El Cerrito



TECHNICAL ADVISORY COMMITTEE MEETING NOTICE & AGENDA

Hercules

DATE & TIME: Thursday, January 11, 2018 • 9:00 AM – 11:30 AM

LOCATION: WCCTAC Office • 6333 Potrero Ave. at San Pablo Avenue, El Cerrito, CA 94530 TRANSIT OPTIONS: Accessible by AC Transit #72, #72R, #72M & Del Norte BART Station

Pinole

Richmond

1. CALL TO ORDER and SELF-INTRODUCTIONS

Estimated Time*: 9:00 am (5 minutes)

2. PUBLIC COMMENT

Estimated Time*: 9:05 am (5 minutes)

The public is welcome to address the TAC on any item that is not listed on the agenda. Please fill out a speaker card and hand it to staff. Please limit your comments to 3 minutes. Pursuant to provisions of the Brown Act, no action may be taken on a matter unless it is listed on the agenda, or unless certain emergency or special circumstances exist. The WCCTAC TAC may direct staff to investigate and/or schedule certain matters for consideration at a future TAC meeting.

San Pablo

3. CONSENT CALENDAR

Estimated Time*: 9:10 am (5 minutes)

Contra Costa County

AC Transit

BART

A. Minutes & Sign in Sheet from November 16, 2017

Recommendation: Approve as presented.

Attachment: Yes

4. REGULAR AGENDA ITEMS

A. I-80 Smart Corridor (ICM) Outstanding Issues

Description: Provide feedback to the Caltrans Corridor Manager and WCCTAC Staff on any outstanding issues or concerns related to the I-80 Smart Corridor (ICM) Project.

Recommendation: Provide information to Caltrans regarding I-80 Smart Corridor

concerns.

Attachment: Yes

Presenter/Lead Staff: David Man, Caltrans; John Nemeth, WCCTAC

Estimated Time*: 9:15 am (45 minutes)

WestCAT

^{*} Estimated time for consideration is given as a service to the public. Please be advised that an item on the agenda may be considered earlier or later than the estimated

B. STMP Nexus Study Update: Project List Development

Description: Provide feedback on draft project list prior to its presentation to the WCCTAC Board.

Recommendation: Provide feedback to consultant; forward a recommended project list to the Board of Directors.

Attachment: Yes

Presenter/Lead Staff: Julie Morgan and Francisco Martin, Fehr and Peers; Leah

Greenblat, WCCTAC

Estimated Time*: 10:00 am (70 minutes)

5. STANDING ITEMS

A. Technical Coordinating Committee (TCC) Report

Description: Several items of interest for TAC members. TCC staff reports from the December 21, 2017 meeting are provided:

- Item 5-Update on Changes to Road Mileage Methodology Affecting Measure J Local Street Maintenance and Improvement Fund Allocations;
- Item 6-Update on SB 743 and the Governor's Office of Planning and Research Release of the Proposed Updates to CEQA Guidelines;
- Item 7-Incorporating Plan Bay Area 2040 Projections 2017 Land Use into the Countywide Travel Demand Forecasting Model

Recommendation: Information. Receive update.

Attachment: Yes

Presenter/Lead Staff: WCCTAC's TCC Representatives & WCCTAC Staff

Estimated Time*: 11:10 am (15 minutes)

B. Staff and TAC Member Announcements

Recommendation: Receive update.

Attachment: No

Presenter/Lead Staff: WCCTAC's TCC Representatives & WCCTAC Staff

Estimated Time*: 11:25 am (5 minutes)

6. ADJOURNMENT

Description / Recommendation: Adjourn to the next regularly scheduled meeting of the TAC on Thursday, February 8, 2018. (The next regular meeting of the WCCTAC Board is Friday, January 26, 2018.)

Estimated Time*: 11:30 am

^{*} Estimated time for consideration is given as a service to the public. Please be advised that an item on the agenda may be considered earlier or later than the estimated

- In compliance with the Americans with Disabilities Act of 1990, if you need special assistance
 to participate in the WCCTAC TAC meeting, or if you need a copy of the agenda and/or
 agenda packet materials in an alternative format, please contact Valerie Jenkins at
 510.210.5930 prior to the meeting.
- If you have special transportation requirements and would like to attend the meeting, please call the phone number above at least 48 hours in advance to make arrangements.
- Handouts provided at the meeting are available upon request and may also be viewed at WCCTAC's office.
- Please refrain from wearing scented products to the meeting, as there may be attendees susceptible to environmental illnesses. Please also put cellular phones on silent mode during the meeting.
- A meeting sign-in sheet will be circulated at the meeting. Sign-in is optional.

^{*} Estimated time for consideration is given as a service to the public. Please be advised that an item on the agenda may be considered earlier or later than the estimated

This Page Intentionally Blank



El Cerrito

WCCTAC TAC Meeting Minutes

Hercules

Pinole

MEETING DATE: November 16, 2017

MEMBERS PRESENT: John Cunningham, Nikki Foletta, Barbara Hawkins, Nathan

Landau, Tamara Miller, Yvetteh Ortiz, and Mike Roberts.

GUESTS: Bill Pinkham, Matt Kelly, Ian Griffiths, Baljit Sidhu, Dina El-

Nakhal, Julie Morgan and Francisco Martin

Richmond

STAFF PRESENT: John Nemeth, Leah Greenblat

ACTIONS LISTED BY: WCCTAC Staff

San Pablo

Contra Costa County

AC Transit

BART

WestCAT

ITEM/DISCUSSION	ACTION/SUMMARY
Called to Order	No quorum until 9:25 a.m.
Public Comment	None.
Consent Calendar: a. Draft 2018 WCCTAC Meeting Calendar b. Action Minutes and Sign-in Sheet from October 12, 2017	Moved by Roberts, seconded by Ortiz and unanimously adopted as amended to forward the draft meeting calendar with a changed Board meeting date to June 15, 2018 and approve the minutes and sign in sheet from the October 12, 2017 TAC meeting.
Interstate 80 Paving Rehabilitation Project	On behalf of Dina El-Nakhal, Baljit Sidhu from Caltrans provided the TAC with an update on the I-80 paving project.
STMP Nexus Study Update: Review Preliminary Draft Projects for Consideration	Francisco Martin and Julie Morgan, from Fehr and Peers, presented a memo which included a draft project list. The TAC reviewed the list, provided comments, and agreed to provide any additional comments by December 8 so the consultants could return in January with an updated list.
	Called to Order Public Comment Consent Calendar: a. Draft 2018 WCCTAC Meeting Calendar b. Action Minutes and Sign-in Sheet from October 12, 2017 Interstate 80 Paving Rehabilitation Project STMP Nexus Study Update: Review Preliminary Draft

			nical Advisory Committee Meeting	
WCCTAC TAC	INITIALS	AGENCY	EMAIL	PHONE
		Richmond	Lori reese-	510.620.6869
Lori Reese Brown			brown@ci.richmond.ca.us	
		Richmond	Yader_berumudez@ci.richmond.ca.	510.774.6300
Yader Bermudez			us	
John Cunningham	06	CCC CD	John.cunningham@dcd.cccounty.us	925.674.7833
Nikki Foletta	1.7	BART	nfoletta@bart.gov	925.256.4729
Deneé Evans		Richmond	Denee.evans@ci.richmond.ca.us	510.621.1718
Barbara Hawkins	63	City San Pablo	Barbarah@sanpabloca.gov	510.215.3061
Nathan Landau		AC Transit	NLandau@actransit.org	510.891.4792
Tamara Miller \68	T // DW	Pinole	tmiller@ci.pinole.ca.us	510.724.9010
Melanie Mintz		El Cerrito	mmintz@ci.el-cerrito.ca.us	510.215.4330
Yvetteh Ortiz	170	El Cerrito	yortiz@ci.el-cerrito.ca.us	510.215.4345
Coire Reilly		CCHS	coire.reilly@hsd.cccounty.us	925.313.6252
Winston Rhodes		Pinole	wrhodes@ci.pinole.ca.us	510.724.9832
Mike Roberts	MR	Hercules	miker@ci.hercules.ca.us	510.799.8241
Robert Sarmiento		CCC CD	robert.sarmiento@dcd.cccounty.us	925.674.7822
Julia Schnell		WestCAT	julia@westcat.org	510.724.3331
Holly Smith		Hercules	hsmyth@ci.hercules.ca.us	510.245.6531
Steven Tam		Richmond	steven tam@ci.richmond.ca.us	510.307.8091
Michael Tanner		BART	mtanner@bart.gov	
Robert Thompson		WestCAT	rob@westcat.org	510.724.3331
Ryan Greene-Roesel		BART	rgreene@bart.gov	510.287.4797
the second		,		
WCCTAC STAFF				
Danelle Carey		WCCTAC	dcarey@wcctac.org	510.210.5932
Leah Greenblat	45	WCCTAC	Igreenblath@wcctac.org	510.210.5935
Valerie Jenkins		WCCTAC	vjenkins@wcctac.org	510.210.5931
John Nemeth		WCCTAC	jnemeth@wcctac.org	510.210.5933
Joanna Pallock		WCCTAC	jpallock@wcctac.org	510.210.5934
CCTA STAFF				
Brad Beck		CCTA	bbeck@ccta.net	925,256,4726
Peter Engel		CCTA	pengel@ccta.net	925.256.4741
Matt Kelly	11/14	CCTA	mkelly@ccta.net	925.256.4730
Hisham Noeimi		CCTA	hnoeimi@ccta.net	925.256.4731
JURISDICTION	:			
AGENCY STAFF				
Charlie Anderson		WESTCAT	charlie@westcat.org	510.724.3331
Aleida Andrino-Chavez	<u> </u>	Albany	achavez@albanyca.org	510.528.5759
Jim Cunradi		AC Transit	jcunradi@actransit.org	510.891.4841
Deidre Heitman		BART	dheitma@bart.gov	510.287.4796
Michelle Rodriguez		San Pablo	micheller@sanpablo.gov	510.215.3031
Robert Del Rosario		AC Transit	rdelrosa@actransit.org	510.891.4734
Rod Simpson		City San Pablo	Rods@sanpablo.gov	510.215.3036
Lina Velasco		Richmond	lina_velasco@ci.richmond.ca.us	510.620.6841
lan Griffiths.		BART.	gigriffichars.gov.	510.821.449
Dave Campbell		Dika East Day	days@hileocaethay.org	510 701 5071
· · · · · · · · · · · · · · · · · · ·		Bike East Bay	dave@bikeeastbay.org	510.701.5971
Bill Pinkham	=Am	CBPAC Rep	Bpinkham3@gmail.com	510.734.8532
Rita Xavier		San Pablo Res.	bulist Sidle Odt Co. gov	542 ZPC C

Balint Sidk Ca. gov W:\New File Org\WCCTAC TAC\TAC Meeting PREP PLAYPEN\Sign In Grid Template.doc 510.385.6750

Julie Morgan + Francisco Marbin

Fehr+Peers j. morgan@fehrandpeers.com



TO: WCCTAC TAC MEETING DATE: January 11, 2018

FR: John Nemeth, Executive Director

RE: I-80 Smart Corridor (ICM) Outstanding Issues

REQUESTED ACTION

Review changes to the consultant's memo and provide feedback on the draft STMP project list.

BACKGROUND AND DISCUSSION

The corridor manager for the I-80 Smart Corridor (ICM) Project, David Man, will be in attendance to answer questions and gather any and all concerns about the project from TAC members. The Smart Corridor project has its own TAC, which is the primary forum and vehicle for addressing project issues. Mr. Man's presence at the WCCTAC TAC provides a convenient opportunity for TAC members to express the concerns of their jurisdiction.

In December of 2017, the WCCTAC Board officially formalized the I-80 Advisory Ad Hoc Subcommittee. That Subcommittee is tasked with discussing two issues: 1) I-80 HOV lane degradation and 2) the I-80 Smart Corridor (ICM). The Subcommittee, consistent with the I-80 ICM Memorandum of Understanding, is encouraging technical and operational matters to be solved at the TAC/staff level. If there are serious addressed that cannot be resolved, the Subcommittee could request that these issues be considered by a Corridor Steering Committee or Policy Advisory Committee, as outlined in the MOU.

This Page Intentionally Blank



TO: WCCTAC TAC MEETING DATE: January 11, 2018

FR: Leah Greenblat, Project Manager

RE: STMP Nexus Study Update: Draft Project List Development

REQUESTED ACTION

Review changes to the consultant's memo and provide feedback on the draft STMP project list.

BACKGROUND AND DISCUSSION

At the November 16, 2017 TAC meeting, the consultants for the STMP Nexus Study Update presented draft lists of potential projects that could be made eligible for funding. TAC members provided input at the meeting and were requested to submit additional comments and updates to the list in early December, so the consultants could prepare a revised draft project list.

Since the TAC's meeting, the consultants also provided the WCCTAC Board with a study update and reviewed the project selection criteria. As a result of both of these meetings and the comments received, the consultants have revised their last technical memo and the project list. Attached to this staff report is a strikeout version of the memo to show clearly the changes that were made. Also attached is a newly configured draft project list and a log of the comments received.

Prior to the TAC meeting, please consult, as appropriate, with your jurisdictions' staff to ensure that the information is correct on the revised, draft, project list information. Please bring any needed corrections and updated information (such as project status or cost estimates) to the TAC meeting to provide to the consultants.

ATTACHMENT:

- A. Revised January 3, 2018 Fehr and Peers memo regarding West County STMP Update: Preliminary Draft Projects for Consideration with revised draft project list
- B. Comment Tracking Log

This Page Intentionally Blank



DRAFT TECHNICAL MEMORANDUM

Date: <u>January 5, 2018October 31, 2017</u>

To: Leah Greenblat and John Nemeth, WCCTAC

From: Francisco Martin and Julie Morgan, Fehr & Peers

Subject: West County STMP Update: Preliminary Draft Projects for Consideration

OK17-0177

The West Contra Costa Subregional Transportation Mitigation Program (STMP) is a development impact fee program that generates funds for regional and subregional transportation improvement projects. The STMP was first adopted in 1997, and an updated nexus study was prepared in 2005. The current effort is to update the program by completing a new nexus study; the following tasks have been reviewed by the West Contra Costa Transportation Advisory Committee (WCCTAC) Technical Advisory Committee (TAC) and completed to date:

- Conducted a review of the 2005 nexus study, current fee levels, and fee program administration and compared its methods to current professional best practices¹.
- Reviewed historical and projected housing and job growth in West County². The WCCTAC
 TAC recommended a 0.9 percent annual housing growth rate and 1.2 percent annual job
 growth assumption for use in the nexus study update during the September 14, 2017 TAC
 meeting.
- Developed a set of filtering criteria that can be applied to proposed transportation projects in West County to define STMP-eligible projects³. The criteria were accepted by the TAC during the September 14, 2017 meeting.

¹ The information is summarized in the technical memorandum titled West County STMP Update: Review of Prior Nexus Study, Current Fee Levels, and Fee Program Administration (Fehr & Peers, July 25, 2017).

² The information is summarized in the technical memorandum titled *West County STMP Update: Review of Growth Projections* (Fehr & Peers, August 21, 2017).

³ The information is summarized in the technical memorandum titled *West County STMP Update: Potential New Project List Criteria* (Fehr & Peers, September 5, 2017).



 Prepared an Existing Conditions summary of current transportation operations along Routes of Regional Significance, existing transit services, and existing pedestrian and bicycle infrastructure to identify existing deficiencies⁴.

An important element of a nexus study is to identify the capital improvement projects that will be eligible to receive funds from the fee program. This memorandum presents the current STMP projects, an updated as well as a draft list of potential additional projects to be considered by the TAC. Note that the Mitigation Fee Act specifies that impact fees should be used to fund capital projects, and not for ongoing operating or maintenance costs; therefore, emphasis will be placed on defining a set of capital projects that achieve the regional goals of the STMP program.

PROJECT LIST CRITERIA

There are many transportation needs in West County, and many projects have been considered or are in various phases of planning. To define projects that are consistent with the regional emphasis of the STMP program, the following criteria were considered and accepted by the TAC during the September 14, 2017 meeting.

As a first step, all STMP-eligible projects must meet the following criterion:

• Does the project have a reasonable expectation of implementation during the timeframe of the fee program (i.e., year 2040)?

Then, a project should meet at least one of the following criteria to be eligible for STMP funding:

- Does the project address the impacts of congestion on regional travel?
- Is the project located on a Route of Regional Significance?
- Does the project improve access to BART stations, transit centers or major transit hubs?
- Does the project increase transit ridership?
- Does the project improve bicycle or pedestrian access to transit?

Although the focus of the STMP project list is to identify improvements that serve regional travel needs by reducing congestion or increasing accessibility along Routes of Regional Significance and

⁴ The information is summarized in the technical memorandum titled *West County STMP Update: Review of Existing Conditions* (Fehr & Peers, September 6, 2017).



major transit facilities, it is important to note that projects that are not directly located on such routes may also be considered. Specifically, projects along other roadways that could indirectly improve regional travel or the operations of Routes of Regional Significance may meet one or more of the above criteria, and thus be STMP-eligible.

PRELIMINARY DRAFT PROJECT LIST

A draft project list for the TAC's consideration is presented in **Attachment A**. This list contains the projects currently in the STMP, as well as projects that have been identified as potential additions to the STMP through the review of recent planning documents and the application of the project eligibility criteria described above.

CURRENT STMP PROJECT LIST

The current STMP provides funding for 11 projects that were the subject of the 2005 Update of the STMP nexus study. These projects are varied, ranging from interchange improvements along Interstate 80 (I-80) and State Route 4 (SR 4), traffic/pedestrian/transit improvements along arterial corridors such as San Pablo Avenue and San Pablo Dam Road, parking and access improvements at transit stations (including BART and intermodal stations in Richmond and Hercules), and investments in completing the Bay Trail. The current STMP project list is presented in Attachment ANote that one project, the Hercules Transit Center at the I-80/SR 4 interchange (original ID #10), has been completed and therefore has been removed from the project list.

For reference purposes, the approved filtering criteria were applied to the current STMP project list. Most projects met at least one of the criteria, but two projects did not with the following caveats.

• The Bay Trail Gap Closure project (ID #6) does not appear to meet any of the criteria, unless it could be demonstrated that future development (housing and jobs) will occur within the vicinity of the Bay Trail and that the Trail would be used not only for recreational purposes but for significant amounts of non-recreational travel, which could thereby improve regional congestionhas limited relation to the criteria since only certain segments of the Bay Trail provide direct access to major transit services. Some transit-focused STMP projects, such as the Hercules Intermodal Transit Center and the Richmond Ferry Terminal, include elements to address gaps in the Bay Trail near those facilities. Other Bay Trail segments that fit the STMP project criteria could also be considered for inclusion.



 The North Richmond Connector project (ID #9) does not appear to meet any of the criteria, unless it could be demonstrated that its function would be to reduce demand and regional congestion on Richmond Parkway, a designated Route of Regional Significance.

As part of the current nexus study update, the TAC and Board may decide to continue to include some or all of the remaining STMP projects in the updated fee program.

