generate higher VMT, and do not encourage walking or biking by their project design. • Districts should make comments on ways projects can minimize VMT generation to ~~meet VMT reduction goals from SB 743 and~~ assist the State in meeting GHG reduction targets. Caltrans should press for significant connections to existing pedestrian, bicycle, and transit infrastructure to avoid a development relying solely on the existing local roadway system or State Highway System. • Districts are also encouraged to use the Smart Growth Principles language suggested in the Appendix C: Recommended Language that identifies whether or not a project incorporates smart growth principles. • Districts should make comments on ways the projects can improve internal circulation for all modes, better integrate with other nearby land uses, and provide a network of complete streets that benefits all users of the transportation system.

Guidance for Site-Specific Development Project Review by Place Type

	Urban Infill Project Type 1	Rural/ Suburban Infill Project Type 2	Opportunity Development Project Type 3	Traditional Suburban Project Type 4	Rural Fringe/ Undeveloped Land Project Type 5
b. Multimodal Operational Impacts Analysis	• For purposes of this Interim Guidance, projects in Urban Infill areas are presumed to have multiple community benefits that include multimodal mobility, increased access, and safety for all users. Urban Infill projects also tend to increase pedestrian and bicycling travel, which promotes livable and healthy communities. This is important to note, because an important goal of this guidance is to help implement statewide objectives to minimize VMT generation and reduce GHGs--which research suggests infill development helps accomplish. • Well planned infill projects which are located close to transit, bike and pedestrian facilities which also have proximity benefits to employment centers, services, and goods will reduce travel demand on the entire transportation system and will therefore require significantly less review and mitigation than rural fringe projects (Project Type 5) which generate proportionally higher number of trips and vehicle miles traveled. • In cases where the Districts have specific substantial evidence that operational impacts or safety concerns exist, the Districts should work with the Lead Agency to identify the appropriate analysis needed, ways it can be provided, and how the operational impacts can be addressed. • Districts are encouraged to work with Lead Agencies to proactively address relevant transportation concerns at the plan-level or corridor-level; this helps ensure that the Department is able to carry out its responsibilities as owner/operator of the SHS without having to ask for additional project-level analysis when individual Urban Infill developments move forward to approval, if it is not needed. • Consideration should be given to the context of the area in relation to the SHS. Comments related to operational impacts should not be used as a mechanism to increase capacity of the roadway--they should only be made to address specific operational impacts as defined above. Districts should coordinate with Caltrans SB 743 Program Implementation Manager when developing letters for Type 1 land use projects.	• While an important overall goal of this guidance is to minimize VMT generation, many new development projects will increase traffic in a localized area and could create or exacerbate operational concerns that may increase the potential for future collisions (operational impacts). • When necessary, the Districts should still analyze a project's potential operational impacts and impact of significant increases of VMT on walkers, bikers, and drivers using the SHS. • Well planned infill projects which are located close to transit, bike and pedestrian facilities (see Appendix A: Project Type 1), which also have proximity benefits to employment centers, services and goods – will reduce travel demand on the entire transportation system and will therefore require significantly less review and mitigation than traditional suburban projects (Project Type 4), and rural fringe projects (Project Type 5), which generate proportionately higher number of trips and vehicle miles traveled. Caltrans should press for significant and safe connections to existing pedestrian, bicycle, and transit infrastructure to avoid a Project Type 2-5 relying solely on the existing local roadway system or State Highway System. • In cases where multimodal operational impact analysis is needed, but it is not provided, the Districts should work with the Lead Agency to identify the appropriate analysis needed and ways it can be provided. To date, no state law has exempted project proponents from performing a safety analysis for all transportation modes. That does not mean that project proponents necessarily need to perform an analysis. Consideration should be given to the context of the area in relation to the SHS. • The Districts can also ask for construction traffic management plans. See Appendix C for sample language.			

Guidance for Site-Specific Development Project Review by Place Type

	Urban Infill Project Type 1	Rural/Suburban Infill Project Type 2	Opportunity Development Project Type 3	Traditional Suburban Project Type 4	Rural Fringe/ Undeveloped Land Project Type 5
c. Pedestrian, Bicycle, and Transit Facilities	For projects that directly abut the SHS, agreements may be required for maintenance of pedestrian facilities. The Districts are strongly encouraged to advocate in comment letters for completing a network of pedestrian walkways along the SHS where feasible and appropriate to the context. The Districts should make efforts to familiarize themselves with local agencies' policies and design standards and work with project proponents early to resolve any design or safety-related issues for the walkways. Bicycle and transit facilities within the Caltrans ROW should also be considered and encouraged on a case-by-case basis. Agreements with other agencies may be necessary.				
d. Fee Programs	The Districts can request that projects pay into established fee programs (mandatory or voluntary programs are ok). Districts are encouraged to promote projects or improvements within the fee programs that help reduce VMT and enhance efficient access to destinations when feasible. Programmatic fee programs to address operational impacts are also encouraged to help avoid individual development projects avoid triggering direct operational impacts; this is especially important for Project Type 1-2.				
e. Level of Service (LOS) Related Comments Aimed at Reducing VMT	Not applicable		Some jurisdictions have set LOS thresholds for the SHS either through plans or by ballot measures and will provide this analysis during project review. Until the TAG-TISG is completed, Districts can make technical comments about a Lead Agency's deficiencies in LOS analysis of the SHS when a project is inconsistent with smart growth principles ("sprawl"). In this circumstance, the District can also point out LOS deficiencies on the SHS and request mitigation that minimizes new VMT on the SHS. Please note that the District should suggest capacity increasing improvements sparingly, and those should be consistent with adopted RTP/SCSs. Comments can focus on operational impacts and should be consistent with complete streets principles. Particularly for Project Type 3-5, Districts should assist the Lead Agency in identifying appropriate demand reduction measures by listing specific programs (see Appendix D – Section A "Demand Management")		
f. ROW Preservation	In areas where Caltrans system planning documents are aligned with local plans that call for the eventual widening of the SHS, Caltrans may find it necessary to make comments about preserving that ROW. The context of the situation is critical. District staff should consult with System Planning to maintain consistency with any existing local plans to enhance the livability and neighborhood connectivity of a State Highway segment, and determine whether Caltrans is working with a local agency to relinquish that portion of the State Highway.				
g. Responsible Agency	Caltrans is a Responsible Agency under CEQA when we have to approve and issue an Encroachment Permit for a local development project. We are a Commenting Agency when the local development project does not require an Encroachment Permit. Districts should inform the Lead Agency when an Encroachment Permit is required as early as possible in the local development project's process. District Planning should coordinate with District Encroachment Permits regarding which local development projects are not required to provide a transportation analysis. The Encroachment Permit process still requires some level of transportation analysis. Particularly for infill, the level of analysis required should balance the engineer's need for information with monetary costs incurred by the project. Time and money will be saved if Caltrans and the Lead Agency discuss the analysis needs for the Encroachment Permit as early as possible. See the "Encroachment Permits" section in Appendix C for language that should be included in a comment letter.				

Guidance for Site-Specific Development Project Review by Place Type

	Urban Infill Project Type 1	Rural/Suburban Infill Project Type 2	Opportunity Development Project Type 3	Traditional Suburban Project Type 4	Rural Fringe/ Undeveloped Land Project Type 5
h. Projects in Close Proximity to the SHS	The Districts should consider commenting on projects that border or are within a few hundred feet of Caltrans ROW. Some specific examples include projects that may have hydraulic impacts to the SHS, ROW Engineering concerns, sound wall placement along freeways, and other cases. For projects that border or plan any work within the state highway system ROW, Districts should comment about the potential need for an encroachment permit. The Lead Agency and developers appreciate being made aware of issues that could affect the cost, scope, or schedule of the project. We recommend working with Lead Agencies as early in the process as possible to resolve issues before CEQA-stage documents are released for public review and comment. The tone in the letters should be of a cooperative approach.				
i. Parking	If District staff notice an excessive number of parking spaces, greater than required by local zoning, associated with a development related to its context (i.e., in places with excessive amounts of underutilized parking nearby, in places with very high transit connectivity, etc.) the District may choose to comment that a reduction in parking may help reduce VMT and development project costs. Note that AB 744 (2015) identifies maximum parking ratios for affordable housing projects located within one-half mile of a major transit stop, and affordable housing projects outside of those locations.				

~~Questions to~~ Considering ~~for~~ VMT Impacts

~~Questions to consider for~~ Considering VMT impacts:

Reviewers should comment on vehicle miles traveled resulting from the land use project, applying local agency thresholds. Or absent those, apply thresholds recommended by the most recent ~~draft~~ approved version of OPR's CEQA Guidelines and Technical Advisory.

~~a) Will residential components of the project lower both the citywide (or countywide) and the regionwide existing VMT per capita by at least 15%?~~
~~b) Will office components of the project lower existing VMT per employee across the region by at least 15%?~~
~~c) Will retail components of the project decrease total VMT (note: can presume local serving retail will)?~~
~~*Note: These questions are consistent with the most recent draft of the OPR Technical Advisory Implementing SB 743.*~~

~~If the answer is no to any of the above questions (when accounting for internal trip capture for mixed-use projects), then it may be appropriate to request the Lead Agency to minimize VMT generated by a project. See Appendix D for Transportation Demand Management suggestions.~~

Definitions of Key Terms

Infill Site: According California Public Resources Code Section 21061.3, an infill site is defined as "a site in an urbanized area that meets either of the following criteria: (a) The site has not been previously developed for urban uses and both of the following apply: (1) The site is immediately adjacent to parcels that are developed with qualified urban uses, or at least 75 percent of the perimeter of the site adjoins parcels that are developed with qualified urban uses, and the remaining 25 percent of the site adjoins parcels that have previously been developed for qualified urban uses. (2) No parcel within the site has been created within the past 10 years unless the parcel was created as a result of the plan of a redevelopment agency. (b) The site has been previously developed for qualified urban uses." OPR states on its website, "The term 'infill development' refers to building within unused and underutilized lands within existing development patterns, typically but not exclusively in urban areas." For purposes of LD-IGR evaluation, whether or not a project is considered infill should also be considered with its effects on VMT. If it is unclear whether a project is infill or not, if a project induces high-VMT, the District should treat the project as a Type 3 Opportunity Development. Taking projects through the project place type decision tree above may help in determining the types of comments to make on the project.

***Walkable Project Design*:** There is no perfect definition of what comprises a project with good walkable design. However, there are resources that help define some of the principles of walkable design. The San Francisco Planning and Urban Research Association (SPUR) has developed seven principles of walkable urban districts that may be useful to District staff to help understand what walkable design incorporates: create fine-grained pedestrian circulation; orient buildings to street and open spaces; organize uses to support public activity; place parking behind or below buildings; address the human scale with building and landscape details; provide clear, continuous pedestrian access; and build complete streets. A project does not necessarily have to incorporate all of these principles to be considered having walkable design, but it should incorporate almost all of them.

Operational Impacts: When new development may create or exacerbate operational concerns that may increase the potential for future collisions. A safety-related transportation impact under CEQA is not the same as, and does not establish, an unsafe condition. Instead, the CEQA determinations are based on modeling and projections of potential future conditions and any mitigation is focused on making conditions safer.

***Place Types*:** Districts should not be too concerned with whether or not a project is considered rural, urban, or suburban to navigate the decision tree. What matters more is the project design and the VMT generated by the project (i.e., which project type box is selected). The Districts can also use the Smart Mobility Framework (SMF) Place Types to help navigate the decision tree. The SMF Place Type descriptions are located in Chapter 3 of the SMF. The SMF Place Type numbers on the decision tree correspond to the numbers in Chapter 3.

Appendix B: Recommended Guidance for Plans and Programs Review

There are many different types of plans (General, Specific, Community, Regional Transportation, Watershed, Air Quality to name a few) and programs that LD-IGR reviewers receive. To cover all the different types of them would defeat the purpose of keeping this guidance brief and just providing an overall policy framework.

OPR's Technical Advisory provides guidance on VMT-based impact analysis and mitigation. An array of research is available on this topic, much of which is summarized and packaged for deployment in the California Air Pollution Control Officers Association (CAPCOA) Quantifying Greenhouse Gas Mitigation Measures document (which focuses also on VMT). Further, HQ will post Technical Bulletins on Onramp as further information becomes available. In the meantime, HQ will provide the Districts with an SB 743 notification letter template for transmittal to Lead Agencies explaining what SB 743 requires them to consider, noting how Caltrans can assist, and stating that OPR is drafting an update of its CEQA Guidelines in order to spell out the new requirements in more detail.

It is important to note that one of the likely outcomes of SB 743 implementation will be the closer alignment of project-specific impact analysis and mitigation with the regional growth and program-level management strategies identified through the regional and systems planning process. Through regional and system planning efforts, the existing transportation system is analyzed and future improvements are planned to improve human mobility and system operations based on the regional population growth and mobility needs identified through city and county General Plans, RTPs/MTPs, etc. For example, when District system planners update Transportation Concept Reports (TCR), District System Management Plans (DSMPs), and Corridor System Management Plans (CSMP), coordination with LD-IGR is an opportunity to reflect long range growth plans, development projects, and regional improvement plans identified in regional planning documents. Similarly, when LD-IGR coordinators are reviewing development plans and projects, coordination with regional and system planning can be used to identify ultimate ROW setbacks, access management restrictions, planned frontage improvements, and facility improvements identified in system planning documents that should be factored into a project's site plan and mitigation measures. LD-IGR comments on local development projects should illustrate consistency with our system planning documents as well as General Plans, RTP/SCSs, bicycle plans, pedestrian plans, and transit plans especially when suggesting appropriate mitigation for VMT impacts.

Particularly at a project level, we want to avoid disadvantaging the last-in development. Caltrans (as well as other agencies) is sometimes criticized for being a barrier to local infill development by asking for costly studies or mitigation. In order to achieve equity in transportation financing and not place unreasonable burdens on site-specific development projects that advance state goals of smart growth and reduced greenhouse gas emissions, Caltrans should work with Lead Agencies to address impacts to the SHS at the plan level and in fee programs. In general, plans and programs can be an extremely important and efficient mechanism to identify and mitigate issues at a macro level and thus avoid issues with the site-specific project analysis. VMT reduction can have substantial safety benefits, so Districts should emphasize VMT reduction in their comments on lead agency plans or programs.

One way Districts can work with their partners to address mitigation issues is to proactively and directly participate in the development of comprehensive plans (e.g. General Plans, Master Plans, Specific Plans, etc.) and mitigation implementation programs (regional advance mitigation programs, impact fee nexus plans and capital improvement plans, etc.). For instance, a local agency could forecast expected

development, identify needed transportation improvements that provides safe access for all modes (like lowering speeds at interchanges, mid-block crossings for pedestrians, cycle tracks for bicyclists, bus bays, added transit capacity, etc.), create cost estimates for those improvements, and create a financing program that development projects pay into to implement those improvements. Then local development projects would simply pay their fair share toward those improvements. There are many examples around the state where local agencies have established fee programs to pay for improvements. One example of a plan and fee program that does comprehensively address transportation needs (including safety and multimodal improvements) based on projected development is the Martell Triangle Plan in Amador County.

This process may also be beneficial for Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and CEQA streamlining. The District should work with the MPO to address potential safety issues and needed mitigation in the RTP/SCS, in an effort to establish a corresponding fee program is established to pay for those improvements; then local development projects could simply pay fair share toward those improvements based upon their proportional impact and therefore would not need to perform any additional analysis of the SHS during the environmental review process if they met the CEQA streamlining provisions of the RTP/SCS. Please contact the HQ LD-IGR program manager for assistance with individual development projects tiering from programmatic-level CEQA documents.

LD-IGR coordinators should be proactively engaged in the regional and system planning processes and provide comments on the development of General Plans, Specific Plans/Master Plans, RTPs, and SCSs or Alternative Planning Strategies that integrate policies, priorities, and projects identified in TCRs, DSMPs, and CSMPs. Reviewers should advise lead agencies of any regional or system planning implications related to their travel demand models and RTP/SCSs-General Plans. Specifically, coordinators should also ask lead agencies if their regional models and Transportation Impact Mitigation (TIM) fee programs reflect long-range multimodal system improvements. In coordinating these efforts with System Planning, coordinators should be focused on helping lead agencies integrate their plan's or project's mitigation measures with corridor and system level management strategies and planned multimodal improvements on specific facilities. The Districts may also need to work with lead agencies on preserving ROW in some SHS corridors for future improvements and ensure consistency with Caltrans system planning documents.

Similarly, when evaluating proposed mitigation measures, reviewers should analyze the potential effects of induced travel (both VMT and GHG increases) resulting from any roadway capacity expansion improvements intended to reduce congestion. Reviewers should also evaluate the potential for connectivity improvements, such as internal circulation within a development or local roadway extensions-connections, to reduce VMT and GHG emissions by providing more efficient land use and direct routes between locations.

The intention for this integration should be conveyed to cities and counties through on-going communication and specifically requested at the Initial Study stage for growth plans, financing programs, and development projects. In order acquire the necessary data, to provide peer review, and in cases where District staff may need to assist lead agencies in performing these evaluations, LD-IGR coordinators should ask the regions to share their model platforms through a Model Users Agreement (contact HQ for examples) and Caltrans should share the California State Transportation Demand Model. Coordinators should also request copies of any sub-area models that might be developed for Traffic Operations Reports required in the capital project delivery process as these may include additional levels of refinement not available in regional models. Depending on the answers received, coordinators should recommend changes to ensure that planned plan-level and project-specific mitigation measures are consistent with

adopted regional and system plans. If needed, coordinators should recommend changes to ensure that local and regional TIM programs include multimodal improvement intended to reduce, rather than induce VMT. Districts should create an electronic archive of the models they ask for and receive from local partners.