OTHER POTENTIAL ADDITIONAL STMP-ELIGIBLE PROJECTS

Fehr & Peers, in coordination with WCCTAC staff, developed a preliminary list of additional STMP-eligible projects that meet at least one of the approved filtering criteria. Stakeholders may consider these projects for inclusion in the nexus study update. These additional projects were preliminary list is presented in Attachment B and was identified by reviewing a number of planning and environmental clearance documents addressing West County's existing and future transportation needs. An initial list of potential additional projects was discussed with the TAC on November 16; TAC comments have been incorporated and are reflected in the list presented in Attachment A. The set of comments provided by TAC members and the corresponding responses by WCCTAC and Fehr & Peers staff are summarized in Attachment B. The following Ddocuments were reviewed to develop the preliminary project listinclude:

- Regional Measure 3 Expenditure Plan (MTC, September 2017)
- 2016 Express Bus Study Update Final Report (CCTA, June 2017)
- 2017 Countywide Comprehensive Transportation Plan Public Review Draft (CCTA, May 2017)
- West Contra Costa High-Capacity Transit Study (WCCTAC, May 2017)
- 2015 Update of the Contra Costa Congestion Management Program (CCTA, December 2015)
- 2014 Comprehensive Transportation Project List (CCTA, March 2015)
- West County Action Plan for Routes of Regional Significance (CCTA, January 2014)
- West Contra Costa Transit Enhancement and Wayfinding Plan (WCCTAC, October 2011)
- 2009 Contra Costa Countywide Bicycle and Pedestrian Plan (CCTA, October 2009)
- Various planning and environmental documents completed in the past several years and available on agency websites, including the following:
 - o Final Hercules Safeway Project Transportation Impact Assessment (City of Hercules,
 - Administrative Draft San Pablo City Hall Site Reuse Project Transportation Impact Assessment (City of San Pablo, June 2017)



- San Pablo Avenue Complete Streets Study Feasibility Report (Contra Costa County Public Works, April 2017)
- Administrative Draft West County Health Center Transportation Impact Analysis
 (Contra Costa County, April 2017)
- Draft CEQA Initial Study/Mitigated Negative Declaration Goodrick Avenue Bay Trail
 Gap Closure Project (City of Richmond, January 2017)
- CVS/Pharmacy & Wireless Communication Facility Relocation Initial Study (City of Pinole, October 2015)
- o South Richmond Transportation Connectivity Plan (City of Richmond, July 2015)
- Bay Walk Mixed-Use Project Final Initial Study and Mitigated Negative Declaration (City of Richmond, July 2015)
- o Pinole Gateway Shopping Center Initial Study (City of Pinole, January 2015)
- o San Pablo Avenue Specific Plan (City of El Cerrito, December 2014)
- Final Sycamore Crossing Transportation Assessment (City of Hercules, November 2014)
- Final Environmental Impact Report San Pablo Avenue Specific Plan (City of El Cerrito, August 2014)
- Richmond Central Project Initial Study Checklist Public Review Draft (City of Richmond, April 2014)
- Draft Environmental Impact Report Bottoms Property Residential Project (City of Richmond, March 2014)
- Final Report for the San Pablo Avenue Complete Streets Study (Cities of Richmond and San Pablo, September 2013)
- o City of Richmond Bicycle Master Plan (City of Richmond, October 2011)
- o Ohlone Greenway Master Plan (City of El Cerrito, June 2009)

Fehr & Peers reviewed the documents listed above and identified an initial list of capital projects that were either located on a Route of Regional Significance or could indirectly improve operations on such Routes. This initial screening process identified more than 150 projects. Fehr & Peers then removed duplicative projects, consolidated projects that contained similar elements based on project descriptions, and applied the approved filtering criteria, thereby developing athe preliminary draft list of 39 new projects, in addition to the 11 projects on the current STMP list; provided in Attachment Bthe projects were discussed with the TAC on November 16. The set of potential projects has now been further reduced to 30 projects after incorporating the TAC's



<u>comments</u>; the full list of TAC comments and responses are summarized in Attachment B. At this stage, we are asking TAC members and other interested parties to review the <u>updated</u> draft list and <u>continue to</u> provide feedback.

To inform the TAC's feedback, it is important to consider that the current STMP contains 11 projects. The STMP generated approximately \$8.6 million in revenue over the time period between 1998 and 2016, which represents less than 3% of the total estimated cost of those 11 projects. If there is interest in having the fee cover a greater percentage of project costs, the options to consider would be either to increase the amount of the fee and/or to reduce the number of projects included in the fee program. It is also important to note that the STMP is not limited to funding construction activities, but can be used to fund a variety of project elements, such as planning studies, environmental clearance, or design.

WCCTAC BOARD COMMENTS

To further inform the TAC's deliberations, the WCCTAC Board met on December 8th and received a presentation on the status of the STMP study. The Board had no comments or concerns about the project eligibility criteria presented on page 2 of this memorandum. The Board did express a strong consensus that the STMP should focus on sustainable transportation projects and on projects that primarily serve the travel needs of West County residents and employees, and should not emphasize projects that primarily benefit users from other regions. The Board views the STMP program as a good source of funds for planning and design activities that get projects shovel-ready and able to compete effectively for other sources of construction funding.

Regardless of the fee amount that is eventually adopted, it seems clear that the 39 projects shown in Attachment B will need to be winnowed down to a more manageable number before they are included in the updated STMP. Therefore, we would appreciate suggestions from the TAC regarding which projects from Attachment B they view as most important to include in the STMP.

NEXT STEPS

The <u>updated preliminary project list</u> information in this memo will be presented at the <u>November 16January 11th</u> TAC meeting. <u>In light of prior TAC comments and the Board's direction</u>, <u>Wwe</u> would appreciate <u>the continued input from TAC members regarding suggested additions or deletions to</u>



the project list, as well as changes to project descriptions or cost estimates. input on the following questions:

Are there projects on the current STMP list presented in Attachment A that should be removed from the program?

Which of the projects presented in Attachment B <u>is your jurisdiction willing to sponsor and should therefore</u> be considered for incorporation into the fee program?

Has the project description changed on any of the projects listed in Attachments A or B?

Are there other projects not already listed that meet the eligibility criteria and that you recommend be considered for inclusion in the nexus study update?

WCCTAC and Fehr & Peers will incorporate comments received at the November 16January 11th TAC meeting and will prepare a refined draft project list that will be brought back to the TAC at their January meeting. After confirmation from the TAC, a draft project list will be presented to the Board for their review and direction during the February 23rd Board meeting. The final project list to include in the nexus study update will be finalized by March 2018.

Please contact Francisco Martin or Julie Morgan if you have any questions or comments.

Attachments

Attachment A - Current West County STMP Project List and Status

Attachment B - Potential Additional West County STMP-Eligible Projects

Attachment B – Response to Comments on Preliminary List of STMP-Eligible Projects

Attachment A West County STMP-Eligible Projects



			WEST COUNTY STMP-FIIGIBLE PROJECTS	1P-FLIGIBLE P	ROIFCTS					
9	***************************************				Eligible STMP Funding			On Existing STMP Project	Criteria Met (Out of 5	
Transit and	ransit and Station-Related Improvements					(e)nonaneunc	(s) periode			611111100
Ц	I-80 Express Bus Service (Short & Mid-Term Improvements)	Express Bus Service on I-80 from Hercules Transit Center south to Berkeley, Emeryville, Oakland, and expanded service to San Francisco, with intermediate stops at the Richmond Parkway Transit Center and a potential I-80/Macdonald Avenue Express Bus/BRT transit center. Expansion of park-and-ride lots and freeway ramp improvements could occur in the medium to long-tem.	West County High-Capacity Transit Study (May 2017), 2016 Express Bus Study Update Final Report (June 2017)	\$101,000,000		AC Transit, WestCAT, County, Hercules, Pinole, Richmond, El Cerrito, Caltrans		ON.	4	Need to confirm sponsors and reach out to the City of San Pablo to determine if they are interested in express bus service.
2	Hercules Regional Intermodal Transit Center	Complete Hercules RITC with new train stop for Capitol Corridor service, including parking, station platform, signange and plazas, rail improvements, bicycle and pedestrian access improvements (e.g. Bay Trail connections), etc. Capital improvements along the corridor in West Contra Costa, including track improvements, drainage, fencing, safety improvements, etc. Future capital improvements could include preparation for ferry service.	West County High-Capacity Transit Study, Countywide Transportation Plan (May 2017), 2005 Update of the Subregional Transportation Mitigation Program (STMP)	\$86,000,000		Hercules	Hercules	Yes (STMP Project ID #3 and 4)	က	\$51 million in costs estimated the Hercules Intermodal Transit Center, \$35 million in costs estimated landside improvements for regional ferry service in Hercules (\$86 million total). City of Hercules to confirm cost estimate.
ო	BART Extension (Planning & Conceptual Engineering Phases) from Richmond Station to Hercules ²	BART Extension from Richmond Station to Hercules along the UPRR right-of-way transitioning to 13th Avenue and Rumrill Boulevard before tunneling under Hilltop Mall then following the 1-80 right-of-way to Hercules. The project may also consider a one stop extension to the City of San Pablo near Contra Costa Community College. Only the planning and conceptual engineerings phases of the project will be considered in the STMP update.	West County High-Capacity Transit Study	\$56,000,000		BART, Richmond, San Pablo, Pinole, Hercules	BART	ON	4	Need to confirm sponsors.
4	San Pablo Avenue BRT	BRT on San Pablo Avenue approximating the existing 72R Rapid Bus route from downtown Oakland to the Richmond Parkway Transit Center and extending Rapid Bus from the Richmond Parkway Transit Center to the Hercules Transit Center. In the short-term, Rapid Bus Improvements could be extended to Richmond Parkway with service to Contra Costa College and Hilltop Mall and transit priority treatments introduced along the corridor. Extending Rapid Bus treatments north to the Hercules Transit Center and introducing bus-only lanes on San Pablo Avenue from El Cerrito del Norte north to 23rd Street could occur in the medium-term. Long-term improvements could include extending bus-only lanes on San Pablo Avenue to Richmond Parkway and Rapid Bus service to the Hercules RITC.	West County High-Capacity Transit Study	\$243,000,000		El Cerrito, Richmond, San Pablo, Caltrans		Yes (STMP Project ID #8)	ν	HCT indicated that BRT on Macdonald had less benefit, so that portion has been removed from this project description.
Ŋ	23rd Street BRT	23rd Street BRT from Richmond Ferry Terminal and UC Berkeley Richmond Field Station to Richmond BART/Capitol Corridor station, then continuing to Contra Costa College, with possible extension along San Pablo Avenue to Hilltop Mall and Hercules. Improvements to pedestrian facilities that enhance access to BRT stations are also assumed as part of this project.	West County High-Capacity Transit Study	\$179,000,000		Richmond, San Pablo, Pinole, Hercules		ON	R	Need to confirm sponsors.
9	Richmond Parkway Transit Center Improvements	Series of Richmond Parkway Transit Center Improvements include the following: 1.) Consolidate WestCAT and AC Transit hubs at the Hilltop Mall 2.) Improve pedestrian and bicycle crossings at the I-80/Blume Drive and I-80/Fitzgerald Drive intersections 3.) New sidewalks and bicycle lanes providing access to the transit center.	West County Transit Enhancement and Wayfinding Plan (Oct 2011)	\$3,003,000		AC Transit, WestCAT, Richmond, Pinole, County, Caltrans	County, Pinole, Richmond	O Z	4	The West County Transit Enhancement and Wayfinding Plan includes a series of improvements for the Richmond Transit Center (including improvements to the I-80 rampterminal intersections at Blume Dr and Fitzgerald Dr). Consider consolidating other previously listed improvements into a Richmond Parkway Transit Center category.

		M	WEST COUNTY STMP-ELIGIBLE	1P-ELIGIBLE	PROJECTS Eligible STMP			On Existing	Criteria Met	
Q	Project	Project Description	Document Reference	Cost Estimate		Jurisdiction(s)	Sponsor(s)	On existing STMP Project List?	Out of 5 Possible)	Comments
7	West County BART Station Access, Parking & TOD Improvements	Funds would be used for parking, aesthetic and/or access improvements (including pedestrian and bicycle access improvements), station capacity improvements, sidewalks, lighting/restroom renovations, bicycle storage, expanded automatic fare collection equipment, etc. in the West County area (El Cerrito Plaza, El Cerrito Del Norte, and/or Richmond BART Stations). Funds may also be used for planning, engineering, environmental studies, and construction of the public transportation-related improvements at station Transit Oriented Development (TOD) projects, including improvements to adjacent streets, street crossings, or signals; and/or Ohlone Greenway improvements.	Countywide Transportation Plan, 2005 Update of the STMP	\$92,100,000		Richmond, El Cerrito, BART	Richmond, El Cerrito, BART	Yes (STMP Project ID #1, 5, and 11)	4	Need to confirm sponsors. Sponsors should provide feedback on project description and recent cost estimates for capital improvements. Current capital cost estimate based on 2005 Update of the STMP. Previous BART access and TOD projects listed in 2005 Update of the STMP were consolidated into a single project category. Project description was updated to exclude project comments that are completed or under construction (e.g., Richmond TOD improvements, El Cerrito Del Norte TOD improvements).
8 Freeway ar	Transit Improvements in and Rest Contra Costa County bull Freeway and Interchange Improvements	Transit Preferential Enhancements on San Pablo Dam Road, McDonald, Cutting, 23rd, and other West County arterials, including signal improvements, new bus stops and bulbs, new and expanded park-n-ride lots in partnership with AC Transit and WestCAT.	Countywide Transportation Plan, West County Transit Enhancement and Wayfinding Plan	\$1,750,000	, , ,	All West County Jurisdictions, AC Transit, West CAT	AC Transit, WestCAT	o Z	m	Need to confirm sponsors
თ	I-80/San Pablo Dam Road Interchange Improvements	Upgrade and improve the interchange including provisions for bicyclists and pedestrians. The project will enhance operations and multimodal safety in the vicinity of the interchange.	Countywide Transportation Plan, 2005 Update of the STMP	\$65,000,000		San Pablo, Caltrans	San Pablo, Caltrans	Yes (STMP Project ID#2)	2	Need to confirm sponsors.
10	I-80/Central Avenue Interchange Improvements		Countywide Transportation Plan, 2005 Update of the STMP	\$22,500,000		Richmond, Caltrans	Richmond, Caltrans	Yes (STMP Project ID #2)	2	Need to confirm sponsors.
11	SR 4/Willow Avenue Interchange Improvements	Relocate and realign ramps at Willow Avenue to meet current standards for improved local access and freeway movements	2005 Update of the STMP	\$7,000,000	I	Hercules, Caltrans Hercules, Caltrans	Hercules, Caltrans	Yes (STMP Project ID #2)	2	Need to confirm sponsors.
#	1-80/Cummings Skyway Interchange Improvements	Improve and modify interchange	2014 Comprehensive Transportation Project List	∀/ ₩		County, Caltrans	County	9	d i	Project does not seem consistent with the Board recommendation that only projects that primarily serve the travel needs of West County residents and employees be considered. County to confirm if project can be removed from STMP funding consideration.
13	I-80/SR 4 Interchange	The project may include the following improvements: 1.) Re-engineer freeway ramps at I-80/SR4: new I-80 EB off-ramp at Sycamore Avenue 2.) Construct direct connectors between westbound Interstate 80 and eastbound State Route 4 3.) Add a second right-turn lane from northbound San Pablo Avenue to eastbound John Muir Parkway to four lanes from San Pablo Avenue to the SR 4 and I-80 ramps. This widened segment of John Muir Parkway would allow the two NB San Pablo Avenue right-turn lanes to have exclusive receiving lanes that serve the I-80 westbound on-ramp (would also require widening the I-80 westbound on-ramp from one to two lanes).	Countywide Transportation Plan, Hercules New Town Center Environmental Impact Report	\$19,700,000	r	Hercules, Caltrans	Hercules	o Z	2	City of Hercules to confirm specific project elements to be considered for STMP funding.
14	I-80/Pinole Valley Road Interchange Improvements	The project may include the following improvements: -Improve conditions for merging onto the I-80 mainline from the eastbound Pinole Valley Road on-ramp to address vehicles accelerating uphill after stopping at ramp meterWiden Pinole Valley Road ramps at I-80 to provide dedicated right turn lane on eastbound on-ramp and bus turnout/shelter on westbound on-rampPinole Valley Road/I-80 intersection crossing enhancements	Countywide Transportation Plan, West County Transit Enhancement and Wayfinding Plan	\$10,437,000		Pinole, Caltrans	Pinole	O _N	7	The Pinole Valley Road/I-80 intersections crossing enhancements are ranked in the highest priority level in the West County Transit Enhancement and Wayfinding Plan.

	ents	riority level in the West ent and Wayfinding	de capital cost t if information is		nsistent with the Board ly projects that needs of West County be considered. County e removed from STMP	um priority level in the ancement and provide benefit to ole to confirm if om STMP funding	Route of Regional dening Valley View ion on parallel m Road (which is a nnce). Inty will need to a project description	portions of this project inty will need to a project description	ption information.
	Comments	Project is ranked at low priority level in the West County Transit Enhancement and Wayfinding Plan.	City of Richmond to provide capital cost estimate for improvement if information is available.		Limits not specified. Project does not seem consistent with the Board recommendation that only projects that primarily serve the travel needs of West County residents and employees be considered. County to confirm if project can be removed from STMP funding consideration.	Project is ranked at medium priority level in the West County Transit Enhancement and Wayfinding Plan. Project does not seem to provide benefit to regional travel. City of Pinole to confirm if project can be removed from STMP funding consideration	Valley View Road is not a Route of Regional Significance; however, widening Valley View Road may reduce congestion on parallel segments of San Pablo Dam Road (which is a Route of Regional Signficance). City of Richmond and County will need to coordinate and agree on a project description and project limits.	CCTA to confirm whether portions of this project have been completed. City of Richmond and County will need to coordinate and agree on a project description and project limits.	Need more project description information.
	Criteria Met (Out of 5 Possible)	2	7		તા	÷	1	2	2
	On Existing STMP Project List?	o Z	o Z		9 ₹	9	o Z	o Z	No
	Sponsor(s)	Richmond	Richmond		County	Pinole	County	County	San Pablo
	Jurisdiction(s)	Richmond, Caltrans	Richmond		County	Pinole	Richmond, County	Richmond, County	San Pablo
PROJECTS	Eligible STMP Funding Allocation ¹								
IP-ELIGIBLE	Cost Estimate	\$815,300	Α/Λ		\$16,900,000	\$234,000	∀ /2	\$16,000,000	\$4,900,000
WEST COUNTY STMP-ELIGIBLE PROJECT	Document Reference	West County Transit Enhancement and Wayfinding Plan, City of Richmond Bicycle Master Plan (October 2011)	City of Richmond Bicycle Master Plan		Countywide Transportation- Plan	West County Transit Enhancement and Wayfinding Plan	2014 Comprehensive Transportation Project List	Measure J Expenditure Plan	Countywide Transportation Plan
WI	Project Description	Improve pedestrian and bicycle crossings at the I-580/Marina Bay Parkway interchange ramps. The following improvements may be considered: -Stripe and sign bike lanes along Marina Parkway, connect bike lanes to the Officer Moody Class I path at Meeker Avenue/Marina Bay Parkway intersection. -Consider narrowing or removing travel lanes on South 23rd Street to provide a bicycle and pedestrian connection to downtown Richmond. -Stripe crosswalks at freeway ramps for pedestrian and bicycle travel across ramps. -Square the freeway off-ramps to slow speeds and improve sightlines between drivers and bicyclists/pedestrians.	Pedestrian and bicycle improvements connecting the existing Bay Trail at S Garrard Blvd & E Richmond Ave to the future bike/ped path that begins at Tewksbury Ave & Castro St (to be constructed by the I-580 San Rafael Bridge bicycle improvement project), adjacent to the Tewksbury Turnaround Transit Hub. This would be a "bike boulevard" style project with improved sidewalks, ADA compliant curb ramps, bulb-outs, high visibility crosswalks, new stop signs, pavement markings, and signage.	rements	Extend truck climbing lane on eastbound Cummings Skyway to allow faster moving vehicles to safely pass slow moving trucks climbing existing 10% grade.	- Reconfigure existing offset intersection and install traffic signal.	Valley View Road Widening Widen to 4 lanes between San Pablo Dam Road and Appian Way.	Upgrade the Richmond Parkway to facilitate transfer of ownership to the California Department of Transportation, including potential intersection and interchange upgrades, and/or provide funds to maintain the roadway.	t Realignment of skewed 5-legged intersection as part of a bridge removal project that will enhance pedestrian, bicycle and future BRT access.
	Project	I-580/Marina Bay Parkway Interchange Improvements	Richmond Avenue/Castro Street Bike Boulevard	Local Street and Intersection Improvements	Cummings Skyway Truck Climbing Lane Extension	San Pablo Avenue/Alvarez- Avenue Intersection- Reconfiguration	Valley View Road Widening	Richmond Parkway	San Pablo Avenue Intersection Realignment at 23rd Street and Road 20
	QI	22	23	Local Street	45	£	56	27	28

Attachment B Response to Comments on Preliminary List of STMP-Eligible Projects



# 0	ID# Agency Comment TAC Member WCC	TAC Member	WCCTAC Response	Fehr & Peers Response
GEN	GENERAL COMMENTS			
Ţ.	In general, I like the idea of grouping projects into a larger project by category & type and then referring to approved plans that have been approved at a countywide, subregional (west county) or local level. For example, all of the San Pablo Avenue Complete Streets Projects plus Ped & Bike Projects should be grouped. The El Cerrito San Pablo Avenue Specific Plan, and any similar local agency plans should be included as a Document Reference. The Countywide Bike & Ped Plan and WCCTAC Transit Enhancement Plan should also be included as references for this category of projects.	Yvetteh Ortiz, El Cerrito	ok .	All projects along San Pablo Avenue, with the exception of the San Pablo Avenue BRT project (ID#4), were grouped into the "San Pablo Avenue Complete Streets Project", which references projects recommended in several planning documents. The San Pablo Avenue BRT project will be listed separately.
-	Other general comments include focusing on subregional level projects and projects with identified sponsors.	Yvetteh Ortiz, El Cerrito	ok	The intent of the nexus study update is to include only projects with identified sponsors. A column listing the project sponsor was added to the project list summary table.
mi 4B-Attachment-	In terms of documents reviewed, was the South Richmond Transportation Connectivity Plan finalized? If so, I think it should be included if Richmond agrees too. Also, if possible, include El Cerrito's Ohlone Greenway Master Plan (2009)	Yvetteh Ortiz, El Cerrito	ok	More than 20 regional and local planning and environmental documents were reviewed as part of this process. Both the South Richmond Connectivity Plan and the Ohlone Greenway Master Plan are now referenced in the memo and project list. Improvements at the I-580/Harbour Way interchange are referenced to capture improvements recommended in the South Richmond Connectivity Plan. A category of project has been added to capture Ohlone Greenway improvements. If staff have other specific recommended projects for the TAC to consider, staff could provide information on those projects.

-			2 0 % H0014	2 · · · · · · · · · · · · · · · · · · ·
#	Agency comment	I AC IVIEMBER	WCC I AC Kesponse	Fenr & Peers Kesponse
4	I'm suggesting consideration be given in the	Mike Roberts,	It's not a requirement that	Agency staff are welcome to identify high-
	screening process to having member agencies	Hercules	each agency have a project	priority projects, and to suggest any
	advance their preferred project as a way to cull		tunded. But if an agency has	additional projects not already on the list
	down the number of projects and make sure each agency has a project.		priorities, it may indicate them.	that meet the eligibility criteria.
5.	The City of Pinole supports the inclusion of the five	Tamara Miller,	ok	Comment noted. The City of Pinole is listed
	projects noted with City of Pinole. We may need to	Pinole		as a sponsor for these projects.
	revisit the engineer's estimate either to escalate			
	them to the current time frame with the CCI or any			I ne I-8U/ Fitzgeraid Drive intersection
	other more current cost data.			pedestrian and bicycle access improvements
				have been consolidated as part of the
				Richmond Parkway Transit Center
				Improvements category.
				The San Pablo Avenue/Alvarez Avenue
				Intersection reconfiguration project does
				not seem to provide benefit to regional
				travel. City of Pinole will need to reevaluate
				and confirm if project can be removed from
				STMP funding consideration.
9.	I would like to see all projects considered for	Tamara Miller,	Incorporating additional info	Currently the preliminary project list shows
	inclusion in the STMP fee nexus to be shown with	Pinole	in the project list seems like a	the capital costs as identified in the planning
	the entire cost of the project along with the portion		useful way of documenting	documents referenced. All projects in the
	of the cost of the project being allocated to STMP		our intent and providing	preliminary project list warrant
	fees. Additionally, WCCTAC should provide a brief		institutional history for the	consideration because they meet at least
	statement for each project showing why it warrants		next update. Any reason not	one of the eligibility criteria. Fehr & Peers
	inclusion in the STMP fee and briefly explaining the		to show the total project cost	can specify which criteria each project
	allocation of project costs to the STMP fee. It may be		and amount of STMP fee	satisfies. The portion of the cost allocated to
	best to develop a decision matrix that is similar to		allocated? I'm unsure if the	the STMP will be determined in the next
	the discussion at TAC showing the regional benefits		decision matrix is for the	phase of the nexus study when the modeling
D .	of each project as well as the local benefits to		project list development or	work is completed.
ttac	support the portioning of costs.		the strategic plan. Your thoughts?	
	EXISTING STMP PROJECTS			
7.	#2: I 80/San Pablo Dam Rd Phase 2 – Total Cost \$82	Barbara	ok	The cost estimate for the I-80/San Pablo
	million, Obligated funding \$17 million, Need \$65	Hawkins, San		Dam Road project (ID#2) was updated to
	million	Pablo		assume that \$65 million in funding is still needed to construct the project.
				ייככמכת נס כסופה תכני נוב בו סוככה

‡ <u>C</u>	Agong Commont	TAC Mombor	WCTAC Bosnonso	Popy P. Boore Bossons
<u>ב</u>			of the second se	
∞i	#2: I-80/Central Ave. Interchange: Phase 1 & 2	Yvetteh Ortiz,	Need to follow up with the	Comment noted. Will need to follow up with
	projects are still underway and need STMP	El Cerrito	CCTA	CCTA to obtain updated cost estimate to
	funding. CCTA staff has the latest and greatest info.			complete the project.
9.	#7 San Pablo Dam Road in downtown El Sobrante:	John	Asked John for updated	Comment noted. Will need to follow up with
	County still supports.	Cunningham,	project description and cost	the County to determine if they have
		County	estimate.	updated cost estimate.
10.	#10 Update the RITC remaining cost to \$51 million	Mike Roberts,	Ok. The project description	The Hercules Passenger Rail Station project
	and indicate it has been partially completed.	Hercules	should also note that it	(ID#3) costs and status was updated
			includes a segment of the Bay Trail.	accordingly.
11.	#11 The Del Norte Area TOD project is also still	Yvetteh Ortiz,	ok	The cost estimate was reduced from \$25
	underway and cost can be decreased by the \$7.1	El Cerrito		million to \$17.9 million to reflect the \$7.1
	million in grants we recently received for the			million in grants that were received. Project
	project.			status was also updated to partially
				complete.
POTE	POTENTIAL ADDITIONAL STMP-ELIGIBLE PROJECTS	TS		
12.	#1: Jurisdictions(s) all prior documents show there	Barbara	Confirm if the City of San	For now, City of San Pablo has been
	are NO express buses for San Pablo – must correct	Hawkins, San	Pablo wants Express Bus	excluded from the jurisdiction list for the I-
	Jurisdictions(s) to show that San Pablo is not served	Pablo	service. If so, we could look	80 Express Bus Service project (ID#1).
	by Express Bus		into the feasibility as part of	
			the new Express Bus	
			Implementation Study	
13.	#3: Describe as Planning Document and reduce cost	Barbara	Revise description and cost	The project description has been updated to
		Hawkins, San	estimate to reflect various	cover only the planning phase of the project.
		Pablo	phases.	The cost estimate was updated to \$56
				million, which includes costs for conceptual
				engineering and program-level
				environmental clearance. The \$56 million
				cost estimate for conceptual engineering
4.5				and program-level environmental clearance
Α.				is based on the cost estimate provided in
tac				the West County High-Capacity Transit Study
				(WCCIAC, May 2017):

# QI	Agency Comment	TAC Member	WCCTAC Response	Fehr & Peers Response
14.	Project #16. Can you update the project description? Tawfic: I am not aware of this project, so I don't know the scope of work or the limits of work. We want to know what portion of the project is within the City of Richmond right of way and whether the RM3 proposal includes that work. The TAC is leaning towards not have the STMP fund projects that Caltrans should be responsible for correcting.	Lori Reese- Brown, Richmond	Delete project.	Project has been removed.
15.	#16 Richmond-San Rafael Bridge Access – not sure what still needs to be accomplished for vehicle access. The project underway will make significant changes/improvements to the Castro/580 intersection	Denee Evans/Patrick Phelan, Richmond	See response to comment ID #14 above.	See response to comment ID #14 above.
16.	#17 I-80/Cummings skyway interchange: County supports including in STMP.	John Cunningham, County	Asked John for updated project description and cost estimate.	Comment noted. The County is listed as a sponsor for this project. However, the project does not seem consistent with the Board recommendation that only projects that primarily serve the travel needs of West County residents and employees be considered for STMP funding. County will need to reevaluate and confirm if project can be removed from STMP funding consideration.
17.	#21 I80/Blume Dr. intersection crossing: County supports including in STMP.	John Cunningham, County	Asked John for updated project description and cost estimate.	Comment noted. The County is listed as a sponsor for this project. The West County Transit Enhancement and Wayfinding Plan states this project would improve pedestrian crossings at the intersection through adding crosswalks. These pedestrian access improvements have been consolidated into the Richmond Parkway Transit Center Improvements category.

			4 O X LOOK	G
18.	Project #22 Please provide a more detailed project description and an updated cost estimate. Harbour Way is similar to Marina Bay Pkwy in that the freeway interchange separates central Richmond from various and developing activities near the waterfront (FERRY!). Harbour Way South is also a critical section of the Bay Trail, and plans are underway to build a two-way cycle track on certain sections. In addition, the SRTS project at Nystrom Elementary has made improvements on the north side of the interchange – this would be another "gap closure."	Denee Evans/Patrick Phelan, Richmond	ok Ok	Richmond staff provided more detailed information on 12/20/17; project list has been updated accordingly.
19.	Project #23, same comment as for #22 This interchange is a serious impediment to active transit connections between central Richmond (BART, downtown, Civic Center, 23 rd St corridor) and the Marina Bay area which has the Bay Trail and significant and growing residential, commercial, and business activities. This would be a "gap closure" project since pedestrian and bicycle improvements have been built north of Cutting and from Meeker south through the Moody Underpass. Attachment details short- and long-term improvements.	Denee Evans/Patrick Phelan, Richmond	yo	Richmond staff provided more detailed information on 12/20/17; project list has been updated accordingly.
20.	#24 San Pablo Ave. Complete Streets Project: County still supports inclusion.	John Cunningham, County	Asked John for updated project description and cost estimate.	Comment noted. The County is listed as a sponsor for this project. In addition, all Complete Streets Project identified for San Pablo Avenue have been consolidated into a single category.
F-Attachment-18	#25 Appian Way Complete Streets: The current list shows it is in the City of Pinole. This project should be listed as both Pinole and County or as separate projects with County limits from San Pablo Dam Road to the City limits.	John Cunningham, County	Asked John for updated project description and cost estimate.	Updated project list to include project limits within the County and list the County as a project sponsor. The project is listed under the Complete Streets category.

2				2 · · · · · · · · · · · · · · · · · · ·
22.	Agency Comment #26: San Pablo Avenue Complete Streets from La Puerta to Hilltop – Phase 2 cost \$3.0 million (This will be a Richmond Project as all the Phase 2 improvements are in Richmond)	TAC Member Barbara Hawkins, San Pablo	WCCTAC Response Add note that phase 1 portion in San Pablo is completed.	Added note stating that the Complete Streets project between Rivers St and La Puerta Rd in the City of San Pablo is completed. In addition, all Complete Streets Project identified for San Pablo Avenue have been
23.	Project #26 we need an updated cost estimate. Tawfic: The City of San Pablo is the lead agency for this project. The City of San Pablo applied for and received an ATP grant to implement this project. The ATP grant amount, was insufficient to implement all of the improvements along the entire corridor, so the project will be truncated. A future grant will be required, in order to implement the remainder of the project. The future grant amount is to be determined.	Lori Reese- Brown, Richmond	The note from Richmond sounds like they aren't pursuing the second phase. Confirm and if true, add a note before deleting.	A note was added in the comments section of the table stating that the Complete Streets project between Rivers St and La Puerta Rd in the City of San Pablo is completed. The cost to complete Phase II of the project between La Puerta Rd and Hilltop Dr is estimated at \$3 million based on comment #21 above. Need to confirm if Richmond is still pursuing its segment of the project. In addition, all Complete Streets Project identified for San Pablo Avenue were consolidated into a single category, the cost for Phase II project between La Puerta Rd and Hilltop Dr will be incorporated into the cost estimate.
24.	#28: Remove Rumrill Blvd Corridor CS	Barbara Hawkins, San Pablo	Ok. Note the project has received funding from another source.	Project has been removed.
4B-Attachment-19	#32: New Sidewalks on San Pablo Avenue and Robert Miller Drive – note that sidewalks are included in current San Pablo Ave Complete streets (project #26 - Phase I) from Rivers to Lancaster on the east side. Change description to read "on San Pablo Avenue between Lancaster and Robert Miller on east side	Barbara Hawkins, San Pablo	ok	Project description was updated accordingly. In addition, all Complete Streets Project identified for San Pablo Avenue were consolidated into a single category.

# 4	Agency Comment	TAC Member	WCCTAC Response	Fehr & Peers Resnonse
26.	Project #32 We need an updated cost estimate for the project. Here's the revised project description again: New sidewalk installation on San Pablo Avenue between Lancaster Drive and Robert Miller Drive, and on Robert Miller Drive between San Pablo Avenue and Hilltop Drive, to improve pedestrian access to the Contra Costa College Transit Hub and the Hilltop Mall area. Here's the revised cost estimate: \$3,000,000.	Lori Resse- Brown, Richmond	ok	Project description was updated accordingly. In addition, all Complete Streets Project identified for San Pablo Avenue were consolidated into a single category.
27.	#33: Sidewalk enhancements on 23 rd Street will be included in the 23 rd Street BRT from Maricopa Avenue to San Pablo Avenue Sidewalk enhancements on San Pablo Avenue will be included in the 23 rd Street BRT from 23 rd Street to Rivers. Limits for sidewalk improvements under this project should be listed as from Lowell Avenue to 23 rd Street	Barbara Hawkins, San Pablo	ok	Since San Pablo Avenue and 23 rd Street sidewalk enhancements are part of the 23 rd Street BRT project, the project was removed from the San Pablo Avenue Complete Streets Project category. The remaining improvements along San Pablo Avenue between 23 rd Street and Rivers Street are included as part of the San Pablo Avenue Complete Streets Project category.
28.	#34: include a reference to El Cerrito's Ohlone Greenway Master Plan (2009)	Yvetteh Ortiz, El Cerrito	ok	The Ohlone Greenway Master Plan is now included in the document reference column.
29.	#35 Cummings Skyway Truck Climbing Lane Extension: The county supports including in STMP.	John Cunningham, County	Asked John for updated project description and cost estimate.	Comment noted. The County is listed as a sponsor for this project. However, the project does not seem consistent with the Board recommendation that only projects that primarily serve the travel needs of West County residents and employees be considered for STMP funding. County will need to reevaluate and confirm if project can be removed from STMP funding consideration.

# 0	Agency Comment	TAC Member	WCCTAC Response	Fehr & Peers Response
30.	Project #37 We will need a cost estimate for this	Lori Reese-	County still interested in	Comment noted, WCCTAC staff followed up
	project. Tawfic: I am not aware of this project, so I	Brown,	pursuing project, but	with County staff to request more
	don't know the potential cost.	Richmond	coordination needed with	information regarding the project. The
			Richmond.	County still supports including project for
				consideration in the nexus study update.
				However, coordination between the County
				and Richmond is needed to agree on the
				project description and project limits.
31.	Project #37 County supports including in STMP.	John	Asked John for updated	Comment noted. The County is listed as a
		Cunningham,	project description and cost	sponsor for this project, but coordination
		County	estimate. And to coordinate with Richmond.	with Richmond is needed.
32.	Project #38 Tawfic: I am not aware of this project, so	Lori Reese-		Limited project description is available in the
	I don't know the scope of work or the potential cost.	Brown,		Measure J Transportation Sales Tax
	Most of the Richmond Parkway is located within the	Richmond		Expenditure Plan. The County is listed as a
	City of Richmond City Limits. The comment about			sponsor for this project and will confirm the
	the County adding a travel lane to the Richmond			project description and project limits.
	Parkway doesn't make sense unless the entire			Coordination between the County and
	length of the Richmond Parkway also receives an			Richmond is needed to agree on the project
	additional travel lane.			description and project limits.
33.	#38 Richmond Parkway Widening: the County still	John	Asked John for updated	Comment noted. The County is listed as a
	supports.	Cunningham,	project description and cost	sponsor for this project. However,
		County	estimate. Also asked John to	coordination between the County and
			check with Richmond.	Richmond is needed to agree on the project
				description and project limits.
34.	#39: Project Description: San Pablo Avenue	Barbara	Ok. Incorporate additional	Project description was updated
	Intersection realignment at 23 rd Street and Rd 20	Hawkins, San	information.	accordingly. However, since intersection is
	Cost: \$14.4 million \$8.4 million obligated by	Pablo		within City of San Pablo jurisdiction, only the
	HBP and \$1.1 million GF. Need \$4.9 million –			City of San Pablo is listed in the jurisdiction
	estimated construction FY 20			column (and sponsor column).
	Jurisdictions: This intersection services San			
tta	Pablo, Pinole, Hercules as well as 180 Smart Corridor			
	Franctied during peak periods Comments: Realignment of skewed 5-legged			
	intersection as part of a bridge removal project that			
	will enhance pedestrian, bicycle and future BRT			
	access.			

# QI	Agency Comment	TAC Member	WCCTAC Response	Fehr & Peers Response
35.	Project #39 we need a more detailed project	Lori Reese-	ok	Project description was updated based on
	description. Please include what the benefit of the	Brown,		input from City of San Pablo staff. However,
	project. Tawfic: this project is located within the City	Richmond		since intersection is within City of San Pablo
	of San Pablo.			jurisdiction, only the City of San Pablo is
				listed in the jurisdiction column (and
				sponsor column).
Prop	Proposed New Additions			
36.	Pedestrian and bicycle improvements connecting	Denee	Confirm if this is in an existing	The proposed bicycle improvements would
	the existing Bay Trail at S Garrard Blvd & E Richmond	Evans/Patrick	Richmond planning document.	improve bicycle access to the Tewksbury
	Ave to the new bike/ped path that begins at	Phelan,	If so, review if it meets STMP	Turnaround transit hub at the Tewksbury
	Tewksbury Ave & Castro St. This would be a "bike	Richmond	project criteria. If so, include	Avenue/Castro Street intersection in Point
	boulevard" style project with improved sidewalks,		under the Ped-Bike category	Richmond. Since the project meets at least
	ADA compliant curb ramps, bulb-outs, high visibility			one of the STMP project criteria, it has been
	crosswalks, new stop signs, pavement markings, and			added to the potential STMP list for
	signage			consideration. The project is also identified
				as a proposed improvement in the City of
				Richmond Bicycle Master Plan.



Technical Coordinating Committee **STAFF REPORT**

Meeting Date: December 21, 2017

Subject	Update on Changes to Road Mileage Methodology Affecting Measure Local Street Maintenance (LSM) and Improvement Fund Allocations Measure J 18 percent LSM funds (also referred to as "return-to-source"				
Summary of Issues	funds) are allocated annually to each jurisdiction based on a 50/50 population/road miles formula, subject to compliance with the Growth Management Program (GMP). The Authority uses Department of Finance reports for population, and California Department of Transportation (Caltrans) reports for road miles. From time-to-time, these reports are updated and incorporated in the Measure J allocation formula. A new federally required mileage reporting system recently adopted by Caltrans dramatically changes road mileage assignments, and if applied, would result in significant fund allocation changes when compared to the current allocation formula. Caltrans staff is currently reviewing the last few years of Contra Costa mileage reports for accuracy and will report back to jurisdictions upon completion. Staff will provide an update to the Technical Coordinating Committee (TCC) on the road mileage methodology update.				
Recommendations	Staff recommends that funds continue to be allocated using the 2014 Caltrans maintained miles report, and establish an Ad Hoc working group to examine options for determining County share of roadway mileage.				
Financial Implications	Changes in road mileage will result in changes to the Measure J 18 percent LSM allocations.				
Options	"Lock in" the 2014 Caltrans maintained miles report while updating the population side of the formula as new data becomes available.				
Attachments	A. Caltrans Road Mileage Letter dated August 23, 2016B. Caltrans Status of 2016 Road Mileage Responses				

Changes from		
Committee		

Background

Measure J GMP 18 percent LSM funds are annually allocated to each jurisdiction subject to compliance with the GMP. The allocation formula is based 50 percent on population, and 50 percent on road mileage. The Authority relies on Department of Finance (DOF) data for population, and Caltrans' tables of maintained miles from its annual Public Road Data reports. From time-to-time, the Authority updates the allocations to local jurisdictions as new data from the State becomes available.

Historically, Caltrans has relied on locally-reported road mileage reports to prepare and submit to the Federal Highway Administration's (FHWA) Highway Performance Monitoring System (HPMS). This arrangement is evolving as new federal requirements begin to kick in. In 2012, FHWA began requiring all State Department of Transportations (DOTs) to use a Linear-Referencing System (LRS) to report their HPMS road data, which required Caltrans to recalibrate its entire public road database. This change in the way the roadway segments are measured and reported has resulted in significant differences to the total mileage for each jurisdiction from previous mileage reports, and if applied, would significantly change LSM fund allocations.