Districts should, when appropriate, request that local agencies provide a multimodal transportation demand and impact analysis for plans and programs. The Districts should note that this plan/program level analysis may also be useful for the evaluation of individual development projects that are utilizing CEQA streamlining provisions. Appendix C contains sample language for use in comment letters on plans and programs.

For certain projects and plans, District staff should coordinate with transit operators so information can be jointly shared for the purpose of service coordination and long-range transit planning.

Level of Service (LOS) Related Comments Aimed at Reducing VMT

Some jurisdictions have set LOS thresholds for the SHS either through plans or by ballot measures and will provide this analysis during plan review. LOS can still be used as a transportation analysis tool, however, for CEQA purposes District comments should address VMT.

Until the TAG-TISG guidance is provided, Districts can make technical comments about a lead agency's deficiencies in LOS analysis of the SHS when a plan is inconsistent with smart growth principles ("sprawl"). In this circumstance, the District can also point out LOS deficiencies on the SHS and request mitigation that minimizes new VMT on the SHS. Please note that the District should suggest roadway capacity improvements sparingly. Comments should focus on operational impacts and should be consistent with complete streets principles. Particularly for Project Types 3-5, Districts should assist the lead agency in identifying appropriate transportation demand reduction measures by listing specific programs (see Appendix D).

Appendix C: Recommended Language for LD-IGR Comment Letters

The template language below is provided for District LD-IGR coordinators to adapt as needed in order to reflect the key terms and general guidance outlined above. Please note that LD-IGR letters should be tailored to reflect the context surrounding the different types of plans and projects under review, what stage they are at in the review and approval process, and relevant background information such their scope and relationship to the multimodal transportation system.

All letters should contain introductory language that references the Department's new vision, mission, and goals, as well as versions of the general language below where appropriate in the standard LD-IGR letter format.

A. Caltrans New Mission

"Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the project referenced above. The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. The Local Development-Intergovernmental Review (LD-IGR) Program reviews land use projects and plans through the lenses of our mission and state planning priorities of infill, conservation, and travel-efficient development. To ensure a safe and efficient transportation system, we encourage early consultation and coordination with local jurisdictions and project proponents on all development projects that utilize the multimodal transportation network. We provide these comments consistent with the State's smart mobility goals that support a vibrant economy, and build communities, not sprawl. The following comments are based on the (insert type of document)*."*

"Caltrans new mission supports safety and sustainability in its call to "provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability". Caltrans Sustainability, Livability, and Economy goal states we will "make long-lasting, smart mobility decisions that improve the environment, support a vibrant economy, and build communities, not sprawl."

"Caltrans supports six smart mobility principles of location efficiency, reliable mobility, health and safety, environmental stewardship, social equity, and robust economy. The California Transportation Plan 2040 further encourages infill development and conservation opportunities as a way to reduce urban sprawl, allow for better transit and to be consistent with SB 375."

"The following comments are based on the (insert type of document)*. We provide these comments consistent with the State's smart mobility goals that support a vibrant economy and sustainable communities."*

B. Plan Development, Project Design and Mitigation Strategies

*"In (*developing this plan/designing this project*) we encourage the (*City/County/Developer*) to integrate transportation and land use in a way that reduces Vehicle Miles Traveled (VMT) and Greenhouse Gas (GHG) emissions by facilitating the provision of more proximate goods and services to shorten trip lengths, and achieve a high level of non-motorized travel and transit use. As such, we encourage the (*City/County/Developer*) evaluate the potential of Transportation Demand Management (TDM) strategies and Intelligent Transportation System (ITS) applications in order to better manage the transportation network, as well as transit service and bicycle or pedestrian connectivity improvements. The Department also seeks to reduce serious injuries and fatalities, as well as provide equitable mobility options for people*

*who are economically, socially, or physically disadvantaged. Therefore, we ask the (*City/County/Developer*) to evaluate the (*plan/project site*) for access problems, VMT and service needs that may need to be addressed.*

*For example, we recommend that the (*City/County/Developer*) analyze the following issues related to the (*plan/project*):"* (identify the scope of what we are asking for)

C. Multimodal Transportation Impact Study

Well planned infill projects which are located close to transit, bike and pedestrian facilities (see Appendix A: Project Type 1) which also have proximity benefits to employment centers, services and goods – will reduce travel demand on the entire transportation system and will therefore require significantly less review and mitigation than rural fringe projects (Project Type 5) which generate proportionately higher number of trips and vehicle miles traveled.

Districts should coordinate with the Caltrans SB 743 Program Implementation Manager when developing letters for Project Type 1 land use projects.

Below is suggested language for consideration and is generally targeted for Project Type 4 and 5 projects from Appendix A and some plans.

> *"The environmental document should include an analysis of the multimodal travel demand expected from the proposed project. This analysis should also identify potentially significant adverse impacts from such demands and avoidance, minimization, and mitigation measures needed to address them.*
>
> *Early collaboration, such as sharing the analysis for review and comment prior to the environmental document, leads to better outcomes for all stakeholders.*
>
> *Given that Caltrans current guidelines are in the process of being updated, a transportation impact study scoping meeting with District staff could be used to discuss the most appropriate methodology for this analysis. At a minimum, the analysis should provide the following:*
>
> 1. *Vicinity maps, regional location map, and a site plan clearly showing project access in relation to nearby roadways and key destinations. Ingress and egress for all project components should be clearly identified. Clearly identify the State right-of-way (ROW). Project driveways, the State Highway System and local roads, intersections and interchanges, pedestrian and bicycle routes, car/bike parking, and transit routes and facilities should be mapped.*
> 2. *Project-related VMT should be calculated factoring in per capita use of transit, rideshare or active transportation modes and VMT reduction factors. The assumptions and methodologies used to develop this information should be detailed in the study, should utilize the latest place based research, and should be supported with appropriate documentation. Mitigation for any roadway section or intersection with increasing VMT should be identified and mitigated in a manner that does not further raise VMT.*
> 3. *Schematic illustrations of walking, biking and auto traffic conditions at the project site and study area roadways, trip distribution percentages and volumes as well as intersection geometrics, i.e., lane configurations, for AM and PM peak periods. Operational concerns for*

all road users that may increase the potential for future collisions should be identified and fully mitigated in a manner that does not further raise VMT.

D. Encroachment Permits

*"Please be advised that any ingress-egress, work (e.g. construction, vegetation management, drainage improvement, etc.), or traffic control that is conducted within or adjacent to or encroaches upon the State Right of Way (ROW) requires an encroachment permit that is issued by Caltrans. Where construction related traffic restrictions and detour affect State highways, a Transportation Management Plan or construction traffic impact study may be required. Traffic-related mitigation measures should be incorporated into the construction plans prior to the encroachment permit process. To apply, a completed encroachment permit application, environmental documentation, and six (6) sets of plans clearly indicating State ROW as well as any applicable specifications, calculations, maps, etc. must be submitted to the following address: (*insert District Permits contact and address*). It is important to note that, in order to uphold the Department's statutory responsibility to protect the safety of the traveling public, if this information is not adequately provided, then a permit will not be issued for said encroachments. See the following website for more information:*
http://www.dot.ca.gov/hq/traffops/developserv/permits"

A note about encroachment permits: compliance with CEQA must be completely addressed before an encroachment permit application is submitted to the District Encroachment Permits Office. Before an encroachment permit application package can be deemed as complete, all applicable Federal and State statutory requirements including but not limited to Storm Water, Americans with Disabilities Act (ADA), and CEQA must be complied with. Therefore it is critical that all issues have been ironed out prior to the applicant submitting an application package to the District Encroachment Permits Office. This is also critical to provide documentation for District Encroachment Permit Engineers' consideration when issuing subsequent encroachments or when processing developer-built mitigation measures within State right-of-way. Comment letters should remind the reader that such analysis is required during the permit review process and a development's needed improvements, even opening day access, may be delayed if adequate detail is not provided during the environmental process upfront. This should be explained in such a way to convey that Caltrans is also trying to help save time and money for all those concerned.

E. Smart Growth Principles

"Support for infill and smart growth development is found in our new Mission, Vision, and Goals, the California Transportation Plan 2040, Smart Mobility Framework, Strategic Management Plan, and related guidance documents.

*Based on its place-type, VMT, design characteristics, potential impacts, and proposed mitigations, the Department feels that this (*plan/project*) (*is/is not*) representative of the smart growth principles and* (assists/does not assist) *in meeting the state's goals."*

Note: If the plan/project is *not* representative of smart growth principles, assist the lead agency by recommending specific changes that could help it move in a different direction. This should be done at the earliest point in the planning process possible.

F. Transportation Impact Fees

*"We request that an analysis of the (*plans/project's*) impacts and mitigation include information regarding the (*city/county's*) local and/or regional impact fee program. The analysis should identify if those programs include improvements to pedestrian, bicycle and transit infrastructure or that could be considered representative of the project's likely TDM mitigation measures. If no such fee exists, we would appreciate exploring with you the establishment of* (local or regional) *VMT-based transportation impact fee programs."*

Two jurisdictions are currently using VMT-based thresholds: City of Pasadena, and City of San Francisco. City of Pasadena is updating a nexus study for its fee program that includes bicycle, pedestrian, and VMT metrics. City of San Francisco legislated a fee program based upon square footage of new development.

G. Responsiveness of the Lead Agency to Caltrans Comments

Generally, the second introductory paragraph of comment letters should reiterate the project description, reference previous comment letters, summarize the results of interagency coordination and outcome of previous comments, clarify where the project is currently at in the process, and identify key decision points.

Specifically, it is important to compare issues raised in the NOP stage with those addressed in the Draft TIS and EIR, as well as those between the Draft and Final EIRs, so that decision makers and the public know what concerns were addressed/resolved or remain a concern. If all of Caltrans concerns have been resolved, that would be valuable information for the public and decision makers to know. A brief summary paragraph should be adequate to summarize relevant points related to key concerns and convey a conclusion to the reader.

In the event that substantive concerns were brought up in the NOP stage and commented on in the Draft TIS-EIR stage, but not sufficiently resolved by the Final EIR stage, then IGR coordinators should consider making a statement related to adequacy of the FEIR based on either CEQA's public disclosure or reasonable argument provisions and recommend to the lead agency how it could be corrected prior to certification. Any comments on adequacy of an FEIR should consider the policies outlined earlier in this document.

No template language is provided because this information is specific to the nature and history of each plan/project and District staff would be best suited to summarize the relevant issues for the public record.

Appendix D: Additional Technical Considerations

Note that any considerations below must fall into the policy framework of the main guidance.

A. Transportation Demand Management

Transportation Demand Management is a set of tools that increases the efficiency of the transportation system by providing options for users other than driving alone, or by shifting travel away from peak periods. ~~In direct support of SB 743,~~ Reviewers should always evaluate opportunities for TDM measures that could be deployed to reduce VMT and increase walking, biking, and transit use. Evidence of VMT reduction benefits resulting from the project's design, siting, and TDM mitigation measures should provide a clear nexus in the VMT analysis. This analysis should be place-based and utilize the latest trip-generation research available to describe influencing factors such as mode-shift due to transit availability and internal capture attributable to mixed use developments (see the Caltrans research on new trip generation rates for infill development). District and Headquarters staff can help recommend emerging methodologies that could be used to better estimate mixed use infill trip generation rates or quantify VMT reduction from TDM mitigation measures. Similarly, rather than making a vague reference that a lead agency should use VMT-based impact fees to mitigate the effects of its cumulative development, provide sample language for an actual Condition of Approval or Mitigation Measure to that effect and offer to participate in its creation. If there were questions about the project or assumptions about the analysis that were resolved or agreed to, comment letters should reflect those outcomes for the record and state that Caltrans' concerns were adequately addressed.

Reviewers should request that Lead Agencies include in their transportation impact studies (TIS) a project vicinity map and site-design layout plan that identifies all of the priority pedestrian and bicycle routes and transit routes/stops serving the site (based on relevant bike-pedestrian and transit service-development plans). It would be helpful for the lead agency if reviewers included a brief summary of what the District thinks the potential impacts of concern are likely to be based on the project and its location. This will help them focus the emphasis of their TIS. One repository for TDM strategies is found in the CAPCOA Quantifying Greenhouse Gas Mitigation Measures document (which focuses also on VMT). Also consider the following as a non-exhaustive list of potential TDM strategies:

1. Parking Management:
   a) In urban settings, recommend eliminating parking where transit is adjacent, significantly reduce parking where transit is within ¼ mile. See AB 744 (2015), which identifies maximum parking ratios for affordable housing projects located within one-half mile of a major transit stop, and affordable housing projects outside of those locations.
   b) In rural resort and special event settings, ensure an adequate balance between on-site parking and availability of off-site parking coupled with shuttle service for peak demand dates/times.
   c) Raise the cost of parking in general parking zones.
   d) Give preferential parking for carpools, vanpools, carshare, and rideshare programs.
   e) Create park and ride lots adjacent to transit commuter facilities or near HOV entrances.
   f) Establish maximum parking units per dwelling unit equivalent (d.u.e.) and thousand square foot (k.s.f.) ratios.
   g) Provide preferred and/or restricted parking stalls for Transportation Network Companies at select locations.

2. Additional non-auto centric measures

a) Add or extend transit routes or increase transit frequency.
b) Issue transit passes or subsidies to employees.
c) Issue housing-based transit passes.
d) Promote telecommuting and flexible work schedules.
e) Provide shelter and lighting for pedestrians as well as quality street furniture.
f) Compliment bicycle routes with secure bicycle parking facilities and showers at strategic locations.
g) Establish bike share programs or systems.
h) Establish safe routes to school programs (for example: a walking school bus program)
i) Complete sidewalk systems and mixed-use pathways for non-motorized travel.
j) Implement bus rapid transit (BRT) systems along key corridors.
k) Encourage light rail stations and complimentary adjacent TOD.
l) Develop toll-funded TOD redevelopment incentive programs for high density residential corridors.
m) Integrate solar-power shade structures and electric vehicle charging stations with rideshare parking lots and transit-rail station planning.

It may also be useful for Districts to provide lead agencies with links to local/regional TDM program resources that serve those jurisdictions.

B. Safety Considerations

Generally, Districts should have minimal comments (or no comments) on Project Type 1-2 (Appendix A) because well-planned, well-located infill projects are presumed to have multiple community benefits that include increased access and safety for all users. Urban infill projects also tend to increase pedestrian and bicycling travel, which promotes livable and healthy communities. In cases where the Districts have specific substantial evidence that safety concerns exist, the Districts should work with the Lead Agency to identify the appropriate analysis needed, ways it can be provided, and how the safety concerns can be addressed. Appropriate multimodal mitigation can be suggested that advances safety for bicyclists, pedestrians, transit users, and motorists. Districts should coordinate with the Caltrans SB 743 Program Implementation Manager when developing letters for Project Type 1 land use projects.

Districts should analyze how increased VMT from either planned development (particularly project types 3-5) or proposed infrastructure investments may cause traffic operational dynamics that exacerbate modal conflict in the transportation system. For example, increased traffic volumes from high-VMT development and/or high speeds can exacerbate safety concerns related to inadequate acceleration-deceleration lengths, sight-distance, and reaction-time that may affect adjacent pedestrian facilities. Similarly, increasing traffic volumes at uncontrolled turn-movement points or in locations without adequate modal separation/refuge can increase the vulnerability for all modes, especially pedestrians and bicyclists.

Highway intersections and interchanges are often a challenge for motorists, bicyclists, and pedestrians. This is due to higher volumes, variable speeds, complex or unique designs, numerous conflict points, a mix of vehicle types, and changes in land uses. Care must be employed to assure all system users perceive the design, operating conditions, and speed limits allow them to act and react in a safe manner.

This transition zone between free flow and metered flow is considered a "critical transition area". Traffic design speeds near intersections and interchanges should be appropriate to the context. Where pedestrians and bicyclists are present, design speeds should be slower to help ensure the safety of all road users. For more guidance on intersections and interchanges, please see Caltrans Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians, 2010. Page 15 of the document states:

> *Any reduction in vehicle speed benefits pedestrian and bicyclist safety, since there is a direct link between impact speeds and the likelihood of fatality. Methods to reduce pedestrian and bicyclist exposure to vehicles improve safety by lessening the time that the user is in the likely path of a motor vehicle. These methods include the construction of physically separated facilities such as sidewalks, raised medians, refuge islands, and off-road paths and trails, or reductions in crossing distances through roadway narrowing.*
>
> *Pedestrian and bicyclist warning signage, flashing beacons, crosswalks, and other signage and striping should be used to indicate to motorists that they should expect to see and yield to pedestrians and bicyclists. Formal information from traffic control devices should be reinforced by informal sources of information such as lane widths, landscaping, street furniture, and other road design features.*

Other documents that should be referenced include the Caltrans Class IV Bikeway (Separated Bikeways/Cycletracks) Guidance, 2015 and the Highway Design Manual.