The HPMS is a federally mandated inventory system and planning tool, designed to assess the nation's highway system. HPMS was created in 1978 by FHWA as a continuing, sample-based monitoring program that requires annual data reporting by state DOTs, who collect detailed roadway data through a monitoring program and from local agencies who manage those facilities. Caltrans provides this information to the California State Legislature and FHWA to ensure the connectivity, integrity, continuity, and functionality of the highway system and of the California Road System (CRS) and to secure transportation funding for California's highways.

Change in Methodology

In 2014, a LRS, which links the HPMS attributes to geospatial data for all public roads, was created to meet FHWA's All Road Network of Linear Referenced Data (ARNOLD) requirement. The reported mileage in the road mileage report is based on this LRS network. During the process of crosschecking the LRS ownership (public vs. private roads) and mileage data against data from local agencies, it was found that the LRS tallied substantially more mileage. As a result, the maintained mileage has increased by 12 percent – from 174,855 miles in the 2014 report to 195,834 miles in 2015. Caltrans will continue to partner with local, federal, and other state agencies to verify the private/public ownership of roadway segments and to improve the quality of the LRS network and transportation data.

For Contra Costa, the new measurement system added 640 maintained road miles between the 2014 and 2015 reports. Every jurisdiction, under the new methodology, has either gained or lost road miles, affecting their share of the total mileage, as found in the table on the next page.

	2014 Caltrans Centerline Road Miles	2014 Caltrans Road Miles % of Total	2015 Caltrans Centerline Road Miles	2015 Caltrans Road Miles % of Total
Antioch	228.0	7.2%	309.4	8.1%
Brentwood	212.8	6.7%	164.3	4.3%
Clayton	40.5	1.3%	47.4	1.2%
Concord	330.8	10.4%	340.6	8.9%
County	659.8	20.7%	961.6	25.1%
Danville	143.2	4.5%	180.9	4.7%
El Cerrito	75.1	2.4%	72.6	1.9%
Hercules	58.5	1.8%	63.1	1.6%
Lafayette	90.3	2.8%	135.5	3.5%
Martinez	109.3	3.4%	137.8	3.6%
Moraga	56.7	1.8%	66.4	1.7%
Oakley	115.0	3.6%	108.7	2.8%
Orinda	92.7	2.9%	118.6	3.1%
Pinole	53.0	1.7%	57.2	1.5%
Pittsburg	139.7	4.4%	165.0	4.3%
Pleasant Hill	124.0	3.9%	112.8	2.9%
Richmond	266.6	8.4%	293.0	7.7%
San Pablo	47.1	1.5%	51.1	1.3%
San Ramon	146.4	4.6%	228.0	6.0%
Walnut Creek	196.4	6.2%	211.9	5.5%
TOTALS	3185.8	100.0%	3825.7	100.0%

Authority staff has contacted Caltrans HPMS staff for clarification on the changes in methodology, and they agreed to review the last few years of Contra Costa roadway mileage reports for accuracy. HPMS staff transmitted a copy of the original letter dated August 23, 2016, where they contacted local jurisdictions requesting detailed streets data for use in the new methodology (Attachment A). Attachment B shows the initial 2016 road mileage based on the received data, and the status of responses they received from Contra Costa jurisdictions. Caltrans staff indicated that they will be completing their review of the data in the coming weeks, and will report out to each jurisdiction on the final estimate of roadway mileage.

At the October 2017 TCC meeting, members suggested looking into MTC's Street Saver program, as local roadways are measured annually as part of the Pavement Condition Index calculations. Staff obtained the 2016 Street Saver mileage from MTC staff and found that the mileage is reported in "lane-miles", as compared to "centerline-miles", which is the Caltrans reporting metric. Unfortunately, this measure does not provide a comparable roadway measure to historical measures. The 2016 Street Saver report lane mileage data for Contra Costa jurisdictions can be found on the next page.

	2016 MTC	
	Street	2016 MTC
	Saver	Street
	Lane	Saver %
Jurisdiction	Miles	of Total
Antioch	580.2	8.3%
Brentwood	419.5	6.0%
Clayton	94.2	1.3%
Concord	716.7	10.2%
County	1326.5	18.9%
Danville	323.4	4.6%
El Cerrito	145.3	2.1%
Hercules	122.3	1.7%
Lafayette	199.4	2.8%
Martinez	232.6	3.3%
Moraga	110.4	1.6%
Oakley	277.7	4.0%
Orinda	193.3	2.8%
Pinole	118.2	1.7%
Pittsburg	342.9	4.9%
Pleasant Hill	224.3	3.2%
Richmond	571.1	8.1%
San Pablo	103.5	1.5%
San Ramon	488.4	7.0%
Walnut Creek	435	6.2%
TOTALS	7024.9	100.0%

Moving Forward

At the October 18th meeting, the TCC approved moving forward using the 2014 road miles report to complete the current cycle of Measure J LSM funding, as FY 2016-17 off-year payments are due to some jurisdictions, with all jurisdictions receiving their off-year payments in the next calendar year. Staff also recommends that jurisdictions continue working with Caltrans HPMS staff through completion of the 2016 road mileage report and establishing an Ad Hoc working group of the TCC to address the road mileage issue and develop a strategy for future LSM allocations, with the potential first task being a review of Caltrans' analysis of Contra Costa's 2016 road mileage, once complete.

DEPARTMENT OF TRANSPORTATION

DIVISION OF RESEARCH, INNOVATION AND SYSTEM INFORMATION 1227 O STREET, MS-83 P.O. BOX 942873 SACRAMENTO, CA 94273-0001 PHONE (916) 654-8877 FAX (916) 654-9977 TTY 711 www.dot.ca.gov



August 23, 2016

<<Name>>
<<Job Title>>
<<Jurisdiction>>
<<Address>>
<<City>>, CA<<Zip>>>

Dear << Name>>:

The California Department of Transportation (Caltrans) is requesting your assistance to verify the accuracy and completeness of the roadway network within your area of jurisdiction.

The Highway Performance Monitoring System (HPMS) is a federally mandated inventory system and planning tool designed to assess the nation's highway system. HPMS provides a variety of information to Congress for making decisions on apportionment of Federal-Aid Highway Program funds and serves the highway data needs of the Federal Highway Administration (FHWA), the transportation community, and the general public. On August 7, 2012, FHWA issued a memorandum, *Geospatial Network for All Public Roads*, to expand the HPMS submittal requirements and asked States to include a geospatially enabled network for all public roads.

Caltrans has made an intensive effort to develop a Statewide All Roads Linear Referencing System (LRS) in order to meet the HPMS requirements. We are at our final "clean up" stage, and we request your help to verify the LRS network for your jurisdiction. We have clipped out the street centerline shapefile with attribute table within your city/county boundary for your review. You may download the data from this link:

ftp://svgcftp.dot.ca.gov/City_County_Shapefile/

Username: hpms Password: hpms2016

We appreciate your assistance in verifying the LRS network and its attributes and provide your feedback and comments by September 30th, 2016.

<<Name>> August 23, 2016 Page 2

Please feel free to contact us if you have any questions. A Caltrans point-of-contact list is attached for your reference.

Thank you for your continued support.

Sincerely,

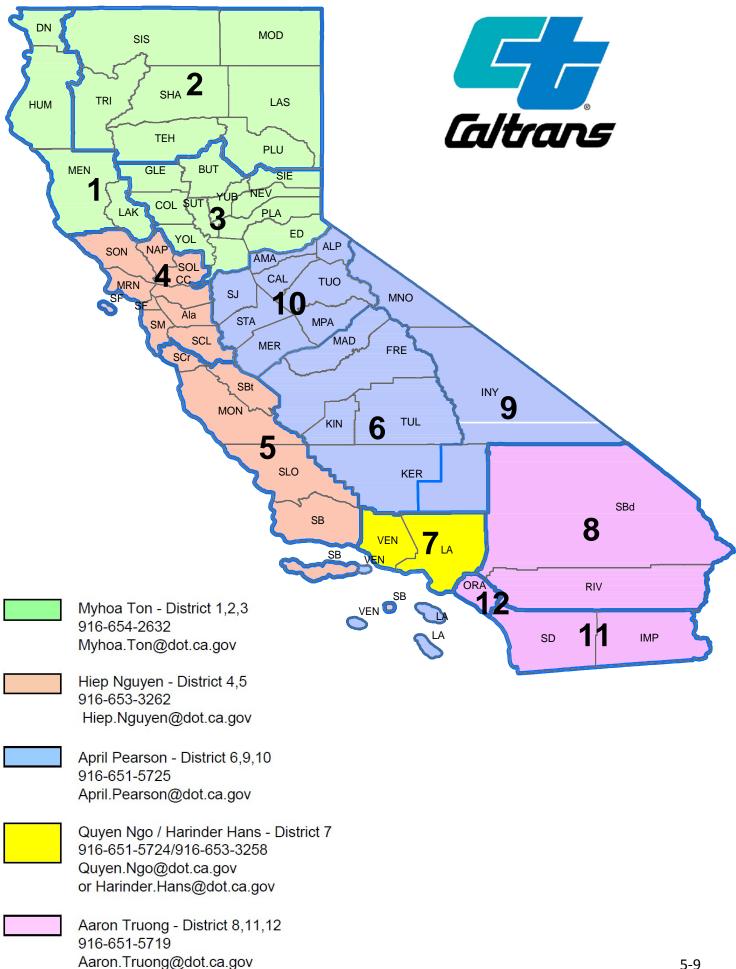
JIM APPLETON, Chief

Division of Research, Innovation and System Information

Enclosure

HPMS Engineers Coverage Area

HPMS Engineers Coverage Area



				CONTRA COSTA COUNTY MILEAGE 2014-2016	TY MILEAGE 20	14-2016	
	2014 Miles	Percentage Change from 2014 to 2015	2015 Miles	Percentage Change from 2014 to 2016	2016 Miles	Local Response	Comments
ANTIOCH	228.04	36%	309.35	40%	319.63	City acknowleged receipt of State's request, but no subsequent response or comment.	
BRENTWOOD	212.83	-23%	164.29	-3%	207.01	City acknowleged receipt of State's request, but no subsequent response or comment.	
CLAYTON	40.50	17%	47.40	19%	48.32	City acknowleged receipt of State's request, but no subsequent response or comment.	
CONCORD	330.82	3%	340.57	7%	354.82	City acknowleged receipt of State's request, but no subsequent response or comment.	
DANVILLE	143.22	26%	180.86	2%	150.46	City provided their own shapfile.	Incorporated in 2016 report
EL CERRITO	75.08	-3%	72.58	-3%	73.03	City provided their own shapfile.	Incorporated in 2016 report
HERCULES	58.48	8%	63.05	19%	19.69	No Response from City.	
LAFAYETTE	90.30	20%	135.46	53%	137.74	City acknowleged receipt of State's request, but no subsequent	
MARTINEZ	109.26	26%	137.78	32%	143.73	City acknowleged receipt of State's request, but no subsequent response or comment.	
							Did not incorporate City's data
MORAGA	56.68	17%	66.38	21%	68.67	City provided their own shapfile.	in time for 2016 report
	,				1		Did not incorporate City's data
OAKLEY	114.96	-5%	108.65	22%	140.81	City provided data in Excel format	in time tor 2016 report
ORINDA	92.71	28%	118.60	%0	92.89	City provided their own shapfile.	Incorporated in 2016 report
PINOLE	52.96	%8	57.22	%8	57.22	City acknowleged receipt of State's request, but no subsequent response or comment.	
						City acknowleged receipt of State's request, but no subsequent	
PITTSBURG	139.72	18%	165.03	33%	186.22	response or comment.	
PLEASANT HILL	123.96	%6-	112.75	-8%	114.56	No Response from City.	
RICHMOND	266.61	10%	293.03	18%	314.34	City acknowleged receipt of State's request, but no subsequent response or comment.	
							Did not incorporate City's data
SAN PABLO	47.13	%8	51.12	14%	53.67	City provided data in Excel format	in time for 2016 report
SAN RAMON	146.37	26%	228.04	64%	240.25	No Response from City.	
WALNUT CREEK	196.35	%8	211.89	8%	212.90	City provided their own shapfile.	Incorporated in 2016 report
CONTRA COSTA COUNTY	659.84	46%	961.63	2%	674.92	County provided their own shapfile.	Incorporated in 2016 report



Technical Coordinating Committee STAFF REPORT

Meeting Date: December 21, 2017

Subject	Update on Senate Bill 743 (SB 743) and the Governor's Office of Planning and Research (OPR) Release of the Proposed Updates to the California Environmental Quality Act (CEQA) Guidelines
Summary of Issues	On January 20, 2016, OPR released revised CEQA guidelines addressing the transition from delay-based metrics to a Vehicle Miles Traveled (VMT)-based metric for review and comment by the public. On November 27, 2017, OPR completed its amendments based on public comments and has transmitted the updated CEQA guidelines to the California Department of Natural Resources (CDNR) for the official rule-making process. Lead agencies are expected to fully comply with the new rules by January 1, 2020.
Recommendations	Delegate discussion to the TCC's Growth Management Task Force.
Financial Implications	N/A
Options	N/A
Attachments	 A. OPR's Proposed Updates to the CEQA Guidelines, dated November 2017 – available for download at ccta.net B. OPR's Technical Advisory on Evaluating Transportation Impacts in
	CEQA, dated November 2017
Changes from Committee	

Background

SB 743 passed in September 2013 and resulted in changes to how CEQA addresses transportation and development projects located in Transit Priority Areas (TPAs), well served by transit. It exempts projects that are consistent with a specific plan (and do not cause significant impacts not identified in the CEQA analysis for the specific plan) as follows:

- 1. A residential, employment center, or mixed use project;
- 2. Located within a TPA;
- 3. Consistent with a specific plan for which an environmental impact report was certified; and
- 4. Consistent with an adopted Sustainable Communities Strategy or Alternative Planning Strategy.

Under SB 743, Level of Service (LOS) and/or similar vehicle delay-based metrics will no longer trigger an impact finding under CEQA for development and transportation improvement projects. In addition, a project's aesthetic and parking impacts will no longer be considered significant impacts on the environment if:

- 1. The project is a residential, mixed-use residential, or employment center project; and
- 2. The project is located on an infill site within a TPA.

The exemption for aesthetic impacts does not include impacts to historic or cultural resources. For these, local governments retain their ability to regulate a project's transportation, aesthetics, and parking impacts outside of the CEQA process.

SB 743 required OPR to amend the CEQA guidelines to provide an alternative to using LOS standards in evaluating transportation impacts, particularly within areas served by transit, SB 743 also allowed for these new standards to apply statewide.

On August 6, 2014, OPR released the Preliminary Discussion Draft of Updates to the CEQA Guidelines Implementing SB 743. This document expands upon the ideas presented in OPR's Preliminary Evaluation of Alternative Methods of Transportation Analysis (December 2013), and incorporates comments received during the subsequent public review period. The proposed guidelines eliminate use of LOS not only in TPAs, but also outside of TPAs.

The January 20, 2016 issuance of the revised proposal to the CEQA guidelines on Evaluating Transportation Impacts in CEQA by OPR addressed comments received subsequent to the August 2014 release of the preliminary discussion draft. While over 200 comments were received during the review period, there were no substantial changes to the proposal; however, several clarifications and refinements were made by OPR staff.

Proposed Updates to the CEQA Guidelines - November 2017

On November 27, 2017, OPR officially transmitted its final version of the updated CEQA guidelines (Attachment A) to the CDNR; the official rule-making body with regards to CEQA. The rule-making process is expected to take at least six months, including a public comment period. As part of the transmittal to CDNR, OPR also included a mostly-unchanged version of their Technical Advisory on Evaluating Transportation Impacts in CEQA document (Attachment B), as well as a list of the over 200 groups to which they conducted outreach during their 2016 comment period, as well as a list of the hundreds of comments received during the process.

The updated CEQA guidelines retain the majority of the transportation-related contents and lead agency flexibility of the Draft January 2016 version, but does include clarification and refinement of some provisions. The following are summaries of the major additions from 2016, by subject:

• Thresholds of Significance

- When using a threshold, the lead agency should briefly explain how compliance
 with the threshold means that the project's impacts are less than significant and
 describe the substantial evidence supporting that conclusion. Compliance with
 the threshold does not relieve a lead agency of the obligation to consider
 substantial evidence indicating that the project's environmental effects may still
 be significant; and
- Lead agencies may use thresholds on a case-by-case basis;

<u>Transit-Oriented Development Exemptions</u>

- Certain residential, commercial and mixed-use projects that are consistent with an adopted specific plan are exempt from CEQA, including:
 - A residential or mixed-use project, or a project on commercially-zoned property with a floor area ratio of at least 0.75, including any required subdivision or zoning approvals, is exempt if the project satisfies the following criteria:
 - It is located within one-half mile of an existing or planned rail transit station, ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with

- a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods;
- It is consistent with a specific plan for which an environmental impact report was certified; and
- It is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy.

• Analyzing Transportation Impacts

- New Section Determining the Significance of Transportation Impacts
 - Purpose: Describes specific considerations for evaluating a project's transportation impacts. Generally, VMT is the most appropriate measure of transportation impacts. VMT refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except with regards to increased roadway capacity, a project's effect on automobile delay does not constitute a significant environmental impact.

Criteria:

- Land Use Projects VMT exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be considered to have a less than significant transportation impact.
- Transportation Projects Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway

capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, a lead agency may tier from that analysis.

- Qualitative Analysis If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.
- Methodology A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's VMT, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project.
- Applicability: A lead agency may elect to be governed by the provisions of this section immediately. Beginning on January 1, 2020, the provisions of this section shall apply statewide.

Implementation of Updated Guidelines

The revised guidelines provide guidance in performing a VMT-based evaluation of transportation impacts resulting from development or transportation improvements. However, local and regional transportation agencies, as well as their consultants, will need to develop tools for estimating VMT and for the initial screening of projects to determine whether or not their impact is indeed significant. Maps showing average city/regional VMT will be helpful for determining whether many types of projects meet the significance thresholds. There are some

basic calculations provided in the guidelines for the project VMT screening, but proven tools for analysis are not yet available for practitioners. However, VMT output from the California Emissions Estimator Model (CalEEMod) (statewide travel demand model) is now available from the State, and one free online tool for computing project-level VMT is available - Fehr and Peers' VMT Plus (http://www.fehrandpeers.com/vmt/). Working with the TCC's Growth Management Task Force, staff expects to develop thresholds and tools/maps for VMT screening and evaluation, as part of a future update to the Implementation Guide and the Technical Procedures, which integrate CEQA review into the project and General Plan analysis process.

The rule-making process by CDNR will include another round of public comment, sometime in 2018. It is expected that once comments are received and addressed, the State Natural Resources Agency will adopt the new guidelines, which will make the new rules immediately applicable in TPAs. Outside of TPAs, there will be an opt-in period for agencies to begin using the new rules, with full statewide roll-out for all locations by January 1, 2020.

TECHNICAL ADVISORY

ON EVALUATING TRANSPORTATION IMPACTS IN CEQA



November 2017

Contents

A.	Introduction	1
В.	Background	1
C.	Technical Considerations in Assessing Vehicle Miles Traveled	2
1.	Recommendations Regarding Methodology	2
D.	General Principles to Guide Consideration of VMT	4
E.	Recommendations Regarding Significance Thresholds	6
1.	Screening Thresholds for Land Use Projects	10
2	. Recommended Numeric Thresholds for Residential, Office, and Retail Projects	12
3.	Recommendations Regarding Land Use Plans	15
4.	Other Considerations	15
F.	Considering the Effects of Transportation Projects on Vehicle Travel	16
1.	Recommended Significance Threshold for Transportation Projects	18
2.	Estimating VMT Impacts from Transportation Projects	19
G.	Analyzing Other Impacts Related to Transportation	21
Н.	VMT Mitigation and Alternatives	22
Арре	endix 1. Considerations About Which VMT to Count	24
Appe	endix 2. Induced Travel: Mechanisms, Research, and Additional Assessment Approaches	27

A. Introduction

This technical advisory is one in a series of advisories provided by the Governor's Office of Planning and Research (OPR) as a service to professional planners, land use officials, and CEQA practitioners. OPR issues technical guidance on issues that broadly affect the practice of land use planning and the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The purpose of this document is to provide advice and recommendations, which agencies and other entities may use at their discretion. This document should not be construed as legal advice.

Senate Bill 743 (Steinberg, 2013) required changes to the guidelines implementing CEQA (CEQA Guidelines) (Cal. Code Regs., Title 14, Div. 6, Ch. 3, § 15000 et seq.) regarding the analysis of transportation impacts. OPR has proposed changes to the CEQA Guidelines that identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. The proposed changes also provide that the analysis of certain transportation projects must address the potential for induced travel. Once the California Natural Resources Agency adopts these changes to the CEQA Guidelines, automobile delay, as measured by "level of service" and other similar metrics, generally will no longer constitute a significant environmental effect under CEQA.

This advisory contains technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. OPR will continue to monitor implementation of these new provisions and may update or supplement this advisory in response to new information and advancements in modeling and methods.

B. Background

VMT and Greenhouse Gas Emissions Reduction. Senate Bill 32 (Pavley, 2016) requires California to reduce greenhouse gas emissions 40 percent below 1990 levels by 2030, and Executive Order B-16-12 provides a target of 80 percent below 1990 emissions levels for the transportation sector by 2050. The transportation sector has three major means of reducing greenhouse gas emissions: increasing vehicle efficiency, reducing fuel carbon content, and reducing the amount of vehicle travel. The California Air Resources Board (CARB) has provided a path forward for achieving these emissions reductions from the transportation sector in its 2016 Mobile Source Strategy. CARB determined that it will not be possible to achieve the State's 2030 and post-2030 emissions goals without reducing VMT growth.

VMT and Other Impacts to Health and Environment. Beyond greenhouse gas emissions, increases in VMT also impact human health and the natural environment. Human health is impacted as increases in vehicle travel leads to more vehicle crashes, poorer air quality, increases in chronic diseases associated with reduced physical activity, and worse mental health. Increases in vehicle travel also negatively affects other road users, including pedestrians, cyclists, other motorists, and many transit users. The natural environment is impacted as higher VMT leads to more collisions with wildlife and fragments habitat. Additionally, development which leads to more vehicle travel also tends to consume more energy, water, and open space (including farmland and sensitive habitat). This increase in impermeable surfaces raises the flood risk and pollutant transport into waterways. (Fang et al., 2017.)

VMT and *Economic Growth*. While it was previously believed that VMT growth was a necessary component of economic growth, data from the past two decades shows that economic growth is possible without a concomitant increase in VMT. (Figure 1.) Recent research shows that requiring development projects to mitigate LOS may actually reduce accessibility to destinations and impede economic growth.^{1,2}

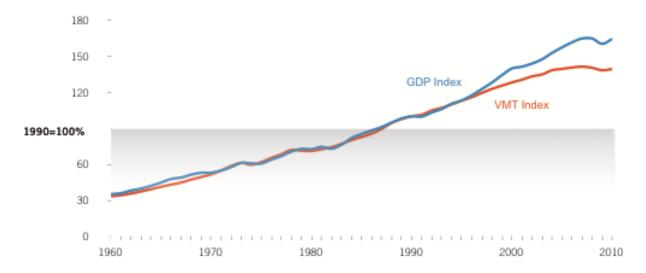


Figure 1. VMT and Gross Domestic Product (GDP), 1960-2010 (Kooshian and Winkelman, 2011)

C. Technical Considerations in Assessing Vehicle Miles Traveled

Many practitioners are familiar with accounting for VMT in connection with long-range planning, or as part of the CEQA analysis of a project's greenhouse gas emissions or energy impacts. This document provides technical information on how to assess VMT as part of a transportation impacts analysis under CEQA. Appendix 1 provides a description of which VMT to count and options on how to count it. Appendix 2 provides information on induced travel resulting from roadway capacity projects, including the mechanisms giving rise to induced travel, the research quantifying it, and information on additional approaches for assessing it.

1. Recommendations Regarding Methodology

Proposed Section 15064.3 explains that a "lead agency may use models to estimate a project's vehicle miles traveled...." CEQA generally defers to lead agencies on the choice of methodology to analyze

¹ Haynes et al., <u>Congested Development: A Study of Traffic Delays, Access, and Economic Activity in</u> Metropolitan Los Angeles, Sept. 2015.

² Osman et al., <u>Not So Fast: A Study of Traffic Delays, Access, and Economic Activity in the San Francisco</u> <u>Bay Area, March 2016.</u>

impacts. (Santa Monica Baykeeper v. City of Malibu (2011) 193 Cal.App.4th 1538, 1546.) This section provides suggestions to lead agencies regarding methodologies to analyze VMT associated with a project.

Vehicle Types. Proposed Section 15064.3, subdivision (a), states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT). For an apples-to-apples comparison, vehicle types considered should be consistent across project assessment, significance thresholds, and mitigation.

Residential and Office Projects. Tour- and trip-based approaches³ offer the best methods for assessing VMT from residential/office projects and for comparing those assessments to VMT thresholds. These approaches also offer the most straightforward methods for assessing VMT reductions from mitigation measures for residential/office projects. When available, tour-based assessment is ideal because it captures travel behavior more comprehensively. But where tour-based tools or data are not available for all components of an analysis, a trip-based assessment of VMT serves as a reasonable proxy.

Models and methodologies used to calculate thresholds, estimate project VMT, and estimate VMT reduction due to mitigation should be comparable. For example:

- A tour-based assessment of project VMT should be compared to a tour-based threshold, or a trip-based assessment to a trip-based VMT threshold.
- Where a travel demand model is used to determine thresholds, the same model should also be used to provide trip lengths as part of assessing project VMT.
- Where only trip-based estimates of VMT reduction from mitigation are available, a trip-based threshold should be used, and project VMT should be assessed in a trip-based manner.

When a trip-based method is used to analyze a residential project, the focus can be on home-based trips. Similarly, when a trip-based method is used to analyze an office project, the focus can be on home-based work trips.

When tour-based models are used to analyze an office project, either employee work tour VMT or VMT from all employee tours may be attributed to the project. This is because workplace location influences overall travel. For consistency, the significance threshold should be based on the same metric: either employee work tour VMT or VMT from all employee tours.

For office projects that feature a customer component, such as a government office that serves the public, a lead agency can analyze the customer VMT component of the project using the methodology for retail development (see below).

³ See Appendix 1, *Considerations About Which VMT to Count,* for a description of these approaches.

^{3 |} Page

Retail Projects. Generally, lead agencies should analyze the effects of a retail project by assessing the change in total VMT⁴ because retail projects typically re-route travel from other retail destinations. A retail project might lead to increases or decreases in VMT, depending on previously existing retail travel patterns.

Considerations for All Projects. Lead agencies should not truncate any VMT analysis because of jurisdictional or other boundaries. CEQA requires environmental analyses to reflect a "good faith effort at full disclosure." (CEQA Guidelines, § 15151.) Thus, where methodologies exist that can estimate the full extent of vehicle travel from a project, the lead agency should apply them to do so. Analyses should also consider a project's both short- and long-term effects on VMT.

Any project that includes in its geographic bounds a portion of an existing or planned Transit Priority Area (i.e., the project is within a ½ mile of an existing or planned major transit stop or an existing stop along a high quality transit corridor) may employ VMT as its primary metric of transportation impact for the entire project. (See Pub. Resources Code, § 21099, subds. (a)(7), (b)(1).)

D. General Principles to Guide Consideration of VMT

SB 743 directs OPR to establish specific "criteria for determining the significance of transportation impacts of projects[.]" (Pub. Resources Code, § 21099, subd. (b)(1).) In establishing this criterion, OPR was guided by the general principles contained within CEQA, the CEQA Guidelines, and applicable case law. A brief summary of the relevant principles is found below.

The CEQA Guidelines set forth the general rule for determining significance:

The determination of whether a project may have a significant effect on the environment calls for **careful judgment** on the part of the public agency involved, **based to the extent possible on scientific and factual data**. An ironclad definition of significant effect is not always possible because **the significance of an activity may vary with the setting**. For example, an activity which may not be significant in an urban area may be significant in a rural area.

(CEQA Guidelines, § 15064, subd. (b) (emphasis added).) This confirms that context matters in a CEQA analysis and that lead agencies have discretion in the precise methodology to analyze an impact. (See Laurel Heights Improvement Assn. v. Regents of University of California (1988) 47 Cal.3d 376, 409 ["the issue is not whether the studies are irrefutable or whether they could have been better" ... rather, the "relevant issue is only whether the studies are sufficiently credible to be considered" as part of the lead agency's overall evaluation]; Santa Monica Baykeeper v. City of Malibu, supra, 193 Cal.App.4th at p. 1546 [substantial evidence standard applies to agency's choice of methodology].) Therefore, lead agencies may perform a multimodal impact analysis that incorporates the technical approaches and

⁴ See Appendix 1, *Considerations About Which VMT to Count, "*Assessing Change in Total VMT" section, for a description of this approach.

mitigation strategies that are best suited to the unique land use/transportation circumstances and specific facility types they are evaluating.

To assist in the determination of significance, many lead agencies rely on "thresholds of significance." The CEQA Guidelines define a "threshold of significance" to mean "an identifiable quantitative, qualitative⁵ or performance level of a particular environmental effect, non-compliance with which means the effect will *normally* be determined to be significant by the agency and compliance with which means the effect *normally* will be determined to be less than significant." (CEQA Guidelines, § 15064.7, subd. (a) (emphasis added).) Agencies may adopt their own, or rely on thresholds recommended by other agencies, "provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence." (*Id.* at subd. (c).) Substantial evidence means "enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached." (*Id.* at § 15384 (emphasis added).)

Thresholds of significance are not a safe harbor under CEQA; rather, they are a starting point for analysis:

[T]hresholds cannot be used to determine automatically whether a given effect will or will not be significant. Instead, thresholds of significance can be used only as a measure of whether a certain environmental effect "will normally be determined to be significant" or "normally will be determined to be less than significant" by the agency In each instance, notwithstanding compliance with a pertinent threshold of significance, the agency must still consider any fair argument that a certain environmental effect may be significant.

(Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal. App. 4th 1099, 1108-1109.)

Finally, just as the determination of significance is ultimately a "judgment call," the analysis leading to that determination need not be perfect. The CEQA Guidelines describe the standard for adequacy of environmental analyses:

An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

5 | Page

⁵ Because the amount of a project's VMT is needed (and is currently being used in practice) to assess the environmental impacts on a variety of resources (such as air quality, greenhouse gases, energy, and noise), qualitative analysis should only be applied when models or methods do not exist for undertaking a quantitative analysis.

(CEQA Guidelines, § 15151 (emphasis added).)

These general principles guide OPR's recommendations regarding thresholds of significance for VMT set forth below.

E. Recommendations Regarding Significance Thresholds

As noted above, lead agencies have the discretion to set or apply their own thresholds of significance. (*Center for Biological Diversity v. California Dept. of Fish & Wildlife* (2015) 62 Cal.4th 204, 218-223 [lead agency had discretion to use compliance with AB 32's emissions goals as a significance threshold]). However, Section 21099 of the Public Resources Code states that the criteria for determining the significance of transportation impacts must promote: (1) reduction of greenhouse gas emissions; (2) development of multimodal transportation networks; and (3) a diversity of land uses. It further directed OPR to provide guidance on criteria for determining significance. (Pub. Resources Code, § 21099, subd. (b)(1).) This section provides OPR's suggested thresholds, as well as considerations for lead agencies that choose to adopt their own thresholds.

Various legislative mandates and state policies establish quantitative greenhouse gas emissions reduction targets. For example:

- Assembly Bill 32 (2006) requires statewide greenhouse gas reductions to 1990 levels by 2020 and continued reductions beyond 2020.
- <u>Senate Bill 32</u> (2016) requires at least a 40 percent reduction in greenhouse gas emissions by 2030.
- Pursuant to <u>Senate Bill 375</u> (2008), the California Air Resources Board establishes greenhouse
 gas reduction targets for metropolitan planning organizations (MPOs) to achieve based on land
 use patterns and transportation systems specified in Regional Transportation Plans and
 Sustainable Community Strategies. Current targets for the largest metropolitan planning
 organizations range from 13% to 16% reductions by 2035.
- Executive Order B-30-15 (2015) sets a GHG emissions reduction target of 40 percent below 1990 levels by 2030.
- Executive Order S-3-05 (2005) sets a GHG emissions reduction target of 80 percent below 1990 levels by 2050.
- Executive Order B-16-12 (2012) specifies a GHG emissions reduction target of 80 percent below 1990 levels by 2050 specifically for transportation.
- <u>Senate Bill 391</u> requires the <u>California Transportation Plan</u> to support 80 percent reduction in GHGs below 1990 levels by 2050.

- The <u>California Air Resources Board Mobile Source Strategy</u> (2016) describes California's strategy
 for containing air pollutant emissions from vehicles, and quantifies VMT growth compatible with
 achieving state targets.
- The California Air Resources Board's <u>2017 Climate Change Scoping Plan Update: The Strategy for Achieving California's 2030 Greenhouse Gas Target</u> describes California's strategy for containing greenhouse gas emissions from vehicles, and quantifies VMT growth compatible with achieving state targets.

Considering these various targets, the California Supreme Court observed:

Meeting our statewide reduction goals does not preclude all new development. Rather, the Scoping Plan ... assumes continued growth and depends on increased efficiency and conservation in land use and transportation from all Californians.

(Center for Biological Diversity v. California Dept. of Fish & Wildlife, supra, 62 Cal.4th at p. 220.) Indeed, the Court noted that when a lead agency uses consistency with climate goals as a way to determine significance, particularly for long-term projects, the lead agency must consider the project's effect on meeting long-term reduction goals. (*Ibid.*) And more recently, the Supreme Court stated that "CEQA requires public agencies . . . to ensure that such analysis stay in step with evolving scientific knowledge and state regulatory schemes." (Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 504.)

Meeting the targets described above will require substantial reductions in existing VMT per capita to curb greenhouse gases and other pollutants. But those targets do not translate directly into VMT thresholds for individual projects for many reasons, including:

- Some, but not all, of the emissions reductions needed to achieve those targets could be accomplished by other measures, including increased vehicle efficiency and decreased fuel carbon content. The CARB's First Update to the Climate Change Scoping Plan explains: "Achieving California's long-term criteria pollutant and GHG emissions goals will require four strategies to be employed: (1) improve vehicle efficiency and develop zero emission technologies, (2) reduce the carbon content of fuels and provide market support to get these lower-carbon fuels into the marketplace, (3) plan and build communities to reduce vehicular GHG emissions and provide more transportation options, and (4) improve the efficiency and throughput of existing transportation systems." (CARB, First Update to the Climate Change Scoping Plan, May 2014, p. 46 (emphasis added).) In other words, vehicle efficiency and better fuels are necessary, but insufficient, to address the greenhouse gas emissions from the transportation system. Land use patterns and transportation options must also change to support reductions in vehicle travel/VMT.
- New land use projects alone will not sufficiently reduce per-capita VMT to achieve those targets, nor are they expected to be the sole source of VMT reduction.
- Interactions between land use projects, and also between land use and transportation projects, existing and future, together affect VMT.

- Because location within the region is the most important determinant of VMT, in some cases, streamlining CEQA review of projects in travel efficient locations may be the most effective means of reducing VMT.
- When assessing climate impacts of land use projects, use of an efficiency metric (e.g., per capita, per employee) may provide a better measure of impact than an absolute numeric threshold. (Center for Biological Diversity, supra.)

Public Resources Code section 21099 directs OPR to provide guidance on determining the significance of transportation impacts. While OPR's guidance is not binding on public agencies, CEQA allows lead agencies to "consider thresholds of significance . . . recommended by other public agencies, provided the decision to adopt those thresholds is supported by substantial evidence." (CEQA Guidelines, § 15064.7, subd. (c).) Based on OPR's extensive review of the applicable research and literature on this topic, OPR finds that in most instances a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold.

First, as described above, Section 21099 states that the criteria for determining significance must "promote the reduction in greenhouse gas emissions." SB 743 also states the Legislature's intent that the analysis of transportation in CEQA better promotes the State's goals of reducing greenhouse gas emissions. It cites in particular the reduction goals in the Global Warming Solutions Act (AB 32) and the Sustainable Communities and Climate Protection Act (SB 375), both of which call for substantial reductions. As indicated above, CARB established long-term <u>reduction targets</u> for the largest regions in the state that ranged from 13 to 16 percent.

Second, Caltrans has developed a statewide VMT reduction target in its <u>Strategic Management Plan</u>. Specifically, it calls for a 15 percent reduction in per capita VMT, compared to 2010 levels, by 2020.

Third, fifteen percent reductions in VMT are achievable at the project level in a variety of place types. (Quantifying Greenhouse Gas Measures, p. 55 CAPCOA, 2010).

Fourth, in CARB's most recent update to the Climate Change Scoping Plan, a 15 percent reduction in light-duty VMT beyond what existing plan and policies achieve is recommended to achieve the State's 2030 and 2050 targets. (CARB, <u>The 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target</u>, October 2017, pp. 116, 150; see generally, CARB, <u>Climate Change Scoping Plan: A Framework for Change</u>, December 2008, p. 27; CARB, <u>First Update to the Climate Change Scoping Plan</u>, May 2014, p. 113; CARB, <u>The 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target</u>, October 2017, p. 149.)

The current draft of the Scoping Plan states,

VMT reductions are necessary to achieve the 2030 target and must be part of any strategy evaluated in this plan. Stronger SB 375 GHG reduction targets will enable the State to make significant progress towards this goal, but alone will not provide all of the VMT growth reductions that will be needed. There is a gap between what SB 375 can provide and what is needed to meet the State's 2030 and 2050 goals." (CARB, <u>The 2017 Climate Change Scoping</u>

<u>Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target</u>, October 2017, p. 112.)

Furthermore,

At the State level, a number of important policies are being developed. Governor Brown signed Senate Bill 743 (Steinberg, 2013), which called for an update to the metric of transportation impact in the California Environmental Quality Act (CEQA). That update to the CEQA Guidelines is currently underway. Employing VMT as the metric of transportation impact statewide will help ensure GHG reductions planned under SB 375 will be achieved through on-the-ground development, and will also play an important role in creating the additional GHG reductions needed beyond SB 375 across the State." (*Id.* at p. 112.)

. . . .

Employing VMT as the metric of transportation impact statewide will help to ensure GHG reductions planned under SB 375 will be achieved through on-the-ground development, and will also play an important role in creating the additional GHG reductions needed beyond SB 375 across the State. Implementation of this change will rely, in part, on local land use decisions to reduce GHG emissions associated with the transportation sector, both at the project level, and in long-term plans (including general plans, climate action plans, specific plans, and transportation plans) and supporting sustainable community strategies developed under SB 375. The State can provide guidance and tools to assist local governments in achieving those objectives. (*Id.* at p. 113)

. . . .

California's future climate strategy will require increased focus on integrated land use planning to support livable, transit-connected communities, and conservation of agricultural and other lands. Accommodating population and economic growth through travel- and energy-efficient land use provides GHG-efficient growth, reducing GHGs from both transportation and building energy use. GHGs can be further reduced at the project level through implementing energy-efficient construction and travel demand management approaches. Further, the State's understanding of transportation impacts continues to evolve. The CEQA Guidelines are being updated to focus the analysis of transportation impacts on VMT. OPR's Technical Advisory includes methods of analysis of transportation impacts, approaches to setting significance thresholds, and includes examples of VMT mitigation under CEQA. (*Id.* at p. 153.)

Also, the Scoping Plan includes the following item as a "Recommended Action": "forthcoming statewide implementation of SB 743." (*Ibid.*)

Achieving 15 percent lower per capita (residential) or per employee (office) VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the State's emissions goals. The following pages describe a series of screening thresholds below which a detailed analysis may not be required. Next, this advisory describes numeric thresholds

recommended for various project types. Finally, this advisory describes the analysis for certain unique circumstances.

1. Screening Thresholds for Land Use Projects

Many agencies use "screening thresholds" to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. (See e.g., CEQA Guidelines, §§ 15063(c)(3)(C), 15128, and Appendix G.) As explained below, this technical advisory suggests that lead agencies may screen out VMT impacts using project size, maps, and transit availability.

Screening Threshold for Small Projects

Many local agencies have developed screening thresholds to indicate when detailed analysis is needed. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day⁶ generally may be assumed to cause a less-than-significant transportation impact.

Map-Based Screening for Residential and Office Projects

Residential and office projects that locate in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT. Maps created with data from a travel survey or travel demand model can illustrate areas that are currently below threshold VMT (see recommendations below). Because new development in such locations would likely result in a similar level of VMT, such maps can be used to screen out residential and office projects from needing to prepare a detailed VMT analysis.