All discussions or comments should keep in mind Caltrans Strategic Management Plan goals, including to increase walking, biking, and transit use, and reduce per capita vehicle miles traveled. Suggested Operational Impact improvements must consider the most vulnerable roadway users (i.e., children and elderly pedestrians, children bicyclists, etc.).

Caltrans staff should be ready to provide a list of potential multimodal mitigation measures for specific concerns that might be raised. Listed below are a few resources to reference when making Operational Impact determinations for development projects and plans:

The American Association of State Highway and Transportation Officials (AASHTO) Highway Safety Manual (2010) can be found here.

The Caltrans Highway Design Manual (HDM) can be found at:
http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm

Topics contained within the California Manual on Uniform Traffic Control Devices (California MUTCD), such as pedestrian hybrid beacons, can be found at:
http://www.dot.ca.gov/hq/traffops/engineering/mutcd/ca_mutcd2014.htm

The Caltrans-endorsed National Association of City Transportation Officials (NACTO) guides on Urban Street Design and Urban Bikeways provide best practices and standards for pedestrian, bicycle, and transit features. The guides can be found in the Caltrans Library. More information about the guides can be found here: http://nacto.org/

More Caltrans resources related to Complete Streets and Smart Mobility can be found at: http://www.dot.ca.gov/hq/tpp/offices/ocp/smbr.html

C. Access Management

Access management is a particular concern at the interface between vehicular and bicycle-pedestrian use of roadways, shoulders, bike lanes, and sidewalks and the ingress-egress points for land use destinations. Avoiding operational impacts that may increase the likelihood of collisions is an integral and important part of multimodal access management. Significant speed differentials and travel volumes can result in a need for access management mitigation measures. These include efforts to limit modal conflicts and increase accessibility for vulnerable road users, reduce speed differentials between vehicles, modulate flow volumes for specific directions, control specific turning movements, and provide adequate stopping sight distance and decision site distance. These issues are amplified where large buses or trucks are involved. Where design features are recommended to mitigate pedestrian and/or bicycle safety concerns, various issues should be considered such as topography, ADA accessibility, maintenance, and seasonal factors (e.g. snow removal and/or storage, etc.). Access management efforts must also take into consideration of other state goals such as designing for motor vehicle speeds appropriate to the place setting, protection of vulnerable road users, reduction in motor vehicle travel, and adding features that increase driver attention.

Reviewers may also highlight the benefits of roundabouts because they facilitate road diets, produce narrower pedestrian crossing widths compared to signalized and stop-controlled intersections, and produce lower speeds and speed differential at and near pedestrian and bike conflict areas. Roundabouts may not be appropriate at some intersection contexts and locations. See the Intersection Control Evaluation guidance for more information.

GUIDE FOR THE PREPARATION

OF

TRAFFIC IMPACT STUDIES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

December 2002

PREFACE

The California Department of Transportation (Caltrans) has developed this "Guide for the Preparation of Traffic Impact Studies" in response to a survey of cities and counties in California. The purpose of that survey was to improve the Caltrans local development review process (also known as the Intergovernmental Review/California Environmental Quality Act or IGR/CEQA process). The survey indicated that approximately 30 percent of the respondents were not aware of what Caltrans required in a traffic impact study (TIS).

In the early 1990s, the Caltrans District 6 office located in Fresno identified a need to provide better quality and consistency in the analysis of traffic impacts generated by local development and land use change proposals that effect State highway facilities. At that time, District 6 brought together both public and private sector expertise to develop a traffic impact study guide. The District 6 guide has proven to be successful at promoting consistency and uniformity in the identification and analysis of traffic impacts generated by local development and land use changes.

The guide developed in Fresno was adapted for statewide use by a team of Headquarters and district staff. The guide will provide consistent guidance for Caltrans staff who review local development and land use change proposals as well as inform local agencies of the information needed for Caltrans to analyze the traffic impacts to State highway facilities. The guide will also benefit local agencies and the development community by providing more expeditious review of local development proposals.

Even though sound planning and engineering practices were used to adapt the Fresno TIS guide, it is anticipated that changes will occur over time as new technologies and more efficient practices become available. To facilitate these changes, Caltrans encourages all those who use this guide to contact their nearest district office (i.e., IGR/CEQA Coordinator) to coordinate any changes with the development team.

ACKNOWLEDGEMENTS

The District 6 traffic impact study guide provided the impetus and a starting point for developing the statewide guide. Special thanks is given to Marc Birnbaum for recognizing the need for a TIS guide and for his valued experience and vast knowledge of land use planning to significantly enhance the effort to adapt the District 6 guide for statewide use. Randy Treece from District 6 provided many hours of coordination, research and development of the original guide and should be commended for his diligent efforts. Sharri Bender Ehlert of District 6 provided much of the technical expertise in the adaptation of the District 6 guide and her efforts are greatly appreciated.

A special thanks is also given to all those Cities, Counties, Regional Agencies, Congestion Management Agencies, Consultants, and Caltrans Employees who reviewed the guide and provided input during the development of this Guide for the Preparation of Traffic Impact Studies.

TABLE OF CONTENTS

I. INTRODUCTION

Caltrans desires to provide a safe and efficient State transportation system for the citizens of California pursuant to various Sections of the California Streets and Highway Code. This is done in partnership with local and regional agencies through procedures established by the California Environmental Quality Act (CEQA) and other land use planning processes. The intent of this guide is to provide a starting point and a consistent basis in which Caltrans evaluates traffic impacts to State highway facilities. The applicability of this guide for local streets and roads (non-State highways) is at the discretion of the effected jurisdiction.

Caltrans reviews federal, State, and local agency development projects[1], and land use change proposals for their potential impact to State highway facilities. The primary objectives of this guide is to provide:

- guidance in determining if and when a traffic impact study (TIS) is needed,
- consistency and uniformity in the identification of traffic impacts generated by local land use proposals,
- consistency and equity in the identification of measures to mitigate the traffic impacts generated by land use proposals,
- lead agency[2] officials with the information necessary to make informed decisions regarding the existing and proposed transportation infrastructure (see Appendix A, Minimum Contents of a TIS)
- TIS requirements early in the planning phase of a project (i.e., initial study, notice of preparation, or earlier) to eliminate potential delays later,
- a quality TIS by agreeing to the assumptions, data requirements, study scenarios, and analysis methodologies prior to beginning the TIS, and
- early coordination during the planning phases of a project to reduce the time and cost of preparing a TIS.

II. WHEN A TRAFFIC IMPACT STUDY IS NEEDED

The level of service[3] (LOS) for operating State highway facilities is based upon measures of effectiveness (MOEs). These MOEs (see Appendix "C-2") describe the measures best suited for analyzing State highway facilities (i.e., freeway segments, signalized intersections, on- or off-ramps, etc.). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" (see Appendix "C-3") on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained.

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[1] "Project" refers to activities directly undertaken by government, financed by government, or requiring a permit or other approval from government as defined in Section 21065 of the Public Resources Code and Section 15378 of the California Code of Regulations.

[2] "Lead Agency" refers to the public agency that has the principal responsibility for carrying out or approving a project. Defined in Section 21165 of the Public Resources Code, the "California Environmental Quality Act, and Section 15367 of the California Code of Regulations.

[3] "Level of service" as defined in the latest edition of the Highway Capacity Manual, Transportation Research Board, National Research Council.

A. Trip Generation Thresholds

The following criterion is a starting point in determining when a TIS is needed. When a project:

1. Generates over 100 peak hour trips assigned to a State highway facility
2. Generates 50 to 100 peak hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS "C" or "D").
3. Generates 1 to 49 peak hour trips assigned to a State highway facility – the following are examples that may require a full TIS or some lesser analysis[4]:
    a. Affected State highway facilities experiencing significant delay; unstable or forced traffic flow conditions (LOS "E" or "F").
    b. The potential risk for a traffic incident is significantly increased (i.e., congestion related collisions, non-standard sight distance considerations, increase in traffic conflict points, etc.).
    c. Change in local circulation networks that impact a State highway facility (i.e., direct access to State highway facility, a non-standard highway geometric design, etc.).

Note: A traffic study may be as simple as providing a traffic count to as complex as a microscopic simulation. The appropriate level of study is determined by the particulars of a project, the prevailing highway conditions, and the forecasted traffic.

B. Exceptions

Exceptions require consultation between the lead agency, Caltrans, and those preparing the TIS. When a project's traffic impact to a State highway facility can clearly be anticipated without a study and all the parties involved (lead agency, developer, and the Caltrans district office) are able to negotiate appropriate mitigation, a TIS may not be necessary.

C. Updating An Existing Traffic Impact Study

A TIS requires updating when the amount or character of traffic is significantly different from an earlier study. Generally a TIS requires updating every two years. A TIS may require updating sooner in rapidly developing areas and not as often in slower developing areas. In these cases, consultation with Caltrans is strongly recommended.

III. SCOPE OF TRAFFIC IMPACT STUDY

Consultation between the lead agency, Caltrans, and those preparing the TIS is recommended before commencing work on the study to establish the appropriate scope. At a minimum, the TIS should include the following:

A. Boundaries of the Traffic Impact Study

All State highway facilities impacted in accordance with the criteria in Section II should be studied. Traffic impacts to local streets and roads can impact intersections with State highway facilities. In these cases, the TIS should include an analysis of adjacent local facilities, upstream and downstream, of the intersection (i.e., driveways, intersections, and interchanges) with the State highway.

[4] A "lesser analysis" may include obtaining traffic counts, preparing signal warrants, or a focused TIS, etc.

B. Traffic Analysis Scenarios

Caltrans is interested in the effects of general plan updates and amendments as well as the effects of specific project entitlements (i.e., site plans, conditional use permits, sub-divisions, rezoning, etc.) that have the potential to impact a State highway facility. The complexity or magnitude of the impacts of a project will normally dictate the scenarios necessary to analyze the project. Consultation between the lead agency, Caltrans, and those preparing the TIS is recommended to determine the appropriate scenarios for the analysis. The following scenarios should be addressed in the TIS when appropriate:

1. When only a general plan amendment or update is being sought, the following scenarios are required:
   a) Existing Conditions - Current year traffic volumes and peak hour LOS analysis of effected State highway facilities.
   b) Proposed Project Only with Select Zone[5] Analysis - Trip generation and assignment for build-out of general plan.
   c) General Plan Build-out Only - Trip assignment and peak hour LOS analysis. Include current land uses and other pending general plan amendments.
   d) General Plan Build-out Plus Proposed Project - Trip assignment and peak hour LOS analysis. Include proposed project and other pending general plan amendments.

2. When a general plan amendment is not proposed and a proposed project is seeking specific entitlements (i.e., site plans, conditional use permits, sub-division, rezoning, etc.), the following scenarios must be analyzed in the TIS:
   a) Existing Conditions - Current year traffic volumes and peak hour LOS analysis of effected State highway facilities.
   b) Proposed Project Only - Trip generation, distribution, and assignment in the year the project is anticipated to complete construction.
   c) Cumulative Conditions (Existing Conditions Plus Other Approved and Pending Projects Without Proposed Project) - Trip assignment and peak hour LOS analysis in the year the project is anticipated to complete construction.
   d) Cumulative Conditions Plus Proposed Project (Existing Conditions Plus Other Approved and Pending Projects Plus Proposed Project) - Trip assignment and peak hour LOS analysis in the year the project is anticipated to complete construction.
   e) Cumulative Conditions Plus Proposed Phases (Interim Years) - Trip assignment and peak hour LOS analysis in the years the project phases are anticipated to complete construction.
3. In cases where the circulation element of the general plan is not consistent with the land use element or the general plan is outdated and not representative of current or future forecasted conditions, all scenarios from Sections III. B. 1. and 2. should be utilized with the exception of duplicating of item 2.a.

[5] "Select zone" analysis represents a project only traffic model run, where the project's trips are distributed and assigned along a loaded highway network. This procedure isolates the specific impact on the State highway network.

IV. TRAFFIC DATA

Prior to any fieldwork, consultation between the lead agency, Caltrans, and those preparing the TIS is recommended to reach consensus on the data and assumptions necessary for the study. The following elements are a starting point in that consideration.

A. Trip Generation

The latest edition of the Institute of Transportation Engineers' (ITE) TRIP GENERATION report should be used for trip generation forecasts. Local trip generation rates are also acceptable if appropriate validation is provided to support them.

1. Trip Generation Rates – When the land use has a limited number of studies to support the trip generation rates or when the Coefficient of Determination (R^2) is below 0.75, consultation between the lead agency, Caltrans and those preparing the TIS is recommended.
2. Pass-by Trips[6] – Pass-by trips are only considered for retail oriented development. Reductions greater than 15% requires consultation and acceptance by Caltrans. The justification for exceeding a 15% reduction should be discussed in the TIS.
3. Captured Trips[7] – Captured trip reductions greater than 5% requires consultation and acceptance by Caltrans. The justification for exceeding a 5% reduction should be discussed in the TIS.
4. Transportation Demand Management (TDM) – Consultation between the lead agency and Caltrans is essential before applying trip reduction for TDM strategies.

NOTE: Reasonable reductions to trip generation rates are considered when adjacent State highway volumes are sufficient (at least 5000 ADT) to support reductions for the land use.

B. Traffic Counts

Prior to field traffic counts, consultation between the lead agency, Caltrans and those preparing the TIS is recommended to determine the level of detail (e.g., location, signal timing, travel speeds, turning movements, etc.) required at each traffic count site. All State highway facilities within the boundaries of the TIS should be considered. Common rules for counting vehicular traffic include but are not limited to:

1. Vehicle counts should be conducted on Tuesdays, Wednesdays, or Thursdays during weeks not containing a holiday and conducted in favorable weather conditions.
2. Vehicle counts should be conducted during the appropriate peak hours (see peak hour discussion below).
3. Seasonal and weekend variations in traffic should also be considered where appropriate (i.e., recreational routes, tourist attractions, harvest season, etc.).

C. Peak Hours

To eliminate unnecessary analysis, consultation between the lead agency, Caltrans and those preparing the TIS is recommended during the early planning stages of a project. In general, the TIS should include a morning (a.m.) and an evening (p.m.) peak hour analyses. Other peak hours (e.g., 11:30 a.m. to 1:30 p.m., weekend, holidays, etc.) may also be required to determine the significance of the traffic impacts generated by a project.

[6] "Pass-by" trips are made as intermediate stops between an origin and a primary trip destination (i.e., home to work, home to shopping, etc.).
[7] "Captured Trips" are trips that do not enter or leave the driveways of a project's boundary within a mixed-use development.

D. Travel Forecasting (Transportation Modeling)

The local or regional traffic model should reflect the most current land use and planned improvements (i.e., where programming or funding is secured). When a general plan build-out model is not available, the closest forecast model year to build-out should be used. If a traffic model is not available, historical growth rates and current trends can be used to project future traffic volumes. The TIS should clearly describe any changes made in the model to accommodate the analysis of a proposed project.

V. TRAFFIC IMPACT ANALYSIS METHODOLOGIES

Typically, the traffic analysis methodologies for the facility types indicated below are used by Caltrans and will be accepted without prior consultation. When a State highway has saturated flows, the use of a micro-simulation model is encouraged for the analysis (please note however, the micro-simulation model must be calibrated and validated for reliable results). Other analysis methods may be accepted, however, consultation between the lead agency, Caltrans and those preparing the TIS is recommended to agree on the data necessary for the analysis.

A. Freeway Segments – Highway Capacity Manual (HCM)*, operational analysis
B. Weaving Areas – Caltrans Highway Design Manual (HDM)
C. Ramps and Ramp Junctions – HCM*, operational analysis or Caltrans HDM, Caltrans Ramp Metering Guidelines (most recent edition)
D. Multi-Lane Highways – HCM*, operational analysis
E. Two-lane Highways – HCM*, operational analysis
F. Signalized Intersections[8] – HCM*, Highway Capacity Software**, operational analysis, TRAFFIX™**, Synchro**, see footnote 8
G. Unsignalized Intersections – HCM*, operational analysis, Caltrans Traffic Manual for signal warrants if a signal is being considered
H. Transit – HCM*, operational analysis
I. Pedestrians – HCM*
J. Bicycles – HCM*
K. Caltrans Criteria/Warrants – Caltrans Traffic Manual (stop signs, traffic signals, freeway lighting, conventional highway lighting, school crossings)
L. Channelization – Caltrans guidelines for Reconstruction of Intersections, August 1985, Ichiro Fukutome

*The most current edition of the Highway Capacity Manual, Transportation Research Board, National Research Council, should be used.

****NOTE**: Caltrans does not officially advocate the use of any special software. However, consistency with the HCM is advocated in most but not all cases. The Caltrans local development review units utilize the software mentioned above. If different software or analytical techniques are used for the TIS then consultation between the lead agency, Caltrans and those preparing the TIS is recommended. Results that are significantly different than those produced with the analytical techniques above should be challenged.

[8] The procedures in the Highway Capacity Manual "do not explicitly address operations of closely spaced signalized intersections. Under such conditions, several unique characteristics must be considered, including spill-back potential from the downstream intersection to the upstream intersection, effects of downstream queues on upstream saturation flow rate, and unusual platoon dispersion or compression between intersections. An example of such closely spaced operations is signalized ramp terminals at urban interchanges. Queue interactions between closely spaced intersections may seriously distort the procedures in" the HCM.