⁶ CEQA provides a categorical exemption for existing facilities, including additions to existing structures of up to 10,000 square feet, so long as the project is in an area where public infrastructure is available to allow for maximum planned development and the project is not in an environmentally sensitive area. (CEQA Guidelines, § 15301, subd. (e)(2).) Typical project types for which trip generation increases relatively linearly with building footprint (i.e., general office building, single tenant office building, office park, and business park) generate or attract an additional 110-124 trips per 10,000 square feet. Therefore, absent substantial evidence otherwise, it is reasonable to conclude that the addition of 110 or fewer trips could be considered not to lead to a significant impact.

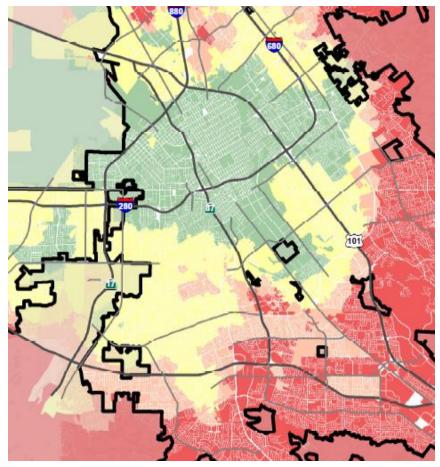


Figure 2. Example map of household VMT that could be used to delineate areas eligible to receive streamlining for VMT analysis. (Source: City of San José, Department of Transportation, draft output of City Transportation Model.)

Presumption of Less Than Significant Impact Near Transit Stations

Proposed CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within ½ mile of an existing major transit stop⁷ or an existing stop along a high quality transit corridor⁸ will have a less-than-significant impact on VMT. This presumption would not apply, however, if project-specific or location-specific information indicates that the project

⁷ Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.").

⁸ Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").

will still generate significant levels of VMT. For example, the presumption might not be appropriate if the project:

- Has a Floor Area Ratio (FAR) of less than 0.75
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking)
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization)

If any of these exceptions to the presumption might apply, the lead agency should conduct a detailed VMT analysis to determine whether the project would exceed VMT thresholds (see below).

2. Recommended Numeric Thresholds for Residential, Office, and Retail Projects

Recommended threshold for residential projects: A proposed project exceeding a level of 15 percent below existing VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as regional VMT per capita or as city VMT per capita. Proposed development referencing city VMT per capita must not cumulatively exceed the number of units specified in the SCS for that city, and must be consistent with the SCS.

Residential development that would generate vehicle travel that is 15 or more percent below the existing residential VMT per capita, measured against the region or city, may indicate a less-than-significant transportation impact. In MPO areas, development measured against city VMT per capita (rather than regional VMT per capita) should not cumulatively exceed the population or number of units specified in the SCS for that city because greater-than-planned amounts of development in areas above the region-based threshold would undermine the VMT containment needed to achieve regional targets under SB 375.

For residential projects in unincorporated county areas, the local agency can compare a residential project's VMT to (1) the region's VMT per capita, or (2) the aggregate population-weighted VMT per capita of all cities in the region. In MPO areas, development in unincorporated areas measured against aggregate city VMT per capita (rather than regional VMT per capita) must not cumulatively exceed the population or number of units specified in the SCS for that city because greater-than-planned amounts of development in areas above the regional threshold would undermine achievement of regional targets under SB 375.

These thresholds can be applied to either household (i.e., tour-based) VMT or home-based (i.e., trip-based) VMT assessments. It is critical, however, that the agency be consistent in its VMT measurement

⁹ See Appendix 1 for a description of these approaches.

approach throughout the analysis to maintain an "apples-to-apples" comparison. For example, if the agency uses a home-based VMT for the threshold, it must also be use home-based VMT for calculating project VMT and VMT reduction due to mitigation measures.

Recommended threshold for office projects: A proposed project exceeding a level of 15 percent below existing regional VMT per employee may indicate a significant transportation impact.

Office projects that would generate vehicle travel exceeding 15 percent below existing VMT per employee for the region may indicate a significant transportation impact. In cases where the region is substantially larger than the geography over which most workers would be expected to live, it might be appropriate to refer to a smaller geography, such as the county, that includes the area over which nearly all workers would be expected to live.

Office VMT screening maps can be developed using tour-based data, considering either total employee VMT or employee work tour VMT. Similarly, tour-based analysis of office project VMT could consider either total employee VMT or employee work tour VMT. Where tour-based information is unavailable for threshold determination, project assessment, or assessment of mitigation, home-based work trip VMT should be used throughout all steps of the analysis to maintain an "apples-to-apples" comparison.

Recommended threshold for retail projects: A net increase in total VMT may indicate a significant transportation impact.

Because new retail development typically redistributes shopping trips rather than creating new trips, ¹⁰ estimating the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) is the best way to analyze a retail project's transportation impacts.

By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume such development creates a less-than-significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact. Where such development decreases VMT, lead agencies should consider the impact to be less-than-significant.

Many cities and counties define local-serving and regional-serving retail in their zoning codes. Lead agencies may refer to those local definitions when available, but should also consider any project-specific information, such as market studies or economic impacts analyses that might bear on customers' travel behavior. Because lead agencies will best understand their own communities and the likely travel behaviors of future project users, they are likely in the best position to decide when a

13 | Page

¹⁰ Lovejoy, et al., Measuring the impacts of local land-use policies on vehicle miles of travel: The case of the first big-box store in Davis, California, The Journal of Transport and Land Use, 2013.

project will likely be local-serving. Generally, however, retail development including stores larger than 50,000 square feet might be considered regional-serving, and so lead agencies should undertake an analysis to determine whether the project might increase or decrease VMT.

Mixed-Use Projects

Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture. Combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.

Other Project Types

Of land use projects, residential, office, and retail projects tend to have the greatest influence on VMT. For that reason, OPR recommends the quantified thresholds described above for purposes of analysis and mitigation. Lead agencies, using more location-specific information, may develop their own more specific thresholds, which may include other land use types. In developing thresholds for other project types, or thresholds different from those recommended here, lead agencies should consider the purposes described in section 21099 of the Public Resources Code and regulations in the CEQA Guidelines on the development of thresholds of significance (e.g., CEQA Guidelines, § 15064.7).

Strategies and projects that decrease local VMT but increase total VMT should be avoided. Agencies should consider whether their actions encourage development in a less travel-efficient location by limiting development in travel-efficient locations.

Redevelopment Projects

Where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.

If a residential or office project leads to a net increase in VMT, then the project's VMT per capita (residential) or per employee (office) should be compared to thresholds recommended above. Per capita and per employee VMT are efficiency metrics, and, as such, apply only to the existing project without regard to the VMT generated by the previously existing land use.

If the project leads to a net increase in provision of locally-serving retail, transportation impacts from the retail portion of the development should be presumed to be less than significant. If the project consists of regionally-serving retail, and increases overall VMT compared to with existing uses, then the project would lead to a significant transportation impact.

November 2017

RTP-SCS Consistency (All Land Use Projects)

Section 15125, subdivision (d), of the CEQA Guidelines provides that lead agencies should analyze impacts resulting from inconsistencies with regional plans, including regional transportation plans. For this reason, if a project is inconsistent with the Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS), the lead agency should evaluate whether that inconsistency indicates a significant impact on transportation.

3. Recommendations Regarding Land Use Plans

As with projects, agencies should analyze VMT outcomes of land use plans over the full area over which the plan may substantively affect travel patterns, including beyond the boundary of the plan or jurisdiction's geography. Analysis of specific plans may employ the same thresholds described above for projects. A general plan, area plan, or community plan may have a significant impact on transportation if it is not consistent with the relevant RTP-SCS.

Thresholds for plans in non-MPO areas may be determined on a case-by-case basis.

4. Other Considerations

Rural Projects Outside of MPOs

In rural areas of non-MPO counties (i.e., areas not near established or incorporated cities or towns), fewer options may be available for reducing VMT, and significance thresholds may be best determined on a case-by-case basis. Note, however, that clustered small towns and small town main streets may have substantial VMT benefits compared to isolated rural development, similar to the transit oriented development described above.

Impacts to Transit

Because criteria for determining the significance of transportation impacts must promote "the development of multimodal transportation networks," lead agencies should consider project impacts to transit systems and bicycle and pedestrian networks. For example, a project that blocks access to a transit stop or blocks a transit route itself may interfere with transit functions. Lead agencies should consult with transit agencies as early as possible in the development process, particularly for projects that are located within one half mile of transit stops.

When evaluating impacts to multimodal transportation networks, lead agencies generally should not treat the addition of new transit users as an adverse impact. An infill development may add riders to transit systems and the additional boarding and alighting may slow transit vehicles, but it also adds

destinations, improving proximity and accessibility. Such development also improves regional vehicle flow by adding less vehicle travel onto the regional network.

Increased demand throughout a region may, however, cause a cumulative impact by requiring new or additional transit infrastructure. Such impacts may be adequately addressed through a fee program that fairly allocates the cost of improvements not just to projects that happen to locate near transit, but rather across a region to all projects that impose burdens on the entire transportation system, since transit can broadly improve the function of the transportation system.

F. Considering the Effects of Transportation Projects on Vehicle Travel

Many transportation projects change travel patterns. A transportation project which leads to additional vehicle travel on the roadway network, commonly referred to as "induced vehicle travel," must quantify the amount of additional vehicle travel in order to assess air quality impacts, greenhouse gas emissions impacts, energy impacts, and noise impacts. Transportation projects must also examine induced growth impacts under CEQA. (See generally, Pub. Resources Code, §§ 21065 [defining "project" under CEQA as an activity as causing either a direct or reasonably foreseeable indirect physical change], 21065.3 [defining "project-specific effect" to mean all direct or indirect environmental effects], 21100, subd. (b) [required contents of an EIR].) For any project that increases vehicle travel, explicit assessment and quantitative reporting of the amount of additional vehicle travel should not be omitted from the document; such information may be useful and necessary for a full understanding of a project's environmental impacts. (See Pub. Resources Code, §§ 21000, 21001, 21001.1, 21002, 21002.1 [discussing the policies of CEQA].) A lead agency that uses the VMT metric to assess the transportation impacts of a transportation project may simply report that change in VMT as the impact. When the lead agency uses another metric to analyze the transportation impacts of a roadway project, changes in amount of vehicle travel added to the roadway network should still be analyzed and reported. (See, e.g., California Department of Transportation, Guidance for Preparers of Growth-related, Indirect Impact Analyses (2006).)

While CEQA does not require perfection, it is important to make a reasonably accurate estimate of transportation projects' effects on vehicle travel in order to make reasonably accurate estimates of GHG emissions, air quality emissions, energy impacts, and noise impacts. (See, e.g., *California Clean Energy Com. v. City of Woodland* (2014) 225 Cal.App.4th 173, 210 [EIR failed to consider project's transportation energy impacts]; *Ukiah Citizens for Safety First v. City of Ukiah* (2016) 248 Cal.App.4th 256, 266.) Appendix 2 describes in detail the causes of induced vehicle travel, the robust empirical evidence of induced vehicle travel, and how models and research can be used in conjunction to quantitatively assess induced vehicle travel with reasonable accuracy.

If a project would likely lead to a measurable and substantial increase in vehicle travel, the lead agency should conduct an analysis assessing the amount of vehicle travel the project will induce. Project types that would likely lead to a measurable and substantial increase in vehicle travel generally include:

 Addition of through lanes on existing or new highways, including general purpose lanes, HOV lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges

Projects that would not likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis, include:

- Rehabilitation, maintenance, replacement and repair projects designed to improve the
 condition of existing transportation assets (e.g., highways, roadways, bridges, culverts, tunnels,
 transit systems, and assets that serve bicycle and pedestrian facilities) and that do not add
 additional motor vehicle capacity
- Roadway shoulder enhancements to provide "breakdown space," dedicated space for use only
 by transit vehicles, to provide bicycle access, or to otherwise improve safety, but which will not
 be used as automobile vehicle travel lanes
- Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety
- Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, or emergency breakdown lanes that are not utilized as through lanes
- Addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit
- Conversion of existing general purpose lanes (including ramps) to managed lanes or transit lanes, or changing lane management in a manner that would not substantially increase vehicle travel
- Addition of a new lane that is permanently restricted to use only by transit vehicles
- Reduction in number of through lanes
- Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a
 lane in order to separate preferential vehicles (e.g., HOV, HOT, or trucks) from general vehicles
- Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features
- Traffic metering systems
- Timing of signals to optimize vehicle, bicycle, or pedestrian flow
- Installation of roundabouts or traffic circles
- Installation or reconfiguration of traffic calming devices
- Adoption of or increase in tolls
- Addition of tolled lanes, where tolls are sufficient to mitigate VMT increase
- Initiation of new transit service
- Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes
- Removal or relocation of off-street or on-street parking spaces
- Adoption or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs)
- Addition of traffic wayfinding signage

- Rehabilitation and maintenance projects that do not add motor vehicle capacity
- Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way
- Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve nonmotorized travel
- Installation of publicly available alternative fuel/charging infrastructure
- Addition of passing lanes in rural areas that do not increase overall vehicle capacity along the corridor

1. Recommended Significance Threshold for Transportation Projects

As noted in Section 15064.3 of the CEQA Guidelines, lead agencies for roadway capacity projects have discretion, consistent with CEQA and planning requirements, to choose which metric to use to evaluate transportation impacts. This section recommends considerations for evaluating impacts using vehicle miles traveled. Lead agencies have discretion to choose a threshold of significance for transportation projects. As explained above, Public Resources Code section 21099, subdivision (b)(1), provides that criteria for evaluating transportation impacts must promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.

Whether adopting a threshold of significance, or evaluating transportation impacts on a case-by-case basis, a lead agency should ensure that the analysis addresses:

- Direct, indirect and cumulative effects of the transportation project (CEQA Guidelines, § 15064, subds. (d), (h))
- Near-term and long-term effects of the transportation project (CEQA Guidelines, §§ 15063, subd. (a)(1), 15126.2, subd. (a))
- The transportation project's consistency with state greenhouse gas reduction goals (Pub. Resources Code, § 21099)¹¹
- The impact of the transportation project on the development of multimodal transportation networks (Pub. Resources Code, § 21099)
- The impact of the transportation project on the development of a diversity of land uses (Pub. Resources Code, § 21099)

¹¹ The Air Resources Board has ascertained, in *The 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target* (p. 116) and *Mobile Source Strategy* (p. 37), the limits of VMT growth compatible with California containing greenhouse gas emissions to levels research shows would allow for climate stabilization. The <u>Staff Report on Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets</u> (Figure 1, p. 10, and Figure 2, p. 23), illustrates that Regional Transportation Plans and Sustainable Communities Strategies will fall short of achieving GHG reductions research says is needed to achieve climate stabilization, so OPR recommends not basing transportation project thresholds on those documents.

The recommendations in this technical advisory may be updated over time.

2. Estimating VMT Impacts from Transportation Projects

CEQA requires analysis of a project's potential growth-inducing impacts. (Pub. Resources Code, § 21100, subd. (b)(5); CEQA Guidelines, § 15126.2, subd. (d).) Many agencies are familiar with the analysis of growth inducing impacts associated with water, sewer, and other infrastructure. This technical advisory addresses growth that may be expected from roadway expansion projects.

Because a roadway expansion project can induce substantial VMT, incorporating quantitative estimates of induced VMT is critical to calculating both transportation and other impacts of these projects. Induced travel also has the potential to reduce or eliminate congestion relief benefits. An accurate estimate of induced travel is needed to accurately weigh costs and benefits of a highway capacity expansion project.

The effect of a transportation project on vehicle travel should be estimated using the "change in total VMT" method described in *Appendix 1*. This means that an assessment of total VMT without the project and an assessment with the project should be made; the difference between the two is the amount of VMT attributable to the project. The assessment should cover the full area in which driving patterns are expected to change. As with other types of projects, the VMT estimation should not be truncated at a modeling or jurisdictional boundary for convenience of analysis when travel behavior is substantially affected beyond that boundary.

Transit and Active Transportation Projects

Transit and active transportation projects generally reduce VMT and therefore are presumed to cause a less-than-significant impact on transportation. This presumption may apply to all passenger rail projects, bus and bus rapid transit projects, and bicycle and pedestrian infrastructure projects. Streamlining transit and active transportation projects aligns with each of the three statutory goals contained in SB 743 by reducing GHG emissions, increasing multimodal transportation networks, and facilitating mixed use development.

Roadway Projects

Reducing roadway capacity (for example, by removing or repurposing motor vehicle travel lanes) will generally reduce VMT and therefore is presumed to cause a less-than-significant impact on transportation. Generally, no transportation analysis is needed for such projects.

Building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel. For the types of projects previously indicated as likely to lead to additional vehicle travel, an estimate should be made of the change in vehicle travel resulting from the project.

For projects that increase roadway capacity, lead agencies can evaluate induced travel quantitatively by applying the results of existing studies that examine the magnitude of the increase of VMT resulting from a given increase in lane miles. These studies estimate the percent change in VMT for every percent change in miles to the roadway system (i.e., "elasticity"). (See U.C. Davis, Institute for Transportation Studies, Increasing Highway Capacity Unlikely to Relieve Traffic Congestion, (October 2015); Boarnet and Handy, Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions, California Air Resources Board Policy Brief, September 30, 2014.) Given that lead agencies have discretion in choosing their methodology, and the studies on induced travel reveal a range of elasticities, lead agencies may appropriately apply professional judgment in studying the transportation effects of a particular project. The most recent major study (Duranton and Turner, 2011), estimates an elasticity of 1.0, meaning that every percent change in lane miles results in a one percent increase in VMT.

To estimate VMT impacts from roadway expansion projects:

- 1. Determine the total lane-miles over an area that fully captures travel behavior changes resulting from the project (generally the region, but for projects affecting interregional travel look at all affected regions).
- 2. Determine the percent change in total lane miles that will result from the project.
- 3. Determine the total existing VMT over that same area.
- 4. Multiply the percent increase in lane miles by the existing VMT, and then multiply that by the elasticity from the induced travel literature:

[% increase in lane miles] x [existing VMT] x [elasticity] = [VMT resulting from the project]

This method would not be suitable for rural (non-MPO) locations in the state which are neither congested nor projected to become congested. It also may not be suitable for a new road that provides new connectivity across a barrier (e.g., a bridge across a river) if it would be expected to substantially shorten existing trips. If it is likely to be substantial, the trips-shortening effect should be examined explicitly.

The effects of roadway capacity on vehicle travel can also be applied at a programmatic level. For example, in a regional planning process the lead agency can use that program-level analysis to streamline later project-level analysis. (See CEQA Guidelines, § 15168.) A program-level analysis of VMT should include effects of the program on land use patterns, and the VMT that results from those land use effects. In order for a program-level document to adequately analyze potential induced demand from a project or program of roadway capacity expansion, lead agencies cannot assume a fixed land use pattern (i.e., a land use pattern that does not vary in response to the provision of roadway capacity). A proper analysis should account for land use investment and development pattern changes that react in a

reasonable manner to changes in accessibility created by transportation infrastructure investments (whether at the project or program level).

Mitigation and Alternatives

Induced VMT has the potential to reduce or eliminate congestion relief benefits, increase VMT, and increase other environmental impacts that result from vehicle travel. ¹² If those effects are significant, the lead agency will need to consider mitigation or alternatives. In the context of increased travel that is induced by capacity increases, appropriate mitigation and alternatives that a lead agency might consider include the following:

- Tolling new lanes to encourage carpools and fund transit improvements
- Converting existing general purpose lanes to HOV or HOT lanes
- Implementing or funding off-site travel demand management
- Implementing Intelligent Transportation Systems (ITS) strategies to improve passenger throughput on existing lanes

Tolling and other management strategies can have the additional benefit of preventing congestion and maintaining free-flow conditions, conferring substantial benefits to road users as discussed above.

G. Analyzing Other Impacts Related to Transportation

While requiring a change in the methodology of assessing transportation impacts, Public Resources Code section 21099 notes that this change "does not relieve a public agency of the requirement to analyze a project's potentially significant transportation impacts related to air quality, noise, safety, or any other impact associated with transportation." OPR expects that lead agencies will continue to address mobile source emissions in the air quality and noise sections of an environmental document and the corresponding studies that support the analysis in those sections. Lead agencies should continue to address environmental impacts of a proposed project pursuant to CEQA's requirements, using a format that is appropriate for their particular project.