VI. MITIGATION MEASURES

The TIS should provide the nexus [Nollan v. California Coastal Commission, 1987, 483 U.S. 825 (108 S.Ct. 314)] between a project and the traffic impacts to State highway facilities. The TIS should also establish the rough proportionality [Dolan v. City of Tigard, 1994, 512 U.S. 374 (114 S. Ct. 2309)] between the mitigation measures and the traffic impacts. One method for establishing the rough proportionality or a project proponent's equitable responsibility for a project's impacts is provided in Appendix "B." Consultation between the lead agency, Caltrans and those preparing the TIS is recommended to reach consensus on the mitigation measures and who will be responsible.

Mitigation measures must be included in the traffic impact analysis. This determines if a project's impacts can be eliminated or reduced to a level of insignificance. Eliminating or reducing impacts to a level of insignificance is the standard pursuant to CEQA and the National Environmental Policy Act (NEPA). The lead agency is responsible for administering the CEQA review process and has the principal authority for approving a local development proposal or land use change. Caltrans, as a responsible agency, is responsible for reviewing the TIS for errors and omissions that pertain to State highway facilities. However, the authority vested in the lead agency under CEQA does not take precedence over other authorities in law.

If the mitigation measures require work in the State highway right-of-way an encroachment permit from Caltrans will be required. This work will also be subject to Caltrans standards and specifications. Consultation between the lead agency, Caltrans and those preparing the TIS early in the planning process is strongly recommended to expedite the review of local development proposals and to reduce conflicts and misunderstandings in both the local agency CEQA review process as well as the Caltrans encroachment permit process.

APPENDIX “A”

MINIMUM CONTENTS

OF A

TRAFFIC IMPACT STUDY

MINIMUM CONTENTS OF TRAFFIC IMPACT STUDY REPORT

I. EXECUTIVE SUMMARY

II. TABLE OF CONTENTS

A. List of Figures (Maps)
B. List of Tables

III. INTRODUCTION

A. Description of the proposed project
B. Location of project
C. Site plan including all access to State highways (site plan, map)
D. Circulation network including all access to State highways (vicinity map)
E. Land use and zoning
F. Phasing plan including proposed dates of project (phase) completion
G. Project sponsor and contact person(s)
H. References to other traffic impact studies

IV. TRAFFIC ANALYSIS

A. Clearly stated assumptions
B. Existing and projected traffic volumes (including turning movements), facility geometry (including storage lengths), and traffic controls (including signal phasing and multi-signal progression where appropriate) (figure)
C. Project trip generation including references (table)
D. Project generated trip distribution and assignment (figure)
E. LOS and warrant analyses - existing conditions, cumulative conditions, and full build of general plan conditions with and without project

V. CONCLUSIONS AND RECOMMENDATIONS

A. LOS and appropriate MOE quantities of impacted facilities with and without mitigation measures
B. Mitigation phasing plan including dates of proposed mitigation measures
C. Define responsibilities for implementing mitigation measures
D. Cost estimates for mitigation measures and financing plan

VI. APPENDICES

A. Description of traffic data and how data was collected
B. Description of methodologies and assumptions used in analyses
C. Worksheets used in analyses (i.e., signal warrant, LOS, traffic count information, etc.)

APPENDIX “B”

METHODOLOGY FOR

CALCULATING EQUITABLE

MITIGATION MEASURES

METHOD FOR CALCULATING EQUITABLE MITIGATION MEASURES

The methodology below is neither intended as, nor does it establish, a legal standard for determining equitable responsibility and cost of a project's traffic impact, the intent is to provide:

1. A starting point for early discussions to address traffic mitigation equitably.
2. A means for calculating the equitable share for mitigating traffic impacts.
3. A means for establishing rough proportionality [Dolan v. City of Tigard, 1994, 512 U.S. 374 (114 S. Ct. 2309)].

The formulas should be used when:

- A project has impacts that do not immediately warrant mitigation, but their cumulative effects are significant and will require mitigating in the future.
- A project has an immediate impact and the lead agency has assumed responsibility for addressing operational improvements

NOTE: This formula is not intended for circumstances where a project proponent will be receiving a substantial benefit from the identified mitigation measures. In these cases, (e.g., mid-block access and signalization to a shopping center) the project should take full responsibility to toward providing the necessary infrastructure.

EQUITABLE SHARE RESPONSIBILITY: **Equation C-1**

NOTE: $T_E < T_B$, see explanation for T_B below.

$$P = \frac{T}{T_B - T_E}$$

Where:

P = The equitable share for the proposed project's traffic impact.

T = The vehicle trips generated by the project during the peak hour of adjacent State highway facility in vehicles per hour, vph.

T_B = The forecasted traffic volume on an impacted State highway facility at the time of general plan build-out (e.g., 20 year model or the furthest future model date feasible), vph.

T_E = The traffic volume existing on the impacted State highway facility plus other approved projects that will generate traffic that has yet to be constructed/opened, vph.

EQUITABLE COST: **Equation C-2**

$$C = P\ (C_T)$$

Where:

C = The equitable cost of traffic mitigation for the proposed project, ($). (Rounded to nearest one thousand dollars)

P = The equitable share for the project being considered.

C_T = The total cost estimate for improvements necessary to mitigate the forecasted traffic demand on the impacted State highway facility in question at general plan build-out, ($).

NOTES

1. Once the equitable share responsibility and equitable cost has been established on a per trip basis, these values can be utilized for all projects on that State highway facility until the forecasted general plan build-out model is revised.
2. Truck traffic should be converted to passenger car equivalents before utilizing these equations (see the Highway Capacity Manual for converting to passenger car equivalents).

3. If the per trip cost is not used for all subsequent projects, then the equation below will be necessary to determine the costs for individual project impact and will require some additional accounting.

Equation C-2.A

$$C = P\,(C_T - C_C)$$

Where:

C = Same as equation C-2.

P = Same as equation C-2.

C_T = Same as equation C-2.

C_C = The combined dollar contributions paid and committed prior to current project's contribution. This is necessary to provide the appropriate cost proportionality. Example: For the first project to impact the State highway facility in question since the total cost (C_T) estimate for improvements necessary to mitigate the forecasted traffic demand, C_C would be equal to zero. For the second project however, C would equal $P_2(C_T - C_1)$ and for the third project to come along C would equal $P_3[C_T - (C_1 + C_2)]$ and so on until build-out or the general plan build-out was recalculated.

APPENDIX “C”

MEASURES OF EFFECTIVENESS

BY

FACILITY TYPE

MEASURES OF EFFECTIVENESS BY FACILITY TYPE

TYPE OF FACILITY	MEASURE OF EFFECTIVENESS (MOE)
Basic Freeway Segments	Density (pc/mi/ln)
Ramps	Density (pc/mi/ln)
Ramp Terminals	Delay (sec/veh)
Multi-Lane Highways	Density (pc/mi/ln)
Two-Lane Highways	Percent-Time-Following Average Travel Speed (mi/hr)
Signalized Intersections	Control Delay per Vehicle (sec/veh)
Unsignalized Intersections	Average Control Delay per Vehicle (sec/veh)
Urban Streets	Average Travel Speed (mi/hr)

Measures of effectiveness for level of service definitions located in the most recent version of the Highway Capacity Manual, Transportation Research Board, National Research Council.

Transition between LOS "C" and LOS "D" Criteria

(Reference Highway Capacity Manual)

BASIC FREEWAY SEGMENTS @ 65 mi/hr

LOS	Maximum Density (pc/mi/ln)	Minimum Speed (mph)	Maximum v/c	Maximum Service Flow Rate (pc/hr/ln)
A	11	65.0	0.30	710
B	18	65.0	0.50	1170
C	26	64.6	0.71	1680
D	35	59.7	0.89	2090
E	45	52.2	1.00	2350

SIGNALIZED INTERSECTIONS and RAMP TERMINALS

LOS	Control Delay per Vehicle (sec/veh)
A	**≤ 10**
B	**> 10 - 20**
C	**> 20 - 35**
D	**> 35 - 55**
E	**> 55 - 80**
F	**> 80**

MULTI-LANE HIGHWAYS @ 55 mi/hr

LOS	Maximum Density (pc/mi/ln)	Minimum Speed (mph)	Maximum v/c	Maximum Service Flow Rate (pc/hr/ln)
A	11	55.0	0.29	600
B	18	55.0	0.47	990
C	26	54.9	0.68	1430
D	35	52.9	0.88	1850
E	41	51.2	1.00	2100

Dotted line represents the transition between LOS "C" and LOS "D"

TWO-LANE HIGHWAYS

LOS	Percent Time-Spent-Following	Average Travel Speed (mi/hr)
A	35	> 55
B	> 35 - 50	> 50 - 55
C	> 50 - 65	> 45 - 50
D	> 65 - 80	> 40 - 45
E	> 80	40

URBAN STREETS

Urban Street Class	I	II	III	IV
Range of FFS	55 to 45 mi/hr	45 to 35 mi/hr	35 to 30 mi/hr	35 to 25 mi/hr
Typical FFS	50 mi/hr	40 mi/hr	35 mi/hr	30 mi/hr
LOS	Average Travel Speed (mi/hr)			
A	> 42	> 35	> 30	> 25
B	> 34 - 42	> 28 - 35	> 24 - 30	> 19 - 25
C	> 27 - 34	> 22 - 28	> 18 - 24	> 13 - 19
D	> 21 - 27	> 17 - 22	> 14 - 18	> 9 - 13
E	> 16 - 21	> 13 - 17	> 10 - 14	> 7 - 9
F	16	13	10	7

Dotted line represents the transition between LOS "C" and LOS "D"

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Caltrans®

Strategic Management Plan

2015-2020

Caltrans
Strategic Management Plan

2015 - 2020

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Table of Contents

Our Mission

Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

Safety and Health

Provide a safe transportation system for workers and users, and promote health through active transportation and reduced pollution in communities.

Stewardship and Efficiency

Money counts. Responsibly manage California's transportation-related assets.

Sustainability, Livability and Economy

Make long-lasting, smart mobility decisions that improve the environment, support a vibrant economy, and build communities, not sprawl.

System Performance

Utilize leadership, collaboration and strategic partnerships to develop an integrated transportation system that provides reliable and accessible mobility for travelers.

Organizational Excellence

Be a national leader in delivering quality service through excellent employee performance, public communication, and accountability.

Our Vision

A performance-driven, transparent and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation and teamwork .

Integrity ▪ Commitment ▪ Teamwork ▪ Innovation

Message from the Director

I am very pleased to present the 2015 – 2020 Caltrans Strategic Management Plan. This Plan is the culmination of extensive effort by both the Caltrans Executive Board, which provided reviews, discussion, and analysis of the Plan, and by Caltrans' employees, stakeholders, and partners who provided essential input for the Plan.

The need to redefine our Mission statement and to develop a Vision statement was identified during the 2012 Program Review process. In February 2014, the Caltrans and California State Transportation Agency executive management teams met at length to discuss the development of new Mission and Vision statements. Our previous Mission statement: "Caltrans Improves Mobility Across California" resonated with many in the Department. It was short and catchy, but it didn't tell how we engage our stakeholders on issues important to all of us: safety, sustainability, integration, efficiency, and California's economy and livability. Our new Mission statement reads:

> *"Provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability."*

Our Mission defines what we do and who we are. Our Vision defines our ideals—what we aspire to be. We are entrusted with efficiently managing, preserving, and protecting California's transportation system, one of the State's most vital assets. We manage a world-class transportation system that connects the people and regions of our state. We play a significant role in making our economy the 8th largest in the world, bringing goods and services to California's customers. We now have a Vision broad enough to encompass the many facets and challenges of our work:

> *"A performance-driven, transparent, and accountable organization that values its people, resources, and partners and meets new challenges through leadership, innovation, and teamwork."*

I encourage all of you to read this Strategic Management Plan, and as you do, think about how our Mission, Vision, and Goals connect to you. Throughout the Plan, you will see a strong focus on safety, preservation, and operations. We will be using strategic objectives and performance metrics as tools to manage from the Plan—with quarterly reports tied to these objectives and metrics. California's livability and economy depend on transportation. Your work is vital in helping to fulfill California's future.

Sincerely,

Malcolm Dougherty
Director, Caltrans
March 2015

Implementing the Mission

We recognize the vital need for collaboration and partnership with all our stakeholders to provide Californians with a world-class transportation system. We must meet mobility demands and satisfy economic, environmental, and social equity considerations while maintaining a focus on safety, preservation, and operations.

Caltrans and the California State Transportation Agency (CalSTA) are committed to modernizing the Department by addressing these challenges, now and in the future. Our new Mission and Vision, coupled with the goals and strategic objectives, provide Caltrans with a direction that is now consistent with the State's planning and policy objectives and set the course for Caltrans' role in California's transportation system.

Caltrans directly manages more than 50,000 lane miles of State and federal highways, as well as over 12,000 highway bridges; permits more than 400 public-use airports; and operates three of the top five Amtrak intercity rail services. Caltrans administers technical assistance and grants to regional partners for local planning and projects. We recognize that California needs a robust, multimodal, sustainable transportation system to provide efficient operation and service for goods imported into the United States.

Caltrans is meeting the evolving challenges associated with providing transportation funding, project delivery, and societal needs. The Department will play a strong role in helping the State achieve the Governor's greenhouse gas (GHG) reduction objectives. We will explore new options that address long-term funding stability, and adopt new strategies to funding repair and maintenance of the system. Caltrans and CalSTA established the California Transportation Infrastructure Priorities Workgroup in 2013 to identify and discuss the challenges for the State's transportation system and provide robust funding recommendations to the CalSTA Secretary.

In 2015, the transportation focus shifted from capacity to a fix-it-first philosophy centered on preservation, maintenance, and operation of our existing transportation infrastructure. Caltrans will focus on improving operation of the transportation system, achieving greater efficiency, and addressing the growing backlog of maintenance projects.

STRATEGIC MANAGEMENT PLAN

The goal for Caltrans is to be a high-performance, efficient, transparent, accountable, and modern organization—meeting transportation challenges by improving communication, building stronger partnerships, and fostering a culture of performance and innovation. This Strategic Management Plan is a key tool to achieve that goal.

The purpose of the Strategic Management Plan is to be a roadmap of Caltrans' role, expectations, and operations as we meet the challenges of modernizing Caltrans into a world-class Department of Transportation. The tools we will use to implement this Plan are performance management, transparency, accountability, sustainability, and innovation.

The Plan serves a number of functions:

- Provides clear direction for meeting statewide objectives;
- Creates and deepens strategic partnerships; and
- Provides performance measures that monitor success.

CONTINUOUS IMPROVEMENT

The 2015 - 2020 Strategic Management Plan is the result of a comprehensive process. Since the 2007-2012 Strategic Plan, Caltrans has undertaken several reviews, studies, and evaluations including: 2012 Program Review and Stakeholder Survey, 2013 Strategic Management Plan Development and Employee Survey, 2013 Enterprise Risk Profile, 2013/14 State Smart Transportation Initiative Review, now referred to as the Caltrans Improvement Project. Each of these contributes to the continuous improvement process and influences the 2015 - 2020 Strategic Management Plan. The Plan was created in a 15-month period through extensive discussions within Caltrans and CalSTA, and with the valuable participation of Caltrans employees, stakeholders, and partners.

Ongoing efforts essential to the success of this Strategic Management Plan include:

- Development of an Asset Management Plan to preserve the condition of the transportation assets and improve system performance;
- Establishment of the Office of Enterprise Risk Management to better connect an enterprise risk approach to strategic planning;
- Preparation and implementation of the Strategic Highway Safety Plan to increase safety and reduce fatalities and injuries;
- Implementation of Smart Mobility and Complete Streets initiatives to improve livability and revitalize communities;
- Implementation of the California Freight Mobility Plan, and State Rail Plan that will enhance economic competitiveness, sustainable goods movement, and rail service;
- Update of the Interregional Transportation Strategic Plan to prioritize transportation projects statewide;
- Development of the California Transportation Plan 2040 to meet future mobility needs and reduce greenhouse gas emissions; and
- Publishing of *The Mile Marker*, our quarterly performance journal, to increase transparency and accurate accounting of our performance.

The objectives and performance measures within the Strategic Management Plan support actions, recommendations, and activities in each of these efforts to achieve our departmental goals.

CALTRANS EXECUTIVE BOARD

The common thread throughout all these activities is participation by the Caltrans Executive Board. Created in May of 2012 and led by the Director, the Executive Board makes decisions on departmental strategic direction, broad operational policy, and departmental structure. The Executive Board is composed of the Director and Chief Deputy, all District Directors, all Assistant Directors, and all Deputy Directors. The Caltrans Executive Board is responsible for monitoring, measuring, and reporting progress in implementing the Strategic Management Plan and the Caltrans Improvement Project. The Executive Board will inform and engage stakeholders and partners, including regional agencies, self-help counties, local agencies, CalSTA, and the State Legislature.

OUR GOALS

The Caltrans Executive Board established five goal teams. These teams, working with Caltrans, CalSTA, and external stakeholders, built on lessons learned from prior goals and strategic objectives to develop and define five new cross-cutting goals for Caltrans, along with their corresponding objectives and performance measures. In keeping with continuous improvement, the Executive Board will review the effectiveness of the performance measures on a regular basis. These goals are summarized below.

Safety and Health: *Provide a safe transportation system for workers and users and promote health through active transportation and reduced pollution in communities*. The safety of our workers and the users of California's transportation system is our number one priority. The most important attribute of a transportation system is that it is safe for users and can be planned, designed, built, maintained,

and operated safely. Our transportation system has measurable effects on the health of Californians. This is manifest by the impact of emissions from the transportation system, and the health benefits of active transportation programs.

Stewardship and Efficiency: *Money counts. Responsibly manage California's transportation-related assets.* As stewards of a transportation system that is vital to the economy and livability of our state, Caltrans is committed to the most effective and efficient use of every transportation dollar. Caltrans will keep California's transportation system in the best condition possible and advocate for adequate resources.

Sustainability, Livability and Economy: *Make long-lasting, smart mobility decisions that improve the environment, support a vibrant economy, and build communities, not sprawl.* Sustainability is a central element of our new Mission. Caltrans has chosen to define sustainability as the consideration of these three areas:

- People – fostering community health and vitality,
- Planet – preserving and restoring environmental and ecological systems,
- Prosperity – promoting economic development.

Over time, sustainability elements will be incorporated into all Caltrans programs, policies, processes, projects, plans, and procedures.

System Performance: *Utilize leadership, collaboration, and strategic partnerships to develop an integrated transportation system that provides reliable and accessible mobility for travelers.* A transportation system must be safe, well-maintained, and high-performing. System Performance is managed on a regional and corridor basis. We must work with our partners to ensure the State's transportation system is contributing to an efficient and interconnected network.

The safety of our workers and the users of California's transportation system is our number one priority.

Organizational Excellence: *Be a national leader in delivering quality service through excellent employee performance, public communication, and accountability.* A world-class transportation system requires a world-class staff to plan, design, build, maintain, operate, and manage it. Significant achievements can, and will, be accomplished with a capable, educated, well-trained, and motivated workforce equipped with the right tools and resources. Caltrans is committed to providing its staff with these tools and resources.

OUR STRATEGIC OBJECTIVES AND PERFORMANCE MEASURES

Our Mission defines what we do and who we are. Our Vision defines our ideals—what we aspire to be. Our goals, along with their corresponding strategic objectives and performance measures, define and quantify how we put our vision into practice and how we broaden and deepen our success. The goal teams, using recommendations from the Executive Board, have developed strategic objectives that are aligned with State initiatives from the Governor's Office. These objectives will guide activities in each district, program, and division to accomplish our goals. Caltrans will use performance measures to monitor progress of aggressive, yet attainable, targets.

Some performance measures are in development. The Office of Strategic Management and the Programs will complete the development of these performance measures and their targets, and then submit these to the Executive Board for approval. Once the performance measures are approved, the goal teams will create baselines, set targets, and measure progress toward the targets. For example, our Sustainability, Livability, and Economy Goal will have performance measures for accessibility, livability, prosperity, and resiliency. These measures will consider factors such as multimodal proximity to jobs and housing, air and noise pollution from the transportation system, gross State and federal product output, and climate change impacts.

MANAGE FROM THE PLAN

We are committed to achieving significant change in both the operations and culture of Caltrans. Change that provides Californians with a safe and efficient transportation system created in partnerships with our stakeholders. Change that produces a sustainable transportation system, livable communities, and multimodal choices for Californians. Change that supports organizational excellence in our staff. These tenets ensure Caltrans is well-positioned to meet California's mobility, safety, and sustainability needs today and well into the future.

The Strategic Management Plan is a living document. As the transportation landscape changes, whether by State or federal policy or funding modifications, the Strategic Management Plan may be revisited, revised, or amended. As performance measures, targets, and strategies evolve over time, a corresponding set of strategic decisions on resource allocation, focus areas, and approaches will be made. It is all part of the continuous improvement process for Caltrans to be a performance-driven, transparent, and accountable organization.

We are committed to achieving significant change in both the operations and culture of Caltrans.

GOAL 1

Safety and Health

"Provide a safe transportation system for workers and users and promote health through active transportation and reduced pollution in communities."

Safety has been, and continues to be, Caltrans' first priority. We provide a safe transportation system for all users, including bicyclists and pedestrians. Our policies and practices are designed to continually decrease collisions, injuries, and fatalities on our system. Caltrans is committed to improving worker safety, both in our daily operations and during each phase of project development. Our annual goal is zero work zone-related worker fatalities.

We will engage with our strategic partners in the use of flexible and innovative design and delivery practices that will result in increased worker safety. Multi-divisional teams will promote maintenance and construction strategies that reduce worker exposure to harm and improve their safety. Caltrans will expand existing multimedia safety campaigns, such as "Be Work Zone Alert" which spotlights children of Caltrans employees, and "Slow for the Cone Zone" which educates drivers on the dangers of excessive speed and distracted driving in work zones.

SLOW FOR THE CONE ZONE
CALTRANS

In addition, Caltrans and the Department of Motor Vehicles are improving the bicycle and pedestrian safety information available to the public. With input and advice from our national and international engagement, Caltrans published the new California Manual for Uniform Traffic Control Devices (MUTCD) in October 2014. The MUTCD now includes new safety features that will improve safety and mobility for all travelers.

We have expanded our primary goal to include the health impacts on communities from criteria pollutants and greenhouse gases generated within our transportation system. The 2013 Zero Emission Vehicle (ZEV) Action Plan from the Governor's Office of Planning and Research provides a roadmap for 1.5 million zero-emission vehicles on California roadways by 2025. The implementation of this Action Plan will reduce both greenhouse gas emissions and conventional pollutants, while increasing the operation of quiet and clean vehicles. Caltrans is doing its part by increasing the number of Department zero-emissions and low-emissions vehicles in our fleet.

Our Active Transportation Program (ATP) consolidates a set of smaller programs that enhance public health, encourage increased trips by walking and bicycling, increase safety and mobility for non-motorized users, and reduce both vehicle miles traveled and greenhouse gas emissions. The ATP, along with the Low Carbon Transit Operations Program and the Transit and Intercity Rail Capital Program, will improve bike, pedestrian, and transit alternatives to private car trips. The combined implementation of these programs will make Caltrans a leader in active transportation.

Goal 1: Safety and Health

Strategic Objectives	Performance Measures	Targets
Zero worker fatalities.	Number of work zone-related worker fatalities per calendar year.	Zero work zone-related worker fatalities per calendar year.
Reduce user fatalities and injuries by adopting a "Toward Zero Deaths" practice.	Number of auto travel fatalities per 100 million vehicle miles traveled.	Maintain 0.5 or less fatalities per 100 million vehicle miles traveled on the State Highway System every year.
	Number of fatalities for bicycle, pedestrian, and transit modes of travel.	10% reduction in number of fatalities in a calendar year in each of the following mode types: car, transit, pedestrian, and bicyclist.
Promote community health through active transportation and reduced pollution in communities.	Increase and improvement in opportunities for safe and accessible active transportation.	100% of funds of allocated vs. programmed. 100% of projects being allocated for construction awarded within six months.
	Percent reduction of transportation system-related air pollution for criteria pollutant emissions.	85% reduction (from 2000 levels) in diesel particulate matter emissions statewide by 2020. 80% reduction (from 2010 levels) in NOx emissions in South Coast Air Basin by 2023.

See Appendix for all strategic objectives, performance measures, and targets.

Safety remains Caltrans' first priority and top goal toward zero deaths.

GOAL 2

Stewardship and Efficiency

"Money counts. Responsibly manage California's transportation-related assets."

Caltrans is the steward of the State Highway System. Proposition 1B has provided funding for transportation infrastructure, mainly on capacity-building projects, over the past five years. As this funding sunsets, Caltrans will embrace a fix-it-first philosophy to support our aging infrastructure. The 2014 California 5-Year Infrastructure Plan identified $59 billion in deferred maintenance needs for roads. By focusing on maintenance and repair, we will be able to maximize the use of limited transportation funds and address the backlog of maintenance projects.

Decreases in fuel consumption, due to improvements in the average vehicle miles per gallon, have reduced funding available from taxes on fuel. Caltrans must now look to innovative financing strategies. The Road Charge Pilot Program will examine the potential of revenues based on the number of vehicle miles traveled and the feasibility of providing Caltrans a long-term sustainable revenue source to maintain the transportation infrastructure. The expanded use of congestion pricing on toll roads and managed lanes, which maximize capacity of existing highway lanes, may also be a way of generating significant revenue.

One of the first steps in the efficient management of the transportation system will be the completion and implementation of a Transportation Asset Management Plan (TAMP). In September 2014, Senate Bill 486 was signed by the Governor to adopt TAMP as a statutory requirement. The implementation of TAMP provides Caltrans with risk management and financial analysis to guide investment strategies. This, in turn, will help Caltrans maximize the effectiveness of transportation investments, extend the life of pavement, and improve performance by examining life cycle costs. As the first phase of TAMP, Caltrans is conducting a State Highway Operations and Protection Program (SHOPP) Pilot Project in 2016. This will result in a clearer and more transparent methodology for SHOPP project prioritization based on several factors including: safety, sustainability, system performance, and efficiency.

Part of responsibly managing the State's transportation assets is the efficient delivery of projects and services that improve the maintenance and operation of the system. Caltrans is pursuing new approaches in the delivery of transportation services that increase efficiency and remove unnecessary bottlenecks throughout our processes. Caltrans is working in tandem with the California High-Speed Rail Authority to address multimodal transportation services related to high-speed rail. The Caltrans Freight Advisory Committee meets to coordinate regional freight priorities between public and private sector freight stakeholders. The Active Transportation and Livable Communities Group, among others, advises Caltrans on a wide range of organizational policies and practices.

Success in project delivery is determined by many factors. To increase our success, Caltrans will focus on better communication methods and earlier stakeholder involvement. Caltrans has also moved decision making closer to the issues by increasing delegation to the districts. This will improve timely decision making on projects and increase effective communication with our local partners.

Goal 2: Stewardship and Efficiency

Strategic Objectives	Performance Measures	Targets
Effectively manage transportation assets by implementing the asset management plan, embracing a fix-it-first philosophy.	Percentage of distressed lane miles on the State Highway System.	By 2020, no more than 12% of total system area of pavement is distressed.*
	Bridge Health Index.	By 2020, maintain 95 or better rating on Bridge Health Index.*
	Measure of ITS elements health, system operability, and equipment workability.	By 2020, maintain 90% or better ITS elements health.*
Efficiently deliver projects and services on time and on budget.	Percentage of planned projects delivered in the fiscal year.	Deliver 100% of planned projects for each fiscal year.

See Appendix for all strategic objectives, performance measures, and targets.

*These targets will be achieved through development and implementation of the Asset Management Plan, as required by SB 486 (Chapter 917, 2014).

GOAL 3

Sustainability, Livability and Economy

"Make long-lasting, smart mobility decisions that improve the environment, support a vibrant economy, and build communities, not sprawl."

Sustainability, livability, and the economy are central to improving the quality of life in California. This goal promotes communities, assists in the integration of a multimodal transportation system, improves both air and water quality, and helps California better address the challenges of climate change. To accomplish this goal, we focus on the impacts of transportation on People, Planet, and Prosperity.

Sustainability measures will be incorporated into the State Transportation Improvement Program. SHOPP projects will be prioritized to align these investments with statewide and regional Sustainable Communities strategies. Caltrans is leading the implementation of several new transit and active transportation programs, and providing support for others. Caltrans staff are important contributors to the High-Speed Rail Project, the new Affordable Housing Sustainable Communities Program, and the Strategic Growth Council.

People
Planet
Prosperity

Caltrans will support livability initiatives that promote efficient land use and invest in transportation facilities that improve local economies and community quality of life. We will improve livability by considering transportation-related outcomes in concert with community outcomes (such as accessibility to public and active transportation travel options, proximity of affordable housing to employment and civic centers, and a high-quality public realm) that supports natural systems, local businesses, and community vitality.

The quality of our mobility decisions contributes to economic prosperity by enhancing the safe and efficient movement of people, goods, and services. Investments in the State's transportation infrastructure provide significant economic returns, preserve ecological health, contribute to climate change resilient systems, and create conditions that attract businesses and employers to local communities.

The California Transportation Plan (CTP) 2040, the first statewide plan completed under the requirements of Senate Bill 391, will provide a long-range framework to both meet mobility needs and reduce greenhouse gas emissions. The CTP 2040 will be the interregional equivalent of the Sustainable Communities Strategies developed by regions pursuant to Senate Bill 375. The Division of Transportation Planning has initiated the Sustainable Mobility Program to assist in the implementation of both Smart Mobility 2010 and California Transportation Plan 2040. In addition, Caltrans will increase the competitiveness and efficiency of the freight system through targeted investments in trade corridors.

Goal 3: Sustainability, Livability and Economy

Strategic Objectives	Performance Measures	Targets
PEOPLE: Improve the quality of life for all Californians by providing mobility choice, increasing accessibility to all modes of transportation and creating transportation corridors not only for conveyance of people, goods, and services, but also as livable public spaces.	Percentage increase of non-auto modes for: • Bicycle • Pedestrian • Transit	By 2020, increase non-auto modes: • Triple bicycle; • Double pedestrian; and • Double transit. (2010-12 California Household Travel survey is baseline.)
PLANET: Reduce environmental impacts from the transportation system with emphasis on supporting a statewide reduction of greenhouse gas emissions to achieve 80% below 1990 levels by 2050.	Per capita vehicle miles traveled.	By 2020, achieve 15% reduction (3% per year) of statewide per capita VMT relative to 2010 levels reported by District.
	Percent reduction of transportation system-related air pollution for: • Greenhouse gas (GHG) emissions • Criteria pollutant emissions	• 15% reduction (from 2010 levels) of GHG to achieve 1990 levels by 2020. • 85% reduction (from 2000 levels) in diesel particulate matter emissions statewide by 2020. • 80% reduction (from 2010 levels) in NOx emissions in South Coast Air Basin by 2023.
	Percent reduction of pollutants from Caltrans design, construction, operation, and maintenance of transportation infrastructure and building for: • Greenhouse gas (GHG) emissions • Criteria air emissions • Water pollution	By 2020, reduce Caltrans' internal operational pollutants by District from 2010 levels (from planning, project delivery, construction, operations, maintenance, equipment, and buildings) including: • 15% reduction by 2015 and 20% reduction by 2020 of Caltrans' GHG emissions per EO-B-18-12. • 10% reduction in water pollutants. By 2020, 85% reduction (from 2000 levels) in diesel particulate matter emissions statewide. By 2023, 80% reduction (from 2010 levels) in NOx emissions in South Coast Air Basin.
PROSPERITY: Improve economic prosperity of the State and local communities through a resilient and integrated transportation system.	Freight system competitiveness, transportation system efficiency, return on transportation investment.	By 2020, 10% increase in freight system efficiency.

See Appendix for all strategic objectives, performance measures, and targets.

GOAL 4

System Performance

"Utilize leadership, collaboration, and strategic partnerships to develop an integrated transportation system that provides reliable and accessible mobility for travelers."

A high-performing, integrated transportation system requires collaboration among strategic partners. With that collaboration, it is possible to create an efficient multimodal transportation system. This transportation system will offer options and a reliable travel time to every user, from highways and rail to transit, bicycling and walking; considering first- and last-mile challenges; and connecting different modes together to provide ease of use.

Caltrans recognizes that not every transportation solution is a highway solution. Caltrans is now better positioned to work with our regional partners to integrate all modes, including high-speed rail and intercity rail, into our State transportation system. The increased collaboration, transportation management and operations, and greater integration will improve system performance for all travelers.

We will use transportation system management and operations to better manage existing infrastructure. This will improve travel time reliability, reduce peak period travel times, reduce delays in all modes of travel, maximize safety, and improve operations that foster the economy, particularly resulting from incidents and events. We will also develop multimodal integrated corridor management strategies, beginning in areas of highest statewide importance.

Caltrans will integrate Complete Streets elements, multimodal design, and land use to increase person throughput system-wide. We will work with our transportation partners early in planning and project development to identify community, environmental, and aesthetic considerations. This approach ensures that transportation and land-use concerns are addressed before projects are scoped, programmed, and developed.

The Complete Streets Implementation Action (CSIA) Plan 2.0, released in early 2015, will help to provide a seamless, interconnected transportation system that supports active transportation modes. CSIA Plan 2.0 includes over 100 action items to further integrate complete streets policies into the planning and development of transportation projects. We will continue to educate our staff in innovative street design approaches for metro areas and town centers, inform the State Bicycle and Pedestrian Plan, and support District Complete Streets partnerships.

Goal 4: System Performance

Strategic Objectives	Performance Measures	Targets
Improve travel time reliability for all modes.	Travel time reliability on four commute directions (SR-57, US-110, I-80 and I-210).	By 2020, improve buffer time index (BTI) reliability ranking by one level (unreliable to moderately reliable or moderately reliable to reliable) on four commute directions (SR-57, US-110, I-80, and I-210).
	Average endpoint on-time performance (OTP) for intercity rail.	By 2020, achieve 90% on-time performance.
Reduce peak period travel times and delay for all modes through intelligent transportation systems, operational strategies, demand management, and land use/ transportation integration.	Rate of growth in Daily Vehicle Hours of Delay (DVHD) statewide.	By 2020, reduce to an 8% rate of growth in Daily Vehicle Hours of Delay (DVHD) under 35 miles per hour on urban State highways.
	Average all stations on-time performance (OTP) for intercity rail.	By 2020, achieve 90% average on-time performance.
Improve integration and operation of the transportation system.	Percentage of 25 top integrated corridors with real-time multimodal system information available to the public.	By 2020, provide real-time multimodal system information to the public on 50% of the top integrated corridors.