Because safety concerns result from many different factors, they are best addressed at a programmatic level (i.e., in a general plan or regional transportation plan) in cooperation with local governments, metropolitan planning organizations, and, where the state highway system is involved, the California Department of Transportation. In most cases, such an analysis would not be appropriate on a project-by-project basis. Increases in traffic volumes at a particular location resulting from a project typically

¹² See *Increasing Highway Capacity Unlikely to Relieve Traffic Congestion*, National Center for Sustainable Transportation, October 2015, available at http://www.dot.ca.gov/newtech/researchreports/reports/2015/10-12-2015-
NCST Brief InducedTravel CS6 v3.pdf; see Duranton and Turner, *The Fundamental Law of Road Congestion: Evidence from US cities*, 2011, available at http://www.nber.org/papers/w15376.

cannot be estimated with sufficient accuracy or precision to provide useful information for an analysis of safety concerns. Moreover, an array of factors affect travel demand (e.g., strength of the local economy, price of gasoline), causing substantial additional uncertainty. Appendix B of the <u>General Plan Guidelines</u> summarizes research which could be used to guide a programmatic analysis under CEQA. Lead agencies should note that automobile congestion or delay does not constitute a significant environmental impact (Pub. Resources Code, §21099(b)(2)), and safety should not be used as a proxy for road capacity.

H. VMT Mitigation and Alternatives

When a lead agency identifies a significant impact, it must identify feasible mitigation measures that could avoid or substantially reduce that impact. Additionally, CEQA requires that an environmental impact report identify feasible alternatives that could avoid or substantially reduce a project's significant environmental impacts.

Indeed, the California Court of Appeal recently held that a long-term regional transportation plan was deficient for failing to discuss an alternative which could significantly reduce total vehicle miles traveled. In *Cleveland National Forest Foundation v. San Diego Association of Governments, et al.* (Nov. 16, 2017, D063288) __Cal.App.5th__, the court found that omission "inexplicable" given the lead agency's "acknowledgment in its Climate Action Strategy that the state's efforts to reduce greenhouse gas emissions from on-road transportation will not succeed if the amount of driving, or vehicle miles traveled, is not significantly reduced." (Slip Op., p. 25.) Additionally, the court noted that the project alternatives focused primarily on congestion relief even though "the [regional] transportation plan is a long-term and congestion relief is not necessarily an effective long-term strategy." (Slip Op., p. 26.) The court concluded its discussion of the alternatives analysis by stating: "Given the acknowledged long-term drawbacks of congestion relief alternatives, there is not substantial evidence to support the EIR's exclusion of an alternative focused primarily on significantly reducing vehicle trips." (Slip Op., p. 27.)

Several examples of potential mitigation measures and alternatives to reduce vehicle miles traveled are described below. However, the selection of particular mitigation measures and alternatives are left to the discretion of the lead agency. Further, OPR expects that agencies will continue to innovate and find new ways to reduce vehicular travel.

Potential measures to reduce vehicle miles traveled include, but are not limited to:

- Improve or increase access to transit.
- Increase access to common goods and services, such as groceries, schools, and daycare.
- Incorporate affordable housing into the project.
- Incorporate neighborhood electric vehicle network.
- Orient the project toward transit, bicycle and pedestrian facilities.
- Improve pedestrian or bicycle networks, or transit service.

- Provide traffic calming.
- Provide bicycle parking.
- Limit or eliminate parking supply.
- Unbundle parking costs.
- Provide parking or roadway pricing or cash-out programs.
- Implement or provide access to a commute reduction program.
- Provide car-sharing, bike sharing, and ride-sharing programs.
- Provide transit passes.
- Shifting single occupancy vehicle trips to carpooling or vanpooling, for example providing ridematching services.
- Providing telework options.
- Providing incentives or subsidies that increase the use of modes other than single-occupancy vehicle.
- Providing on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms.
- Providing employee transportation coordinators at employment sites.
- Providing a guaranteed ride home service to users of non-auto modes.

Notably, because VMT is largely a regional impact, regional VMT-reduction programs may be an appropriate form of mitigation. In lieu fees have been found to be valid mitigation where there is both a commitment to pay fees and evidence that mitigation will actually occur. (*Save Our Peninsula Committee v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 140-141; *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727–728.) Fee programs are particularly useful to address cumulative impacts. (CEQA Guidelines, § 15130, subd. (a)(3) [a "project's incremental contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact"].) The mitigation program must undergo CEQA evaluation, either on the program as a whole, or the in-lieu fees or other mitigation must be evaluated on a project-specific basis. (*California Native Plant Society v. County of El Dorado* (2009) 170 Cal.App.4th 1026.) That CEQA evaluation could be part of a larger program, such as a regional transportation plan, analyzed in a Program EIR. (CEQA Guidelines, § 15168.)

Examples of project alternatives that may reduce vehicle miles traveled include, but are not limited to:

- Locate the project in an area of the region that already exhibits low VMT.
- Locate the project near transit.
- Increase project density.
- Increase the mix of uses within the project or within the project's surroundings.
- Increase connectivity and/or intersection density on the project site.
- Deploy management strategies (e.g., pricing, vehicle occupancy requirements) on roadways or roadway lanes.

Appendix 1. Considerations About Which VMT to Count

Consistent with the obligation to make a good faith effort to disclose the environmental consequences of a project, lead agencies have discretion to choose the most appropriate methodology to evaluate project impacts.¹³ A lead agency can evaluate a project's effect on VMT in numerous ways. The purpose of this document is to provide technical considerations in determining which methodology may be most useful for various project types.

Background on Estimating Vehicle Miles Traveled

Before discussing specific methodological recommendations, this section provides a brief overview of modeling and counting VMT, including some key terminology.

Here is an illustrative example of some methods of estimating vehicle miles traveled. Consider the following hypothetical travel day (all by automobile):

- 1. Residence to Coffee Shop
- 2. Coffee Shop to Work
- 3. Work to Sandwich Shop
- 4. Sandwich Shop to Work
- 5. Work to Residence
- 6. Residence to Store
- 7. Store to Residence

Trip-based assessment of a project's effect on travel behavior counts VMT from individual trips to and from the project. It is the most basic, and traditionally the most common, method of counting VMT. A trip-based VMT assessment of the residence in the above example would consider segments 1, 5, 6 and 7. For residential projects, the sum of home-based trips is called *home-based* VMT.

A *tour-based* assessment counts the entire home-back-to-home tour that includes the project. A tour-based VMT assessment of the residence in the above example would consider segments 1, 2, 3, 4, and 5 in one tour, and 6 and 7 in a second tour. A tour-based assessment of the workplace would include segments 1, 2, 3, 4, and 5. Together, all tours comprise *household* VMT.

[T]he issue is not whether the [lead agency's] studies are irrefutable or whether they could have been better. The relevant issue is only whether the studies are sufficiently credible to be considered as part of the total evidence that supports the [lead agency's] finding[.]

(Laurel Heights Improvement Assn. v. Regents of the University of California (1988) 47 Cal.3d 376, 409; see also Eureka Citizens for Responsible Gov't v. City of Eureka (2007) 147 Cal.App.4th 357, 372.)

¹³ The California Supreme Court has explained that when an agency has prepared an environmental impact report:

Both trip- and tour-based assessments can be used as measures of transportation efficiency, using denominators such as per capita, per employee, or per person-trip.

Trip- and Tour-based Assessment of VMT

As illustrated above, a tour-based assessment of VMT is a more complete characterization of a project's effect on VMT. In many cases, a project affects travel behavior beyond the first destination. The location and characteristics of the home and workplace will often be the main drivers of VMT. For example, a residential or office development located near high quality transit will likely lead to some commute trips utilizing transit, affecting mode choice on the rest of the tour.

Characteristics of an office project can also affect an employee's VMT beyond the work tour. For example, a workplace located at the urban periphery, far from transit, can require an employee to own a car, which in turn affects the entirety of an employee's travel behavior and VMT. For this reason, when estimating the effect of an office development on VMT, it may be appropriate to consider total employee VMT if data and tools, such as tour-based models, are available. This is consistent with CEQA's requirement to evaluate both direct and *indirect* effects of a project. (See CEQA Guidelines, § 15064, subd. (d)(2).)

Assessing Change in Total VMT

A third method, estimating the *change in total VMT* with and without the project, can evaluate whether a project is likely to divert existing trips, and what the effect of those diversions will be on total VMT. This method answers the question, "What is the net effect of the project on area VMT?" As an illustration, assessing the total change in VMT for a grocery store built in a food desert that diverts trips from more distant stores could reveal a net VMT reduction. The analysis should address the full area over which the project affects travel behavior, even if the effect on travel behavior crosses political boundaries.

Using Models to Estimate VMT

Travel demand models, sketch models, spreadsheet models, research, and data can all be used to calculate and estimate VMT (see Appendix F of the <u>preliminary discussion draft</u>). To the extent possible, lead agencies should choose models that have sensitivity to features of the project that affect VMT. Those tools and resources can also assist in establishing thresholds of significance and estimating VMT reduction attributable to mitigation measures and project alternatives. When using models and tools for those various purposes, agencies should use comparable data and methods, in order to set up an "apples-to-apples" comparison between thresholds, VMT estimates, and VMT mitigation estimates.

Models can work together. For example, agencies can use travel demand models or survey data to estimate existing trip lengths and input those into sketch models such as CalEEMod to achieve more

accurate results. Whenever possible, agencies should input localized trip lengths into a sketch model to tailor the analysis to the project location. However, in doing so, agencies should be careful to avoid double counting if the sketch model includes other inputs or toggles that are proxies for trip length (e.g., distance to city center). Generally, if an agency changes any sketch model defaults, it should record and report those changes for transparency of analysis. Again, trip length data should come from the same source as data used to calculate thresholds to be sure of an "apples-to-apples" comparison.

Additional background information regarding travel demand models is available in the California Transportation Commission's "2010 Regional Transportation Plan Guidelines," beginning at page 35.

Appendix 2. Induced Travel: Mechanisms, Research, and Additional Assessment Approaches

Induced travel occurs where roadway capacity is expanded in an area of present or projected future congestion. The effect typically manifests over several years. Lower travel times make the modified facility more attractive to travelers, resulting in the following trip-making changes:

- **Longer trips.** The ability to travel a long distance in a shorter time increases the attractiveness of destinations that are farther away, increasing trip length and vehicle travel.
- Changes in mode choice. When transportation investments are devoted to reducing automobile travel time, travelers tend to shift toward automobile use from other modes, which increases vehicle travel.
- Route changes. Faster travel times on a route attract more drivers to that route from other routes, which can increase or decrease vehicle travel depending on whether it shortens or lengthens trips.
- **Newly generated trips.** Increasing travel speeds can induce additional trips, which increases vehicle travel. For example, an individual who previously telecommuted or purchased goods on the internet might choose to accomplish those tasks via automobile trips as a result of increased speeds.
- Land Use Changes. Faster travel times along a corridor lead to land development farther along that corridor; that new development generates and attracts longer trips, which increases vehicle travel. Over several years, this induced growth component of induced vehicle travel can be substantial, making it critical to include in analyses.

Each of these effects has implications for the total amount of vehicle travel. These effects operate over different time scales. For example, changes in mode choice might occur immediately, while land use changes typically take a few years or longer. CEQA requires lead agencies to analyze both short-term and long-term effects.

Evidence of Induced Vehicle Travel. A large number of peer reviewed studies¹⁴ have demonstrated a causal link between highway capacity increases and VMT increases. Many provide quantitative estimates of the magnitude of the induced VMT phenomenon. Collectively, they provide high quality evidence of the existence and magnitude of the induced travel effect.

Most of these studies express the amount of induced vehicle travel as an "elasticity," which is a multiplier that describes the additional vehicle travel resulting from an additional lane mile of roadway capacity added. For example, an elasticity of 0.6 would signify an 0.6 percent increase in vehicle travel for every 1.0 percent increase in lane miles. Many of these studies distinguish "short run elasticity" (increase in vehicle travel in the first few years) from "long run elasticity" (increase in vehicle travel

¹⁴ See, for example, <u>Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions: Policy Brief</u> (CARB, Sept. 30, 2014) and <u>Increasing Highway Capacity Unlikely to Relieve Traffic Congestion</u> (National Center for Sustainable Transportation, Oct. 2015).

beyond the first few years). Long run elasticity is larger than short run elasticity, because as time passes, more of the components of induced vehicle travel materialize. Generally, short run elasticity can be thought of as excluding the effects of land use change, while long run elasticity includes them. Most studies find a long run elasticity between 0.6 and just over 1.0 (See Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions: Policy Brief, p. 2.), meaning that every increase in lanes miles of one percent leads to an increase in vehicle travel of 0.6 to 1.0 percent. The most recent major study (Duranton and Turner, Impact Fundamental Law of Road Congestion: Evidence from US Cities, 2011) finds the elasticity of vehicle travel by lanes miles added to be 1.03; in other words, each percent increase in lane miles results in a 1.03 percent increase in vehicle travel. (An elasticity greater than 1.0 can occur because new lanes induce vehicle travel that spills beyond the project location.) In CEQA analysis, the long-run elasticity should be used, as it captures the full effect of the project rather than just the early-stage effect.

Quantifying Induced Vehicle Travel Using Models. Lead agencies can generally achieve the most accurate assessment of induced vehicle travel resulting from roadway capacity increasing projects by applying elasticities from the academic literature, because those estimates include vehicle travel resulting from induced land use. If a lead agency chooses to use a travel demand model, additional analysis would be needed to account for induced land use. This section describes some approaches to undertaking that additional analysis.

Proper use of a travel demand model can capture the following components of induced VMT:

- Trip length (generally increases VMT)
- Mode shift (generally shifts from other modes toward automobile use, increasing VMT)
- Route changes (can act to increase or decrease VMT)
- Newly generated trips (generally increases VMT)
 - Note that not all travel demand models have sensitivity to this factor, so an off-model estimate may be necessary if this effect could be substantial.

However, estimating long-run induced VMT also requires an estimate of the project's effects on land use. This component of the analysis is important because it has the potential to be a large component of the overall induced travel effect. Options for estimating and incorporating the VMT effects that are caused by the subsequent land use changes include:

- 1. Employ an expert panel. An expert panel could assess changes to land use development that would likely result from the project. This assessment could then be analyzed by the travel demand model to assess effects on vehicle travel. Induced vehicle travel assessed via this approach should be verified using elasticities found in the academic literature.
- 2. Adjust model results to align with the empirical research. If the travel demand model analysis is performed without incorporating projected land use changes resulting from the project, the

- assessed vehicle travel should be adjusted upward to account for those land use changes. The assessed VMT after adjustment should fall within the range found in the academic literature.
- 3. Employ a land use model, running it iteratively with a travel demand model. A land use model can be used to estimate the land use effects of a roadway capacity increase, and the traffic patterns that result from the land use change can then be fed back into the travel demand model. The land use model and travel demand model can be iterated to produce an accurate result.

A project which provides new connectivity across a barrier, such as a new bridge across a river, may provide a shortened path between existing origins and destinations, thereby shortening existing trips. In some cases, this trip-shortening effect might be substantial enough to reduce the amount of vehicle travel resulting from the project below the range found in the elasticities in the academic literature, or even lead a net reduction in vehicle travel overall. In such cases, the trip-shortening effect could be examined explicitly.

Whenever employing a travel demand model to assess induced vehicle travel, any limitation or known lack of sensitivity in the analysis that might cause substantial errors in the VMT estimate (for example, model insensitivity to one of the components of induced VMT described above) should be disclosed and characterized, and a description should be provided on how it could influence the analysis results. A discussion of the potential error or bias should be carried into analyses that rely on the VMT analysis, such as greenhouse gas emissions, air quality, energy, and noise.

This Page Intentionally Blank



Technical Coordinating Committee **STAFF REPORT**

Meeting Date: December 21, 2017

Subject	Incorporating Plan Bay Area 2040 Projections 2017 Land Use into the
	Countywide Travel Demand Forecasting Model
Summary of Issues	The Metropolitan Transportation Commission (MTC) adopted the 2017 Regional Transportation Plan (RTP) – Plan Bay Area 2040 on July 26, 2017. The land use assumptions used in the RTP analysis is expected to be officially released by MTC/Association of Bay Area Governments (ABAG) as Projections 2017 (P-2017) in early 2018. As the Congestion Management Agency (CMA) for Contra Costa, the Authority is responsible for maintaining a travel model and land use data set that is consistent with model and data. Authority staff plans on incorporating Plan Bay Area 2040 land use into the Countywide Model upon completion of a review by local jurisdiction staff.
Recommendations	Commence a local review of Traffic Analysis Zone (TAZ)-level P-2017 land use allocations for model incorporation.
Financial Implications	N/A
Options	Postpone this effort pending publication of P-2017.
Attachments	A. Plan Bay Area 2040 Jurisdictional and Priority Development Area (PDA) Household and Job Allocations
	B. Comparison of Household and Job Growth between 2010 and 2040 in P-2013 and Plan Bay Area 2040
Changes from Committee	

Background

The ABAG updates its land use forecasts for the Bay Area every four years. The forecast generally stretches 20 to 25 years into the future, and is used to drive the travel demand forecasting models that MTC uses to predict future traffic levels and transit ridership. As the

CMA for Contra Costa, the Authority is required to maintain a computer travel model that is consistent with MTC's model and ABAG's forecast data. To fulfill this requirement, the Authority created a computerized Countywide Travel Demand Forecasting Model (the Countywide Model) which it updates from time to time in response to changes in the regional model.

The last adopted Projections series was P-2013, released in early 2014. This data was incorporated into the model for use in the environmental analysis of the 2017 Countywide Transportation Plan (CTP). Historically, ABAG released its Projections series every two years; however, beginning with P-2013, it transitioned to a four-year cycle.

Changes from Projections 2013 (P-2013)

MTC/ABAG made significant changes to P-2017 when compared with P-2013. Although both forecasts use the 2010 base year and 2040 horizon year, the housing growth numbers changed significantly at both the regional and Countywide level. For this reason, MTC/ABAG added 154,000 new homes by 2040 (814,000 new homes by 2040 for P-2017, compared to 660,000 for P-2013). For Contra Costa, 11,000 new homes were added for 2040 (100,000 new homes in P-2017, compared with 89,000 in P-2013.) Similarly, jobs changed considerably as P-2017 began to reflect the post-recession resurgence in tech-sector, service, and construction employment.

Authority Use of Projections 2017 (P-2017)

MTC has recently made the Final Plan Bay Area 2040 land use data available at the Census Tract and Model Traffic Analysis Zone (TAZ) level and Authority staff is ready to begin the local review. The first step in the process is to disaggregate the land use allocations from MTC's 1,454 TAZ system to the Authority's 3,120 TAZ system, which is currently underway. Once the disaggregation effort is complete, expected for early January, staff will distribute spreadsheets and reference maps to each jurisdiction, with the initial allocations of households and jobs. It will be up to each jurisdiction to review its land use and provide feedback to Authority staff. The Authority will also provide staff and consultant support in the land use review for jurisdictions that request it.

During the P-2013 update, the data was corrected to reflect the 2010 US Census data, so we will focus the current review on the 2020, 2030 and 2040 forecasts, so as to keep 2010 as close to existing US Census data as possible. Because the Countywide Model is required by MTC to be within 1 percent of P-2017 control totals for Contra Costa, staff may not be able to accommodate all comments requesting adjustments in allocations. However, as in the past, staff will do its best to reflect the local land use assumptions in the forecasts.

The updated model will be used for a variety of traffic impact reports, specific plans, General Plan updates and various studies and project analyses by our local partners. The Authority also expects to utilize the updated model for analysis of our large project performance assessment and an update to the Authority Long-Range Transportation Investment Program (LRTIP) ahead of the 2021 RTP.