See Appendix for all strategic objectives, performance measures, and targets.

Improve travel time reliability.

Reduce peak period travel times.

Reduce delays in all modes of travel.

GOAL 5

Organizational Excellence

"Be a national leader in delivering quality service through excellent employee performance, public communication, and accountability."

Caltrans has a diverse, trained, and motivated workforce. As our focus shifts to maintaining the infrastructure and improving operability of the transportation system, we will invest in our staff to increase their expertise so that we are prepared to meet evolving transportation challenges. We are developing our staff by reinstating rotation programs that build broad experience and provide training on new skills. We will continue to research how we identify the key drivers of creativity and innovation in our staff.

In addition to technical training to promote organizational excellence, we will make a conscious investment in supervisory, management, and leadership training. To increase accountability, we have developed and distributed tools such as the employee and manager handbooks and implemented an ethics hotline to promote the values of integrity, commitment, teamwork, and innovation.

Our new Mission calls for a focus on better communication methods and earlier stakeholder involvement. Through organizational excellence, Caltrans will improve collaborative partnerships with agencies, industries, municipalities, and tribal governments, building relationships with these partners to gain efficiencies. We are working with our partners to gain a new understanding and better focus on common objectives as we move forward. We will include key partners in the development of projects and plans to produce better and more timely decisions. Our internal and external communication will be improved by the use of monthly Director's videos, newsletters, town halls and the publication of our performance journalism tool, *The Mile Marker*.

To ensure that resources are used effectively, we will continue to employ *means and methods* that reduce waste and save time. The inclusion of a continuous improvement process and the introduction of Lean 6-Sigma into the culture of Caltrans reduces waste in Department operations and saves time in decision processes. Consistent use of this performance improvement methodology will contribute to performance-based management being used throughout Caltrans. Caltrans staff with Lean 6-Sigma training will use their newly-acquired skill sets (including complex analytical and statistical tools that identify waste and inefficiencies in processes) in all performance improvement projects.

Goal 5: Organizational Excellence

Strategic Objectives	Performance Measures	Targets
Promote a positive work environment and implement a management system to maximize accomplishments, encourage innovation and creativity, and ensure staff performance is aligned with Department and State strategic goals.	Percentage of employees who indicate that they work in a positive environment.	By 2016, establish a baseline number through a survey and achieve a 5% increase in responses each subsequent year through 2020.
	Percentage of Caltrans employees who agree, or strongly agree, that employees are encouraged to try new ideas and new ways of doing things to improve Caltrans.	By 2016, percentage to reach 75%. Maintain level at least at 75% through 2020.
Continuously increase customer satisfaction.	Percentage of external survey respondents who said Caltrans was doing a good or excellent job in meeting their needs.	By 2016 (or next survey date), increase to 75% the percentage of external survey respondents (general public and external stakeholders) who rate Caltrans as doing a good or excellent job at meeting survey respondents' needs.
Improve internal and external communication to better demonstrate professionalism and service levels to the public and stakeholders.	Percentage of Caltrans employees who rate Caltrans management as good or very good at being open and honest in communications with employees.	By December 2015, conduct survey to show target of 50% of Caltrans employees who rate Caltrans management as good or very good at being open and honest in communications with employees. Through 2020, increase rating 5% annually.
	Percentage of stakeholders who feel that overall Department communication, professionalism, and service levels have improved.	Conduct baseline survey followed by annual survey to show target of 5% annual increase of employees and stakeholders who feel that overall the Department's communication, professionalism, and service levels have improved.
	Percentage of stakeholders who give positive feedback on *The Mile Marker*.	Conduct baseline survey followed by annual survey to show target of 5% annual increase in the number of people (employees, stakeholders, and public) who provide positive feedback about *The Mile Marker*, including specific outcomes for performance journalism (e.g., transparency, use of plain language, etc.)
Improve partnerships with agencies, industries, municipalities, and tribal governments.	Percent increase in the number of partners who agree or strongly agree that Caltrans is a collaborative partner.	By 2016 (or next survey date), increase to 75% the percentage of partners who agree or strongly agree that Caltrans is a collaborative partner. Through 2020, maintain or increase the percentage every year.

See Appendix for all strategic objectives, performance measures, and targets.

APPENDIX

Strategic Objectives & Performance Measures

Goal 1: Safety and Health

"Provide a safe transportation system for workers and users and promote health through active transportation and reduced pollution in communities."

Strategic Objectives	Performance Measures	Targets
Zero worker fatalities.	Number of work zone-related worker fatalities per calendar year.	Zero work zone-related worker fatalities per calendar year.
	Number of accidents in work zones per calendar year.	At least 20% reduction in number of accidents in work zones on the State Highway System in a calendar year. Baseline to be determined.
Reduce employee injury and illness rates.	Number of Department employee work-related injuries and illnesses in previous 12 months per 200,000 employee hours.	5.45 or less injuries/illness per 200,000 employee hours.
Reduce user fatalities and injuries by adopting a "Toward Zero Deaths" practice.	Number of auto travel fatalities per 100 million vehicle miles traveled.	0.5 or less fatalities per 100 million vehicle miles traveled on the State Highway System every year.
	Number of fatalities for bicycle, pedestrian, and transit modes of travel.	10% reduction in number of fatalities in a calendar year in each of the following mode types; car, transit, pedestrian, and bicyclist.
	Number of injuries for auto, bicycle, pedestrian, and transit modes of travel.	Target to be determined. Baseline and targets will be established based on best industry practices.
Promote community health through active transportation and reduced pollution in communities.	Increase and improvement in opportunities for safe and accessible active transportation.	100% of funds of allocated vs. programmed. 100% of projects being allocated for construction awarded within six months.
	Percent reduction of transportation system-related air pollution for criteria pollutant emissions.	85% reduction (from 2000 levels) in diesel particulate matter emissions statewide by 2020. 80% reduction (from 2010 levels) in NOx emissions in South Coast Air Basin by 2023.

Goal 2: Stewardship and Efficiency

"Money counts. Responsibly manage California's transportation-related assets."

Strategic Objectives	Performance Measures	Targets
Effectively manage transportation assets by implementing the asset management plan, embracing a fix-it-first philosophy.	Percentage of distressed lane miles on the State Highway System.	By 2020, no more than 12% of total system area of pavement is distressed.*
	Bridge Health Index.	By 2020, maintain 95 or better rating on bridge health index.*
	Measure of ITS elements health, system operability, and equipment workability.	By 2020, maintain 90% or better ITS elements health.*
	Percentage of projects including a life cycle cost analysis methodology for point of evaluation in project selection.	By 2020, 100% of SHOPP projects to include a life cycle cost analysis methodology.
Effectively manage taxpayer funds and maximize the use of available financial resources.	Percentage of federal funds used in year of availability.	Use 100% of federal funds available each year.
Efficiently deliver projects and services on time and on budget.	Percentage of planned projects delivered in the fiscal year.	Deliver 100% of planned projects for each fiscal year.
Efficiently manage operations of the transportation system.	Percentage of transportation permits approved or denied within 14 days from the submittal date.	Issue or deny 95% of permits within 14 days from submittal date.
	Percentage of encroachment permits approved or denied within 30 days of receiving completed application.	Issue or deny 95% of permits within 30 days from submittal date of completed application.
Assign ownership of transportation facilities, including roads and streets, to the appropriate level of government.	Number of lane miles of State Highway System relinquished.	By 2020, relinquish 50 lane miles of State Highway System.

*These targets will be achieved through development and implementation of the Asset Management Plan, as required by SB 486 (Chapter 917, 2014)

Goal 3: Sustainability, Livability and Economy

"Make long-lasting, smart mobility decisions that improve the environment, support a vibrant economy, and build communities, not sprawl."

Strategic Objectives	Performance Measures	Targets
PEOPLE: Improve the quality of life for all Californians by providing mobility choice, increasing accessibility to all modes of transportation and creating transportation corridors not only for conveyance of people, goods, and services, but also as livable public spaces.	Percentage increase of non-auto modes for: • Bicycle • Pedestrian • Transit	By 2020, increase non-auto modes*: • Triple bicycle; • Double pedestrian; and • Double transit. (2010-12 California Household Travel survey is baseline.)
	Accessibility Score. (To be determined considering e.g., multi-modal transportation proximity to jobs, disadvantaged communities, housing services, transit-oriented communities, etc.)	By December 2016, develop and adopt Caltrans Accessibility Score.
	Livability Score. (To be determined considering, e.g., quality of life, noise, safety, localized emissions, environmental justice concerns, etc.)	By December 2016, develop and adopt Caltrans Livability Score.
	Percentage of top 25 priority corridor system master plans completed to enhance sustainability of transportation system. (Priority corridors to be determined considering: mobility, freight, highways, transit, rail, bike, pedestrian, aviation, etc.)	By 2017, complete corridor system plans for all State routes. By 2020, complete top 25 corridor system management plans.
PLANET: Reduce environmental impacts from the transportation system with emphasis on supporting a statewide reduction of greenhouse gas emissions to achieve 80% below 1990 levels by 2050.	Per capita vehicle miles traveled. (Reported statewide by District.)	By 2020, achieve 15% reduction (3% per year) of statewide per capita VMT relative to 2010 levels reported by District.
	Percent reduction of transportation system-related air pollution for: • Greenhouse gas (GHG) emissions • Criteria pollutant emissions	15% reduction (from 2010 levels) of GHG to achieve 1990 levels by 2020. 85% reduction (from 2000 levels) in diesel particulate matter emissions statewide by 2020. 80% reduction (from 2010 levels) in NOx emissions in South Coast Air Basin by 2023.

*These targets will be achieved through development and implementation of the Asset Management Plan, as required by SB 486 (Chapter 917, 2014)

Goal 3: Sustainability, Livability and Economy (continued)

Strategic Objectives	Performance Measures	Targets
PLANET (Continued): Reduce environmental impacts from the transportation system with emphasis on supporting a statewide reduction of greenhouse gas emissions to achieve 80% below 1990 levels by 2050.	Percent reduction of pollutants from Caltrans design, construction, operation, and maintenance of transportation infrastructure and building for: • Greenhouse gas (GHG) emissions • Criteria air emissions • Water pollution	By 2020, reduce Caltrans' internal operational pollutants by District from 2010 levels (from planning, project delivery, construction, operations, maintenance, equipment, and buildings) including: • 15% reduction by 2015 and 20% reduction by 2020 of Caltrans' GHG emissions per EO-B-18-12. • 10% reduction in water pollutants. By 2020, 85% reduction (from 2000 levels) in diesel particulate matter emissions statewide. By 2023, 80% reduction (from 2010 levels) in NOx emissions in South Coast Air Basin.
	Percent increase in transportation projects that include green infrastructure. Weighting mechanism to be developed.	By 2020, increase by 20% (5% per year) incorporating green infrastructure into transportation projects relative to 2010 levels.
PROSPERITY: Improve economic prosperity of the State and local communities through a resilient and integrated transportation system.	Prosperity score. Score to be determined considering, e.g., gross State/regional product, freight system competitiveness, transportation system efficiency, return on transportation investment, etc.	By 2016, develop and adopt Caltrans prosperity score.
	Freight System Efficiency. Improve freight system efficiency to enhance freight competitiveness and support a sustainable, low emissions freight system.	By 2020, 10% increase in freight system efficiency.

Goal 3: Sustainability, Livability and Economy (continued)

Strategic Objectives	Performance Measures	Targets
PROSPERITY (Continued): Improve economic prosperity of the State and local communities through a resilient and integrated transportation system.	Resiliency Score for: • Climate change resiliency (e.g., vulnerability to flood, sea level rise, etc.) • System resiliency (e.g., adaptability from emergencies, disasters, etc.) • Financial resiliency (e.g., ensure funding considering maintenance, operations, modernization, disasters, financial stability, etc.) Resiliency Score to be determined considering, e.g., asset management, emergency and risk management, climate change, sea level rise, vulnerability, adaptation, etc.)	By December 2017, develop and adopt Caltrans Resiliency Score.
	Reduction of resource consumption by: • Reduction of materials taken to landfills (reduction of virgin materials used, reuse of existing materials for construction, recycling of building, construction, and roadside trash) • Reduction of potable water use	By 2020, reduce resource consumption from 2010 levels by District: • 15% reduction of materials taken to landfills • 15% reduction of potable water use

Goal 4: System Performance

"Utilize leadership, collaboration and strategic partnerships to develop an integrated transportation system that provides reliable and accessible mobility for travelers."

Strategic Objectives	Performance Measures	Targets
Improve travel time reliability for all modes.	Travel time reliability on four commute directions (SR-57, US-110, I-80 and I-210).	By 2020, improve buffer time index (BTI) reliability ranking by one level (unreliable to moderately reliable or moderately reliable to reliable) on four commute directions (SR-57, US-110, I-80, and I-210).
	Reporting time and percentage of accurate traveler information on travel times, construction activity, incidents, and adverse weather.	By 2020, report within 10 minutes in metro areas, and 20 minutes outside metro areas. For all information: 85% accurate, 90% availability.
	Average endpoint on-time performance (OTP) for intercity rail.	By 2020, achieve 90% on-time performance.
Reduce peak period travel times and delay for all modes through intelligent transportation systems, operational strategies, demand management, and land use/ transportation integration.	Rate of growth in Daily Vehicle Hours of Delay (DVHD) statewide.	By 2020, reduce to an 8% rate of growth in Daily Vehicle Hours of Delay (DVHD) under 35 miles per hour on urban State highways.
	Average All-Stations On-Time performance (OTP) for intercity rail.	By 2020, achieve 90% average on-time performance.
Improve integration and operation of the transportation system.	Percentage of 25 top integrated corridors with real-time multimodal system information available to the public.	By 2020, provide real-time multimodal system information to the public on 50% of the top integrated corridors.
Increase the number of Complete Streets features on State highways that are also local streets in urban, suburban, and small town settings.	Percentage of projects that include Complete Streets features.	By 2016, establish baseline and by 2020, increase annual number of Complete Streets projects by 20%.
	Number of Complete Streets features on State highway system.	By 2016, establish baseline and by 2020, increase annual number of Complete Streets features by 5%.
	Percentage of high-focus actions fully implemented from the Complete Streets Implementation Action Plan 2.0.	By 2016, implement 80% of the 14 high-focus actions. By 2018, implement 100% of the 14 high-focus actions.

Goal 4: System Performance (continued)

Strategic Objectives	Performance Measures	Targets
Develop integrated corridor management strategies for those of highest statewide significance.	Number of completed implementation plans for Integrated Corridor Management (ICM). Weighting mechanism to be developed.	By 2018, complete five ICM implementation plans.
	Number of corridors where ICM has been implemented.	By 2020, implement three ICM corridors.
	Rate of growth in Daily Vehicle Hours of Delay (DVHD) on top four integrated corridors.	By 2020, reduce to a 6% rate of growth in Daily Vehicle Hours of Delay.

Goal 5: Organizational Excellence

"Be a national leader in delivering quality service through excellent employee performance, public communication, and accountability."

Strategic Objectives	Performance Measures	Targets
Promote a positive work environment and implement a management system to maximize accomplishments, encourage innovation and creativity, and ensure staff performance is aligned with Department and State strategic goals.	Percentage of employees who indicate that they work in a positive environment.	By 2016, establish a baseline number through a survey and achieve a 5% increase in responses each subsequent year through 2020.
	Number of AB 2053 (abusive conduct prevention) trainings provided per calendar year.	By December 2015, train 50% of Supervisors and Managers. By December 2016, train 100% of Supervisors and Managers. Continue to train 100% of Supervisors and Managers every two years through 2010.
	Percentage of Caltrans employees who agree or strongly agree that employees are encouraged to try new ideas and new ways of doing things to improve Caltrans.	By 2016, percentage to reach 75%. Maintain level at least at 75% through 2020.
	Number of Superior Accomplishment Awards and/or Merit Awards given each year that specifically recognizes innovation and creativity.	By December 2015, establish a baseline and achieve a 5% increase in awards each subsequent year through 2020.
	Percentage of Employees with performance plans and completed IDPs that emphasize innovation and creativity, and that support organizational goals.	By December 2015, establish a baseline and achieve a 5% increase in awards each subsequent year through 2020.
Continuously increase customer satisfaction.	Percentage of external survey respondents who said Caltrans was doing a good or excellent job in meeting their needs.	By 2016 (or next survey date), increase to 75% the percentage of external survey respondents (general public and external stakeholders) who rate Caltrans as doing a good or excellent job at meeting survey respondents' needs.

Goal 5: Organizational Excellence (continued)

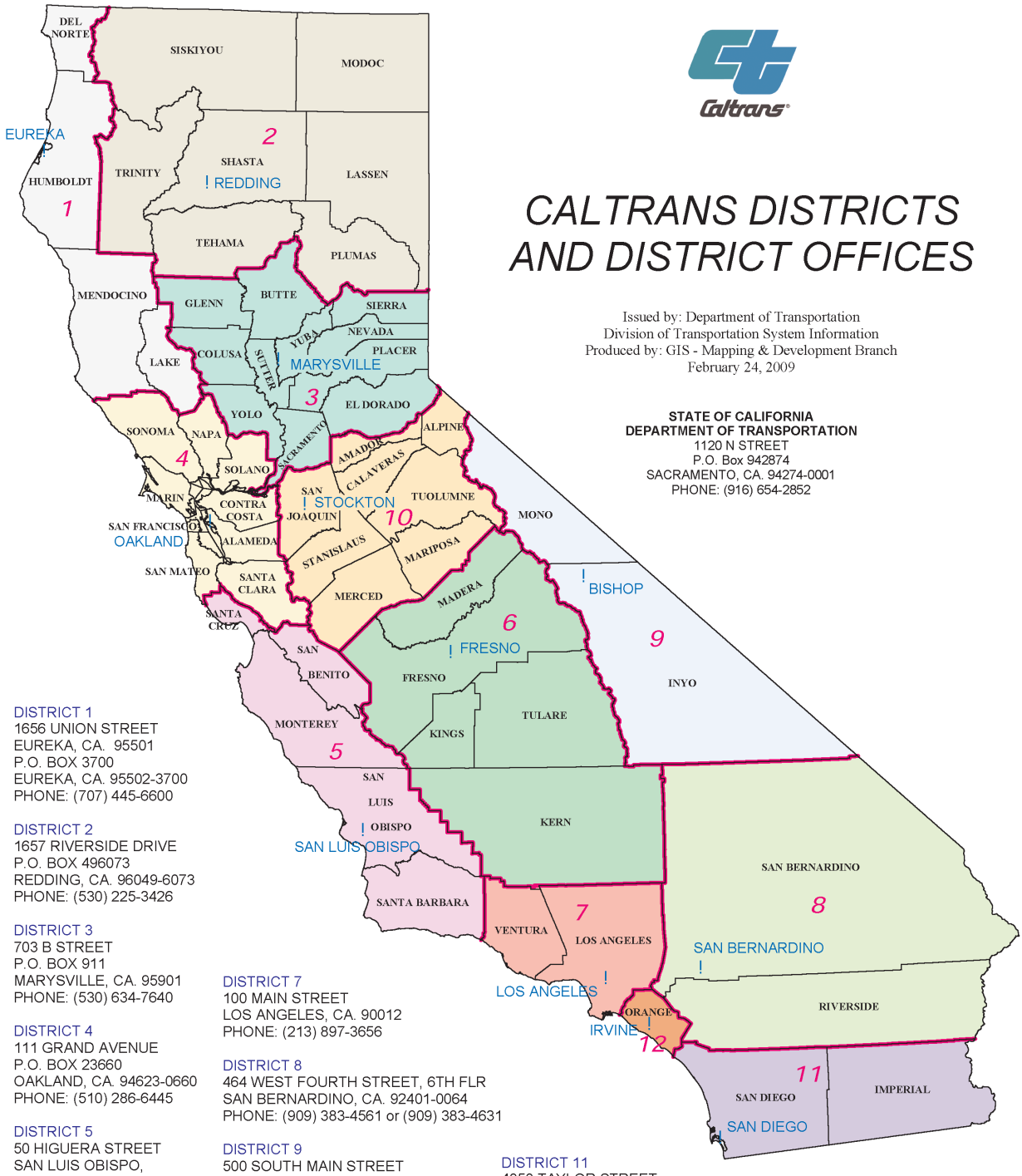
Strategic Objectives	Performance Measures	Targets
Employ Lean 6-Sigma to reduce waste in Department operations and decision processes and to ensure resources are used effectively.	Number of Caltrans employees trained as Lean 6-Sigma/Theory of Constraints change agents.	By December 2015, train 15 employees as Green Belts. Through 2020, train an additional 10 Green Belts every subsequent year.
	Number of documented improvements resulting in reductions to the average turn-around time and/or resource expenditures for targeted core business processes.	By December 2016, 30 internal business processes will have undergone Lean 6-Sigma review. Through 2020, conduct at least 15 additional Lean 6-Sigma reviews every subsequent year.
Improve internal and external communication to better demonstrate professionalism and service levels to the public and stakeholders, including use of *The Mile Marker* as a performance journalism tool, and to positively affect employee morale.	Percentage of Caltrans employees who rate Caltrans management as good or very good at being open and honest in communications with employees.	By December 2015, conduct survey to show target of 50% of Caltrans employees who rate Caltrans management as good or very good at being open and honest in communications with employees. Through 2020, increase rating 5% annually.
	Percentage of stakeholders who feel that overall Department communication, professionalism, and service levels have improved.	Conduct baseline survey followed by annual survey to show at least 5% annual increase in stakeholders who feel that the Department's communication, professionalism, and service levels have improved.
	Percentage of stakeholders who give positive feedback on *The Mile Marker*.	Conduct baseline survey followed by annual survey to show at least 5% annual increase in the number of people.
	Number of issues produced annually.	Produce four issues per year.

Goal 5: Organizational Excellence (continued)

Strategic Objectives	Performance Measures	Targets
Cultivate an environment that encourages proper identification, management, and communication of risk across all levels of the organization and makes intelligent decisions based on that analysis.	Create a risk management campaign that increases the Department's level of risk maturity according to industry standards.	By 2020, designated risk management processes and functions can be assessed as Level 4 "managed" or Level 5 "leadership" under an industry standard risk management maturity model. Increase the percentage of responses to questions on a risk survey by 5% annually in desired trend directions.
	Number of positive responses to ethics questions on employee survey per polling period.	Increase the percentage of responses to questions on an ethics survey by 5% annually in desired trend directions.
	Percentage of eligible employees who have participated in Leadership and Development training programs per calendar year.	Achieve 85% rate of enrollment and completion in courses in the Leadership Development series in 2015. Increase enrollment and completion by steps of 2.5% annually to a goal of 90% in 2017.
	Percentage of divisions that have implemented one or more workforce planning strategies by 2020.	By 2020, 100% of Caltrans occupational groups have adopted at least one workforce planning strategy.
Improve collaborative partnerships with agencies, industries, municipalities and tribal governments and advance national engagement with the transportation research and policy committees.	Percent increase in the number of partners who agree or strongly agree that Caltrans is a collaborative partner.	By 2016 (or next survey date), increase to 75% the percentage of partners who agree or strongly agree that Caltrans is a collaborative partner. Through 2020, maintain or increase the percentage every year.

Goal 5: Organizational Excellence (continued)

Strategic Objectives	Performance Measures	Targets
Improve Collaborative Partnerships (Continued)	Percent of increase in employees serving on research and policy committees.	By end of FY 2015/2016, increase by 7% the number of employees serving on research and policy committees and also bringing forth discussions of national trends' applicability into Caltrans policies and/or programs. Through 2020, maintain or increase the percentage every year.
	Percent increase in State Highway Account (SHA) Funding (in dollars) of the Out-of-State Travel Budget for participation in research and policy committees.	By FY 2016/17 increase by 10% the SHA funding amount of the Out-of-State Travel Budget for participation in research and policy committees. Through 2020, increase annually by 5%.



CALTRANS DISTRICTS AND DISTRICT OFFICES

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Organizational Excellence

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Navigating General Plans Through SB 743

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OPR Steps	Project Questions	Procedural Flowchart

Decision — Analytical process or procedural outcome

Step 1 Screening

Not applicable

Step 2 Establishing Baseline VMT Levels

Is the general plan for an incorporated city or unincorporated area?

- INCORPORATED → Calculate baseline VMT for city and region (see notes)
- UNINCORPORATED → Calculate baseline VMT for region (see notes)

Step 3 Establishing VMT Threshold

What is the surrounding land use context?

- URBAN → Calculate project VMT for urban context (see notes)
- SUBURBAN → Calculate project VMT for suburban context (see notes)
- RURAL → Calculate project VMT for rural context (see notes)

Step 4 Forecasting Project VMT Effects

Should the general plan's VMT effects be forecasted only through the plan's horizon year, or should a separate cumulative year analysis be conducted?

- PLAN HORIZON → Forecast general plan VMT effects for plan's time horizon (see notes)
- CUMULATIVE → Forecast general plan and separate cumulative year VMT effects (see notes)

Step 5 Identifying Significant Impacts

Do the VMT forecasts from Step 4 exceed the VMT thresholds from Step 3?

- YES → Potential significant project and/or cumulative impact: Develop mitigation measures
- NO → Process complete

Step 6 Developing Mitigation Measures

What is the surrounding land use context?

- URBAN → Develop mitigation measures for urban context (see notes)
- SUBURBAN → Develop mitigation measures for suburban context (see notes)
- RURAL → Develop mitigation measures for rural context (see notes)

Step 7 Identifying Impacts of Mitigation

Do the mitigations require new or expanded facilities/ services that may have environmental impacts that require evaluation under CEQA?

- YES → Additional analysis
- NO → Process complete

SB743 Procedural Notes: General Plan (1/2)

FEHR PEERS

OPR Steps	Analysis Procedures	Technical Notes
	Land Use Color Coding: ⊙ Urban ⊙ Suburban ⊙ Rural	
Step 1 Screening	The screening phase is not applicable. All general plans must be evaluated.	
Step 2 Establishing Baseline VMT Levels	If project is located in an incorporated city, calculate citywide and regional automobile (e.g., passenger cars and light trucks) VMT/capita per weekday for household tours or home-based trips. If located in an unincorporated area, calculate regional automobile VMT/capita per weekday for household tours or home-based trips and calculate the average VMT/capita per weekday for household tours or home-based trips of the incorporated cities in the county.	Baseline should be tied to the date of the NOP release. Hence, baseline VMT calculations may require obtaining current year data or interpolating between base year and future year model estimates.
Step 3 Establishing VMT Threshold	VMT thresholds should consider lead agency discretion and the following factors. • SB 743 legislative intent objectives to encourage infill, promote active transportation, and reduce GHGs. • Internal general plan consistency requirements especially between VMT reduction goals that may already be established for energy, air quality, and GHGs. • VMT is a composite metric that reflects the general plan's envisioned future as portrayed in the land use and circulation elements. OPR Recommendation ⊙ Case by case. ⊙⊙ Consistency with the RTP or RTP/SCS. Development specified in the plan is also specified in the SCS (i.e. the plan does not specify developing in outlying areas specified as open space in the SCS). Taken as a whole, development specified in the plan leads to VMT that is equal to or less than the VMT per capita and VMT per employee specified in the SCS. Option 1 ⊙ Consistency with the RTP. Option 2 ⊙ 95% of regional VMT/capita from Step 2. ⊙ 85% of regional VMT/capita from Step 2. ⊙ 60-25% of regional VMT/capita from Step 2. Option 3 ⊙⊙⊙ No increase in baseline VMT/capita from Step 2.	Lead agencies have ultimate discretion to establish their own significance thresholds per Guidelines Section 15064.7, but substantial evidence is required to support those thresholds. If they differ from the OPR recommendations, substantial evidence should also be provided to explain why. Option 2 thresholds are based on maximum potential VMT reductions associated with vehicle travel reduction strategies contained in the Quantifying Greenhouse Gas Mitigation Measures, CAPCOA, 2010. This option also recognizes that most travel forecasting models are not sensitive to TDM strategies so additional VMT reduction is possible through general plan implementation and TDM conditions passed through to individual projects. The CAPCOA TDM strategies generally apply to indivdual projects or sites, so any use for general plan purposes needs to focus on how subsequent development projects and even how existing development may be affected by implementation of these strategies (i.e., a TDM ordinance versus entitlement review conditions only). Threshold considerations should also consider how they will be established and used for the general plan EIR. Adopting new thresholds prior to starting the general plan EIR may be advisable to avoid a CEQA outcome that conflicts with the proposed general plan policy intent.
Step 4 Forecasting Project VMT Effects	Project Forecasting For impacts, each general plan alternative should be evaluated against existing (i.e., baseline) conditions per CEQA Guidelines Section 15125(a). For transportation, this means starting with a baseline condition upon which future population and employment and network changes are added. A general plan influences the location of land supply for permitted and conditional uses but does not change the regional control totals for cumulative population and employment growth. However, the plan may propose transportation network changes that influence regional travel behavior. As such, VMT effects should be analyzed using regional scale trip-based or activity-based models. The plan effects on VMT should be captured by modifying the network to reflect plan changes and modifying the regional allocation of population and employment growth based on the land supply changes associated with the plan alternatives. The general plan EIR analysis shall also **discuss** any inconsistencies between the proposed general plan and the currently adopted general plan per CEQA Guidelines Section 15125(d). These inconsistencies should consider CEQA Guidelines Section 15125(e), which requires **analysis that examines** potential future conditions in the adopted plan. Note the bold "discuss" and "analysis that examines." These are informational requirements for the EIR and do not establish the no project condition as a specific significance threshold. Since lead agencies are allowed to select their own significance thresholds (and should) per CEQA Guidelines Section 15064.7, the general plan should be evaluated against thresholds that are aligned with their community values and selected as part of Step 3 above. Because of the long-term horizon for a general plan, project and cumulative analysis are often the same scenario. The no project scenario should generally represent the adopted general plan in the context of the adopted RTP or RTP/SCS. The plus project scenario should represent the reallocation of the population and employment growth associated with the proposed general plan and any proposed modifications to the local and regional transportation network. Regional VMT or VMT/capita should be calculated for both scenarios. Any increase in VMT or VMT/capita above no project levels may constitute a significant impact because it could jeopardize regional air quality conformity or GHG reduction findings–hence, the recommended thresholds above in Step 3.	

SB743 Procedural Notes: General Plan (2/2)

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OPR Steps	Analysis Procedures	Technical Notes
Step 4 Forecasting Project VMT Effects (Continued)	Cumulative Forecasting Since many general plans accommodate growth beyond a 20-year horizon or beyond the planning horizon of the RTP or RTP/SCS, cities and counties should consider whether to include a separate cumulative year that recognizes this outcome. At a minimum, the potential additional land use development or population and employment growth should be acknowledged. Preferably, it would be quantified and the transportation analysis would include information about the potential effect on trips, VMT, and transportation network expansion needs. Actual link level traffic forecasts may not be reasonable especially if the land use growth includes substantial imbalances in jobs and housing.	Project level analysis may overstate the project's effect on VMT because it does not fully consider the project's influence on the VMT generation of surrounding land uses. Hence, cumulative analysis may be more meaningful for impact purposes.
Step 5 Identifying Significant Impacts	Identify significant impacts for all land use types and impact scenarios. Significant Impact may occur if project's Step 4 VMT exceeds Step 3 threshold.	
Step 6 Developing Mitigation Measures	For urban areas, effective VMT reduction strategies at the general plan level will tend to be those that alter the built environment to improve accessibility (e.g., land use density, diversity, distance to transit, etc.). TDM strategies can also be effective but the general plan needs to be clear about how these strategies will be applied to individual development projects. Many TDM strategies are specific to individual sites and will not scale up to the general plan level. VMT reduction potential is highest in urban areas due to land use density and the associated variety of travel choices typically available. For suburban and rural areas, the same notes for urban areas apply about VMT strategies, but the VMT reduction potential is lower due to land use patterns and density that generally require auto use. Trip lengths can be influenced through more compact land use patterns even if auto use is necessary.	Mitigation can include land use, transportation network, or travel behavior changes. Land use changes for a general plan typically relate to the 7Ds. Transportation network or travel behavior changes tend to include actions that reduce vehicle travel demand such as the TDM/pricing strategies contained in Quantifying Greenhouse Gas Mitigation Measures, CAPCOA, 2010.
Step 7 Identifying Impacts of Mitigation	Mitigation actions can create other environmental impacts. Mitigation actions that require the expansion of existing facilities or services or the creation of new facilities or services may have an effect on the environment that should be evaluated as prescribed by CEQA Guidelines Section 15126.4(a)(1)(D).	

Navigating Transportation Projects Through SB 743

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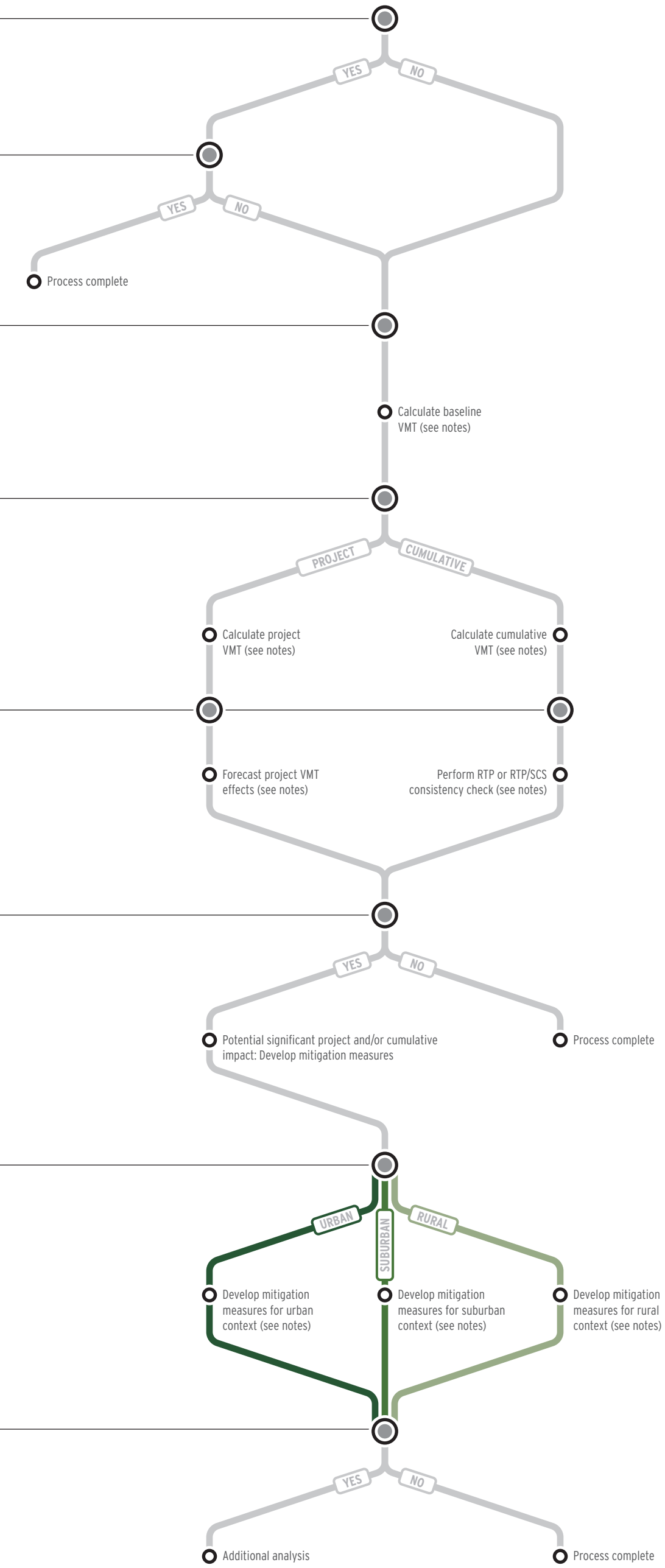
OPR Steps	Project Questions	Procedural Flowchart



Step 1 Screening

Is the project type:
- Transit
- OR Active transportation
- OR One of the road project types on page III:27 of the OPR Technical Advisory?

Does substantial evidence exist to support a finding that the project will not generate new VMT?

Step 2 Establishing Baseline VMT Levels

What are the baseline VMT levels?

Step 3 Establishing VMT Threshold

What are the project and cumulative VMT thresholds?

Step 4 Forecasting Project VMT Effects

What are the project and cumulative VMT forecasting options?

Step 5 Identifying Significant Impacts

Do the VMT forecasts from Step 4 exceed the VMT thresholds from Step 3 or is the project inconsistent with the RTP or RTP/SCS?

Step 6 Developing Mitigation Measures

What is the surrounding land use context?

Step 7 Identifying Impacts of Mitigation

Do the mitigations require new or expanded facilities/ services that may have environmental impacts that require evaluation under CEQA?

SB743 Procedural Notes: Transportation (1/2)

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OPR Steps	Analysis Procedures	Technical Notes
Step 1 Screening	If "yes" to both questions on flowchart, process complete. If "no" to the first question, go to Step 2.	
Step 2 Establishing Baseline VMT Levels		Baseline should be tied to the date of the NOP release. Hence, baseline VMT calculations may require obtaining current year data or interpolating between base year and future year model estimates.
Step 3 Establishing VMT Threshold	**Project VMT Threshold: Option 1** Use the OPR Technical Advisory recommendation of 2,075,220 VMT/year. Note that the OPR recommendation relies on a VMT budget derived from allowed VMT growth associated with the ARB Draft Mobile Source Strategy and an allocation of the VMT growth across an estimate of future projects expected to be completed statewide by 2030. The Mobile Source Strategy is designed to demonstrate how the State can simultaneously meet air quality standards, achieve greenhouse gas reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next 15 years. The allocation of VMT growth across projects is intended to provide a "per project" threshold. Use of a VMT budget may be an appropriate method but lead agencies should consider whether to use the Mobile Source Strategy or the applicable RTP or RTP/SCS. RTPs and RTP/SCS are updated every four or five years and must respond to ARB changes to statewide goals for air quality and greenhouse gas reduction. If a VMT budget is used, it should consider that VMT growth occurs due to a variety of factors including, but not limited to, population and employment growth, induced travel, changes in economic activity, changes in travel modes, changes in travel costs, changes in demographics, and changes in technology. Hence, reliance on forecasted increases in VMT over time to establish a budget for transportation projects should appropriately account for the proportion generated by induced travel versus the other factors. We estimate that induced travel accounts for less than about 10 percent of regional VMT growth over a typical 20-year planning horizon based on model testing using MPO regional travel forecasting models. Once a final budget is established, the allowed VMT growth needs to be allocated across planned transportation projects. The allocation method should consider all three objectives of SB 743. Incorporating all of this information into a final threshold would likely result in a project VMT threshold lower than currently proposed in the OPR guidance. **Project VMT Threshold: Option 2** Use RTP or RTP/SCS consistency. **Cumulative VMT Threshold** Use RTP or RTP/SCS consistency.	The RTP or RTP/SCS are the regional plans that demonstrate compliance with air quality conformity requirements and GHG reduction targets. As such, projects that are consistent with these plans (or do not cause increases in planned VMT growth) are part of the regional solution for meeting air pollution and GHG goals.
Step 4 Forecasting Project VMT Effects	**Project Forecasting: Option 1** Use a short-term induced travel elasticity to directly estimate the project's VMT effect. Rely on short-term elasticities contained in the ARB SB 375 Policy Brief on Induced Travel available at http://www.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_brief.pdf **Project Forecasting: Option 2** Use a regional travel forecasting model to estimate opening year no project and opening year plus project VMT. Verify the model is sensitive to short-term induced travel effects through dynamic validation and sensitivity testing. **Cumulative Forecasting** Perform RTP or RTP/SCS consistency check. If the project is specifically referenced or listed in the RTP or RTP/SCS as well as accurately represented in the regional travel forecasting model, no further analysis is required. If not, then the project should be added to the RTP or RTP/SCS regional forecasting model and the model should be re-run to forecast regional VMT.	Project level analysis may overstate the project's effect on VMT because it does not fully consider the project's influence on the VMT generation of surrounding land uses. Hence, cumulative analysis may be more meaningful for impact purposes.

SB743 Procedural Notes: Transportation (2/2)

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OPR Steps	Analysis Procedures	Technical Notes
Step 5 Identifying Significant Impacts	Identify significant impacts for all impact scenarios. Significant Impact may occur if project's Step 4 VMT exceeds Step 3 threshold or the project is found inconsistent with the RTP or RTP/SCS (i.e., the project generates more VMT than the adopted RTP or RTP/SCS).	
Step 6 Developing Mitigation Measures	Urban For urban areas, potential mitigation options include modifying the project–or the overall system operations of the network that the project is part of–to reduce VMT by relying on greater levels of traffic flow and demand management plus travel or parking pricing. Suburban For suburban areas, potential mitigation options include modifying the project–or the overall system operations of the network that the project is part of–to reduce VMT by relying on greater levels of traffic flow and demand management. Rural For rural areas, there are limited options for roadway capacity expansion mitigations given that their purpose and need is likely to conflict with VMT reduction goals.	Mitigation is likely to require modification of the project such that any new capacity is managed to achieve specific performance objectives that balance vehicle throughput, person throughput, and travel speeds. Ideally, new capacity would result in higher levels of person miles traveled per lane mile, which can only occur if vehicle occupancy is increased by the project.
Step 7 Identifying Impacts of Mitigation	Mitigation actions can create other environmental impacts. Mitigation actions that require the expansion of existing facilities or services or the creation of new facilities or services may have an effect on the environment that should be evaluated as prescribed by CEQA Guidelines Section 15126.4(a)(1)(D).	

Navigating Land Use Projects Through SB 743

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OPR Steps	Project Questions	Procedural Flowchart

Decision — Analytical process or procedural outcome

Step 1 Screening

Is the project:
- In a transit priority area
- OR In a low VMT area
- OR Local serving retail less than 50,000 square feet?

Is the project:
- Floor area ratio greater than 0.75
- AND Consistent with parking requirements without oversupplying
- AND Consistent with RTP/SCS?

YES / NO

Process complete

Step 2 Establishing Baseline VMT Levels

What is the project land use?

RESIDENTIAL / OFFICE / RETAIL / OTHER

- Calculate baseline residential VMT (see notes)
- Calculate baseline office VMT (see notes)
- Calculate baseline retail VMT (see notes)
- Calculate baseline other VMT (see notes)

Step 3 Establishing VMT Threshold

What are the project and cumulative VMT thresholds?

PROJECT

- Calculate project VMT (see notes)

CUMULATIVE

- Calculate cumulative VMT (see notes)

Step 4 Forecasting Project VMT Effects

What are the project and cumulative VMT forecasting options?

- Forecast project VMT effects (see notes)
- Forecast cumulative VMT effects (see notes)

Step 5 Identifying Significant Impacts

Do the VMT forecasts from Step 4 exceed the VMT thresholds from Step 3?

YES / NO

- Potential significant project and/or cumulative impact: Develop mitigation measures
- Process complete

Step 6 Developing Mitigation Measures

What is the surrounding land use context?

URBAN / SUBURBAN / RURAL

- Develop mitigation measures for urban context (see notes)
- Develop mitigation measures for suburban context (see notes)
- Develop mitigation measures for rural context (see notes)

Step 7 Identifying Impacts of Mitigation

Do the mitigations require new or expanded facilities/ services that may have environmental impacts that require evaluation under CEQA?

YES / NO

- Additional analysis
- Process complete

SB743 Procedural Notes: Land Use (1/2)

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OPR Steps	Analysis Procedures	Technical Notes
	Land Use Color Coding: Residential Office Retail Other	
Step 1 Screening	If "yes" to both questions on flowchart, process complete. If "no" to the first question, go to Step 2.	Lead agencies make final determinations about RTP or RTP/SCS consistency, but MPOs may provide guidance or technical assistance.
Step 2 Establishing Baseline VMT Levels	Residential If project is located in an incorporated city, calculate citywide and regional automobile VMT/capita per weekday for household tours or home-based trips. If located in an unincorporated area, calculate regional automobile VMT/capita per weekday for household tours or home-based trips and calculate the average VMT/capita per weekday for household tours or home-based trips of the incorporated cities in the county. Office If project is located in an incorporated City, calculate regional automobile VMT/employee per weekday for employee work tours or home-based-work trips. If located in an unincorporated area, calculate average VMT/employee per weekday for employee work tours or home-based-work trips of incorporated cities in the county. Retail Calculate total VMT or VMT/capita of market area served by the proposed retail project. Other If project is located in an incorporated City, calculate regional automobile VMT/employee per weekday for employee work tours or home-based-work trips. If located in an unincorporated area, calculate average VMT/employee per weekday for employee work tours or home-based-work trips of incorporated cities in the county.	Baseline should be tied to the date of the NOP release. Hence, baseline VMT calculations may require obtaining current year data or interpolating between base year and future year model estimates.
Step 3 Establishing VMT Threshold	Project VMT Threshold 85% of citywide or regional VMT/capita from Step 2. No increase in VMT or VMT/capita from Step 2. Lead agency discretion. Should consider SB743 objectives to encourage infill, promote active transportation, and reduce GHGs. Thresholds recommended for office or retail may also be considered. Cumulative VMT Threshold Consistency with the RTP or RTP/SCS.	Lead agencies have ultimate discretion to establish their own significance thresholds per Guidelines Section 15064.7, but substantial evidence is required to support those thresholds. If they differ from the OPR recommendations, substantial evidence should also be provided to explain why.
Step 4 Forecasting Project VMT Effects	Project Forecasting: Option 1 Multiply project's household or home-based automobile trips by full trip lengths obtained from survey or travel forecasting model estimates. Trip lengths vary depending on household activity or trip purpose. Trip lengths should not be truncated due to political boundaries. Divide the resulting VMT estimate by the project's residential population to calculate VMT/capita. Population estimate should be derived from household size estimates used for other environmental impact analysis or public infrastructure planning related to water, sewer, or school facilities. Project Forecasting: Option 2 Enter project land use into an isolated traffic analysis zone in the base year of a regional travel forecasting model and run the model to produce automobile VMT for that specific zone. Check location of the zone to verify that trip lengths are not truncated due to model boundaries. Check production/attraction balance to determine if the model accurately represents full trip generation of the project. Divide the resulting VMT estimate by the project's residential population to calculate VMT/capita. Population estimate should be derived from household size estimates used for the model, other environmental impact analysis, or public infrastructure planning related to water, sewer, or school facilities. Project Forecasting: Option 3 Multiply project's commute tour or home-based-work automobile trips by full trip lengths obtained from survey or travel forecasting model estimates. Trip lengths vary depending on trip purpose. Trip lengths should not be truncated due to political boundaries. Divide the resulting VMT estimate by the project's employment to calculate VMT/employee. Employment estimate should be derived from estimates used for other environmental impact analysis. Project Forecasting: Option 4 Enter project land use into an isolated traffic analysis zone in the base year of a regional travel forecasting model and run the model to produce automobile VMT for that specific zone. Check location of the zone to verify that trip lengths are not truncated due to model boundaries. For trip based models, check production/attraction balance to determine if the model accurately represents full trip generation of the project. Divide the resulting VMT estimate by the project's employment estimate to calculate VMT/employee. Employment estimate should be derived from the model or other enviornmental impact analysis. Project Forecasting: Option 5 Determine if project area is underserved for the proposed retail use and whether the project is likely to shorten existing shopping trips by creating an intervening location between trip origins and current shopping destinations. Document evidence to support the likelihood of the project shortening existing trips.	Project level analysis may overstate the project's effect on VMT because it does not fully consider the project's influence on the VMT generation of surrounding land uses. Hence, cumulative analysis may be more meaningful for impact purposes.

SB743 Procedural Notes: Land Use (2/2)

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OPR Steps	Analysis Procedures	Technical Notes
	Land Use Color Coding: Residential Office Retail Other	
Step 4 Forecasting Project VMT Effects (Continued)	**Project Forecasting: Option 6** (Retail, Other) Calculate total VMT for the market area of the proposed retail use without the project and then calculate the project's total VMT and add it to this baseline for the market area. This will typically involve multiplying automobile trips by full trip lengths obtained from survey or travel forecasting model estimates. Trip lengths vary depending on trip purpose. Trip lengths should not be truncated due to political boundaries. Divide the resulting VMT estimates by the total population of the market area (with and without the project). Population estimates should be derived from household size estimates used for other environmental impact analysis or public infrastructure planning related to water, sewer, or school facilities. **Project Forecasting: Option 7** (Retail, Other) Estimate VMT for the market area of the proposed retail project using a regional travel forecasting model. This will typically involve aggregating the VMT produced by a group of zones withing a defined geographic boundary. The VMT estimate should be divided by the population of the zones to calculate the VMT/capita. Next, enter the project land use into an isolated traffic analysis zone in the base year of a regional travel forecasting model and re-run the model to produce automobile VMT for the market area of the proposed retail use. Check location of the zone/zones to verify that trip lengths are not truncated due to model boundaries. For trip based models, check production/attraction balance to ensure the model accurately represents trip generation of the project. Divide the resulting VMT estimate by the market area residential population to calculate VMT/capita. Population estimate should be derived from household size estimates used for the model, other environmental impact analysis, or public infrastructure planning related to water, sewer, or school facilities. **Cumulative Forecasting: Option 1** (Residential, Office, Retail, Other) Check consistency of the project with the RTP or RTP/SCS. The RTP or RTP/SCS are the regional plans that demonstrate compliance with air quality conformity requirements and GHG reduction targets. As such, projects that are consistent with these plans in terms of development location, density, intensity, proximity to transit, and urban design are part of the regional solution for meeting air pollution and GHG goals. **Cumulative Forecasting: Option 2** (Residential, Office, Retail, Other) Land use projects influence land supply for permitted and conditional uses. They do not change the regional control totals for cumulative population and employment growth. As such, VMT effects should be analyzed by specifically changing the allocation of population and employment growth based on the land supply changes associated with the project. The cumulative no project model run should represent the adopted RTP or RTP/SCS conditions while the cumulative plus project condition should represent the reallocation of the population and employment growth. Regional VMT or VMT/capita should be calculated for both scenarios. Any increase in VMT or VMT/capita may constitute a significant impact because it could jeopardize regional air quality conformity or GHG reduction findings.	
Step 5 Identifying Significant Impacts	Identify significant impacts for all land uses and impact scenarios. Significant Impact may occur if project's Step 4 VMT exceeds Step 3 threshold.	
Step 6 Developing Mitigation Measures	**Urban** For urban areas, the number of effective VMT reduction strategies includes a broad range of both on-site and off-site actions. VMT reduction potential exceeds the 15% reduction threshold for single use projects. **Suburban** For suburban areas, the number of effective VMT reduction strategies includes on-site and off-site actions but will depend on the general density and intensity of the community, existing levels of transit service, and conduciveness for walking and bicycling. VMT reduction potential is close to the 15% reduction threshold for single use projects. **Rural** For rural areas, the number of effective VMT reduction strategies are few due to auto-dependent land use patterns and limited transit availability. VMT reduction potential is likely less than the 15% reduction threshold for single use projects. Area-wide TDM programs may be more effective but would require the lead agency to have already established the program to be feasible mitigation.	Mitigation can include project design changes related to the 7Ds or actions to reduce vehicle travel demand such as the TDM/pricing strategies contained in Quantifying Greenhouse Gas Mitigation Measures, CAPCOA, 2010.
Step 7 Identifying Impacts of Mitigation	Mitigation actions can create other environmental impacts. Mitigation actions that require the expansion of existing facilities or services or the creation of new facilities or services may have an effect on the environment that should be evaluated as prescribed by CEQA Guidelines Section 15126.4(a)(1)(D).	