Land Use Review and Model Update Schedule

Date	Task	Responsible Party
December 21,	TCC recommends release of P-2017 TAZ allocations	TCC
2017	for review	
January-March,	Local staff reviews P-2017 household and job	Jurisdictions/Authority
2018	allocations and provides feedback to CCTA	/EPS
April, 2018	Authority finalizes land use database and forwards	Authority/Kittelson
	to Kittelson for incorporation into Countywide	
	Model	
May – June,	Kittelson incorporates land use, tests model, and	Kittelson
2018	provides comparisons with P-2013 model results	
July/August 2018	Authority releases updated model for use by	Authority
	Authority and others	

	HOUSEHOLDS – JURISDICTION T	JURISDICTION TO	OTAL			HOUSEHOLDS - PDAs	.DS - PDAs	
		PBA				PBA		
		Preferred		PBA 2010		Preferred		PBA 2010
Iurisdiction	2010	Scenario 2040	PBA 2010 - 2040 A	- 2040 ∆ (%)	2010	Scenario 2040	PBA 2010 - 2040 A	- 2040 ∆ (%)
Antioch	32,252	40,300	8,048	25%	1,390	5,300	3,910	281%
Brentwood*	16,494	26,100	909'6	28%	0	0	0	%0
Clayton*	4,006	4,100	94	2%	0	0	0	%0
Concord	44,278	64,400	20,122	45%	3,890	21,300	17,410	448%
Danville*	15,420	16,020	009	4%	0	0	0	%0
El Cerrito	10,142	12,100	1,958	19%	740	2,150	1,410	191%
Hercules	8,115	9,650	1,535	19%	006	1,700	800	%68
Lafayette	9,223	9,970	747	8%	1,700	2,240	540	32%
Martinez	14,287	15,300	1,013	2%	710	1,040	330	46%
Moraga	5,570	5,920	350	%9	30	180	150	200%
Oakley	10,727	16,400	5,673	23%	770	5,900	5,130	%999
Orinda	6,553	6,830	277	4%	230	330	100	43%
Pinole	6,775	7,290	515	8%	360	640	280	78%
Pittsburg	19,527	26,500	6,973	36%	5,130	8,550	3,420	%29
Pleasant Hill	13,708	14,310	602	4%	860	1,030	170	20%
Richmond	36,093	54,900	18,807	25%	8,360	24,000	15,640	187%
San Pablo	8,761	6,800	1,039	12%	1,990	2,570	580	767
San Ramon	25,284	30,300	5,016	20%	220	1,950	1,730	%982
Walnut Creek	30,443	37,500	7,057	23%	4,940	10,400	5,460	111%
Unincorporated CCC	57,706	67,700	9,994	17%	4,340	12,000	7,660	176%
Contra Costa Total	375,364	475,390	100,026	27%	36,560	101,280	64,720	177%
* Jurisdictions without a PDA								

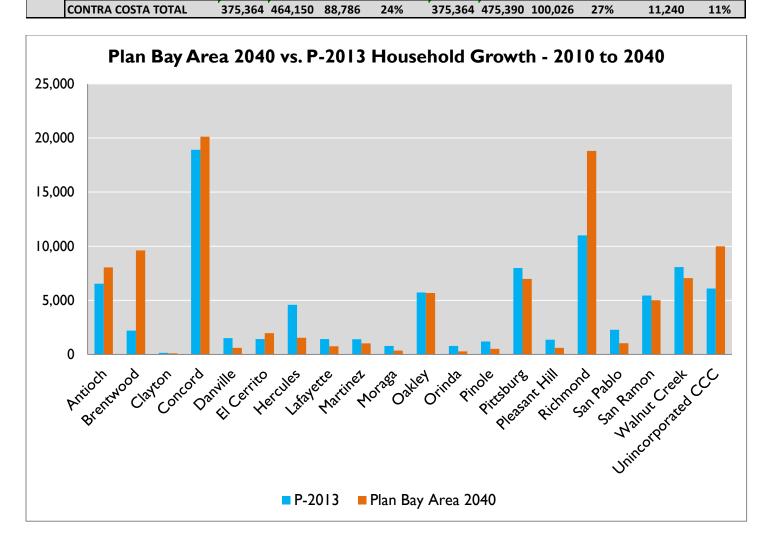
7-4

PBA PBA 2010 PBA 2010 Preferred Scenario PBA 2010 2040			V 00						
Scenario PBA 2010 - 2040 A Scenario Scenario 2010 2040 (%) 2010 2040 20,110 25,700 5,590 28% 2,010 2,720 11,620 11,990 370 3% 0 0 0 11,620 2,090 1,00 5% 0 <th></th> <th></th> <th>10.</th> <th></th> <th></th> <th></th> <th>PBA</th> <th></th> <th></th>			10.				PBA		
2010 2040 2040 (%) 2010 2040 20,110 25,700 5,590 28% 2,010 2,720 11,620 11,990 370 3% 0 0 1,990 2,090 100 5% 0 0 1,990 2,090 100 5% 0 0 5,4,270 95,500 41,230 76% 10,430 40,300 11,840 13,100 1,260 11% 0 0 0 5,320 5,910 5,90 11% 0 0 0 0 4,950 5,420 470 9% 1,140			Preferred	PRA 2010 -	PBA 2010 - 2040 A		Preterred	PRA 2010 -	PBA 2010 - 2040 A
20,110 25,700 5,590 28% 2,010 2,720 11,620 11,990 370 3% 0 0 1,990 2,090 100 5% 0 0 5,4270 95,500 41,230 76% 10,430 40,300 11,840 13,100 1,260 11% 0 0 0 5,320 5,910 590 11% 0 0 0 0 4,950 5,420 470 9% 1,140	Jurisdiction	2010	2040	2040 Δ	(%)	2010	2040	2040 Δ	(%)
11,620 11,990 370 3% 0 0 1,990 2,090 100 5% 0 0 5,4270 95,500 41,230 76% 10,430 40,300 11,840 13,100 1,260 11% 0 0 0 5,320 5,910 590 11% 0 0 0 0 4,950 5,420 470 9% 1,140 <th>Antioch</th> <td>20,110</td> <td>25,700</td> <td>5,590</td> <td>28%</td> <td>2,010</td> <td>2,720</td> <td>710</td> <td>35%</td>	Antioch	20,110	25,700	5,590	28%	2,010	2,720	710	35%
1,990 2,090 100 5% 0 0 54,270 95,500 41,230 76% 10,430 40,300 11,840 13,100 1,260 11% 0 0 5,320 5,910 590 11% 0 0 4,950 5,420 470 9% 1,140 1,140 8,990 9,940 950 11% 6,550 7,500 20,710 26,100 5,390 26% 6,800 9,400 4,570 5,700 1,130 25% 1,420 1,630 4,570 5,350 66 6,800 9,400 1,630 4,840 5,500 660 14% 2,660 3,150 6,700 8,500 1,800 27% 5,180 6,200 11,840 15,600 3,760 2,180 6,300 3,150 16,360 61,800 3,140 21,330 7,400 2,400 7,430 9,10	Brentwood*	11,620	11,990	370	3%	0	0	0	%0
54,270 95,500 41,230 76% 10,430 40,300 11,840 13,100 1,260 11% 0 0 5,320 5,910 590 11% 3,800 4,060 4,950 5,420 470 9% 1,140 1,140 8,990 9,940 950 11% 6,550 7,500 20,710 26,100 5,390 26% 6,800 9,400 4,570 5,700 1,130 25% 1,420 1,630 3,410 5,350 1,940 57% 1,610 3,050 4,840 5,500 660 14% 2,660 3,150 6,700 8,500 1,800 3,760 5,180 6,200 11,840 15,600 3,760 32,80 5,130 7,600 16,360 15,800 3,120 1,600 3,500 7,600 30,680 61,800 3,120 25,530 4,900 7,600 7	Clayton*	1,990	2,090	100	2%	0	0	0	%0
11,840 13,100 1,260 11% 0 0 5,320 5,910 590 11% 3,800 4,060 4,950 5,420 470 9% 1,140 1,140 8,990 9,940 950 11% 6,550 7,500 20,710 26,100 5,390 26% 6,800 9,400 4,570 5,700 1,130 25% 1,420 1,630 3,410 5,350 1,940 57% 1,610 3,050 4,840 5,500 660 14% 2,660 3,150 6,700 4,840 5,500 660 14% 2,660 3,150 6,700 8,500 1,800 27% 5,180 6,200 11,840 15,600 3,440 21% 6,370 7,600 30,680 61,800 3,1120 101% 3,370 4,870 5,870 7,430 9,100 1,670 22% 4,870 5,870	Concord	54,270	95,500	41,230	%92	10,430	40,300	29,870	286%
5,320 5,910 590 11% 3,800 4,060 4,950 5,420 470 9% 1,140 1,140 8,990 9,940 950 11% 6,550 7,500 20,710 26,100 5,390 26% 6,800 9,400 4,570 5,700 1,130 25% 1,420 1,630 3,410 5,350 1,940 57% 1,610 3,050 4,840 5,500 660 14% 2,660 3,150 6,700 8,500 1,800 3,760 27% 5,130 6,700 16,360 15,600 3,740 27,80 5,130 6,700 16,360 15,800 3,440 21% 6,370 7,600 30,680 61,800 31,120 101% 13,370 5,870 47,950 7,430 9,100 1,670 22% 4,870 5,870 50,860 58,100 7,240 12,410 27,410 29,150 35,790 41,100 5,310 13,800 13,103	Danville*	11,840	13,100	1,260	11%	0	0	0	%0
4,950 5,420 470 9% 1,140 1,140 8,990 9,940 950 11% 6,550 7,500 20,710 26,100 5,390 26% 6,800 9,400 4,570 5,700 1,130 25% 1,420 1,630 3,410 5,350 660 14% 2,660 3,150 6,700 8,500 1,800 27% 5,180 6,200 11,840 15,600 3,760 32% 5,180 6,700 16,360 3,740 3,740 27,30 6,700 16,360 3,440 21% 6,370 7,600 30,680 61,800 31,120 101% 5,370 5,870 7,430 9,100 1,670 22% 4,870 5,870 7,430 9,100 1,670 22,530 44,900 50,860 58,100 7,240 14% 27,410 29,150 35,790 41,100 5,310 427,910 27,410 27,410 36,030 41,100 43,900	El Cerrito	5,320	5,910	290	11%	3,800	4,060	260	2%
8,990 9,940 950 11% 6,550 7,500 20,710 26,100 5,390 26% 6,800 9,400 4,570 5,350 1,940 57% 1,610 3,050 4,840 5,500 660 14% 2,660 3,150 6,700 8,500 1,800 27% 5,180 6,200 11,840 15,600 3,760 32% 5,130 6,700 16,360 19,800 3,440 21% 6,370 7,600 30,680 61,800 34,40 21% 6,370 7,600 7,430 9,100 1,670 22% 4,870 5,870 47,950 71,800 23,850 50% 25,530 44,900 50,860 58,100 7,240 14% 27,410 29,150 35,730 41,100 5,310 15,030 11,150 35,730 12,187 23,620 11,150	Hercules	4,950	5,420	470	%6	1,140	1,140	0	%0
20,710 26,100 5,390 26% 6,800 9,400 4,570 5,350 1,130 25% 1,420 1,630 3,410 5,350 1,940 57% 1,610 3,050 4,840 5,500 660 14% 2,660 3,150 6,700 8,500 1,800 27% 5,180 6,200 11,840 15,600 3,760 32% 5,130 6,700 16,360 19,800 3,440 21% 6,370 7,600 30,680 61,800 31,120 101% 13,370 5,870 7,430 9,100 1,670 22% 4,870 5,870 47,950 7,800 23,850 50% 25,530 44,900 50,860 58,100 7,240 14% 27,410 29,150 35,790 41,100 5,310 15,300 11,150 11,150	Lafayette	8,990	9,940	950	11%	6,550	7,500	950	15%
4,570 5,350 1,940 57% 1,610 3,050 3,410 5,350 660 14% 2,660 3,150 4,840 5,500 660 14% 2,660 3,150 6,700 8,500 1,800 27% 5,180 6,200 11,840 15,600 3,760 32% 5,130 6,700 16,360 19,800 3,440 21% 6,370 7,600 30,680 61,800 31,120 101% 35,300 35,300 7,430 9,100 1,670 22% 4,870 5,870 47,950 71,800 23,850 50% 25,530 44,900 50,860 58,100 7,240 14% 27,410 29,150 35,790 41,100 5,310 157,930 11,150	Martinez	20,710	26,100	5,390	798	6,800	9,400	2,600	38%
3,410 5,350 660 14% 5,660 3,150 4,840 5,500 660 14% 2,660 3,150 6,700 8,500 1,800 27,80 6,200 11,840 15,600 3,760 32% 5,130 6,700 16,360 19,800 3,440 21% 6,370 7,600 30,680 61,800 31,120 101% 13,370 35,300 7,430 9,100 1,670 22% 4,870 5,870 47,950 71,800 23,850 50% 25,530 44,900 50,860 58,100 7,240 14% 27,410 29,150 35,790 41,100 5,310 157,930 11,150	Moraga	4,570	5,700	1,130	25%	1,420	1,630	210	15%
4,840 5,500 660 14% 2,660 3,150 6,700 8,500 1,800 27% 5,180 6,200 11,840 15,600 3,760 32% 5,130 6,700 16,360 19,800 3,440 21% 6,370 7,600 30,680 61,800 31,120 101% 13,370 35,300 7,430 9,100 1,670 22% 4,870 5,870 47,950 71,800 23,850 50% 25,530 44,900 50,860 58,100 7,240 14% 27,410 29,150 35,790 41,100 5,310 15% 8,650 11,150	Oakley	3,410	5,350	1,940	21%	1,610	3,050	1,440	%68
6,700 8,500 1,800 27% 5,180 6,200 11,840 15,600 3,760 32% 5,130 6,700 16,360 19,800 3,440 21% 6,370 7,600 30,680 61,800 31,120 101% 13,370 35,300 7,430 9,100 1,670 22% 4,870 5,870 47,950 71,800 23,850 50% 25,530 44,900 50,860 58,100 7,240 14% 27,410 29,150 35,790 41,100 5,310 15% 8,650 11,150	Orinda	4,840	5,500	099	14%	2,660	3,150	490	18%
11,840 15,600 3,760 32% 5,130 6,700 16,360 19,800 3,440 21% 6,370 7,600 30,680 61,800 31,120 101% 13,370 35,300 7,430 9,100 1,670 22% 4,870 5,870 47,950 71,800 23,850 50% 25,530 44,900 50,860 58,100 7,240 14% 27,410 29,150 35,790 41,100 5,310 15% 8,650 11,150	Pinole	6,700	8,500	1,800	27%	5,180	6,200	1,020	20%
16,360 19,800 3,440 21% 6,370 7,600 30,680 61,800 31,120 101% 13,370 35,300 7,430 9,100 1,670 22% 4,870 5,870 47,950 71,800 23,850 50% 25,530 44,900 50,860 58,100 7,240 14% 27,410 29,150 35,790 41,100 5,310 15% 8,650 11,150	Pittsburg	11,840	15,600	3,760	32%	5,130	6,700	1,570	31%
30,680 61,800 31,120 101% 13,370 35,300 7,430 9,100 1,670 22% 4,870 5,870 47,950 71,800 23,850 50% 25,530 44,900 50,860 58,100 7,240 14% 27,410 29,150 35,790 41,100 5,310 15% 8,650 11,150	Pleasant Hill	16,360	19,800	3,440	21%	6,370	2,600	1,230	19%
7,430 9,100 1,670 22% 4,870 5,870 47,950 71,800 23,850 50% 25,530 44,900 50,860 58,100 7,240 14% 27,410 29,150 35,790 41,100 5,310 15% 8,650 11,150	Richmond	30,680	61,800	31,120	101%	13,370	35,300	21,930	164%
47,950 71,800 23,850 50% 25,530 44,900 50,860 58,100 7,240 14% 27,410 29,150 35,790 41,100 5,310 15% 8,650 11,150 260,230 408,100 137,870 38% 127,820 20,000	San Pablo	7,430	9,100	1,670	22%	4,870	5,870	1,000	21%
50,860 58,100 7,240 14% 27,410 29,150 35,790 41,100 5,310 15% 8,650 11,150	San Ramon	47,950	71,800	23,850	20%	25,530	44,900	19,370	%9/
35,790 41,100 5,310 15% 8,650 11,150 260 260 260 260 260 260 260 260 260 26	Walnut Creek	50,860	58,100	7,240	14%	27,410	29,150	1,740	%9
127 870 38% 127 870 38% 127 830	Unincorporated CCC	35,790	41,100	5,310	15%	8,650	11,150	2,500	78%
350,230 436,100 137,070 36/0 132,330 413,820	Contra Costa Total	360,230	498,100	137,870	38%	132,930	219,820	86,890	%29

Comparing PBA

		Fi	nal Projec	ctions 201	.3		Scer	nario		2040 wit	h P-2013
				2010 to	%			2010 to	%	2010 to	%
	Jurisdiction	2010	2040	2040	Change	2010	2040	2040	Change	2040	Change
	Antioch	32,252	38,790	6,538	20%	32,252	40,300	8,048	25%	1,510	19%
	Brentwood	16,494	18,690	2,196	13%	16,494	26,100	9,606	58%	7,410	77%
	Clayton	4,006	4,150	144	4%	4,006	4,100	94	2%	-50	-53%
	Concord	44,278	63,190	18,912	43%	44,278	64,400	20,122	45%	1,210	6%
	Danville	15,420	16,920	1,500	10%	15,420	16,020	600	4%	-900	-150%
	El Cerrito	10,142	11,560	1,418	14%	10,142	12,100	1,958	19%	540	28%
	Hercules	8,115	12,690	4,575	56%	8,115	9,650	1,535	19%	-3,040	-198%
DS	Lafayette	9,223	10,640	1,417	15%	9,223	9,970	747	8%	-670	-90%
ноиѕеногрѕ	Martinez	14,287	15,690	1,403	10%	14,287	15,300	1,013	7%	-390	-38%
当	Moraga	5,570	6,350	780	14%	5,570	5,920	350	6%	-430	-123%
8	Oakley	10,727	16,440	5,713	53%	10,727	16,400	5,673	53%	-40	-1%
I	Orinda	6,553	7,340	787	12%	6,553	6,830	277	4%	-510	-184%
	Pinole	6,775	7,970	1,195	18%	6,775	7,290	515	8%	-680	-132%
	Pittsburg	19,527	27,510	7,983	41%	19,527	26,500	6,973	36%	-1,010	-14%
	Pleasant Hill	13,708	15,060	1,352	10%	13,708	14,310	602	4%	-750	-125%
	Richmond	36,093	47,090	10,997	30%	36,093	54,900	18,807	52%	7,810	42%
	San Pablo	8,761	11,030	2,269	26%	8,761	9,800	1,039	12%	-1,230	-118%
	San Ramon	25,284	30,730	5,446	22%	25,284	30,300	5,016	20%	-430	-9%
	Walnut Creek	30,443	38,520	8,077	27%	30,443	37,500	7,057	23%	-1,020	-14%
	Unincorporated CCC	57,706	63,790	6,084	11%	57,706	67,700	9,994	17%	3,910	39%

Plan Bay Area 2040 - Preferred



		F	inal Projec	ctions 201	13		Scer	nario		2040 witl	h P-2013
				2010 to	%			2010 to	%	2010 to	%
	Jurisdiction	2010	2040	2040	Change	2010	2040	2040	Change	2040	Change
	Antioch	19,090	25,530	6,440	34%	20,110	25,700	5,590	28%	-850	-15%
	Brentwood	8,670	11,660	2,990	34%	11,620	11,990	370	3%	-2,620	-708%
	Clayton	1,540	1,950	410	27%	1,990	2,090	100	5%	-310	-310%
	Concord	47,640	69,450	21,810	46%	54,270	95,500	41,230	76%	19,420	47%
	Danville	13,460	17,620	4,160	31%	11,840	13,100	1,260	11%	-2,900	-230%
	El Cerrito	5,880	7,310	1,430	24%	5,320	5,910	590	11%	-840	-142%
	Hercules	3,910	6,440	2,530	65%	4,950	5,420	470	9%	-2,060	-438%
	Lafayette	9,940	12,430	2,490	25%	8,990	9,940	950	11%	-1,540	-162%
S	Martinez	18,320	22,490	4,170	23%	20,710	26,100	5,390	26%	1,220	23%
JOBS	Moraga	4,740	5,940	1,200	25%	4,570	5,700	1,130	25%	-70	-6%
	Oakley	3,750	6,680	2,930	78%	3,410	5,350	1,940	57%	-990	-51%
	Orinda	5,530	6,940	1,410	25%	4,840	5,500	660	14%	-750	-114%
	Pinole	6,740	8,490	1,750	26%	6,700	8,500	1,800	27%	50	3%
	Pittsburg	14,180	19,800	5,620	40%	11,840	15,600	3,760	32%	-1,860	-49%
	Pleasant Hill	17,370	22,940	5,570	32%	16,360	19,800	3,440	21%	-2,130	-62%
	Richmond	30,790	42,320	11,530	37%	30,680	61,800	31,120	101%	19,590	63%
	San Pablo	7,470	9,660	2,190	29%	7,430	9,100	1,670	22%	-520	-31%
	San Ramon	43,960	58,320	14,360	33%	47,950	71,800	23,850	50%	9,490	40%
	Walnut Creek	41,720	57,380	15,660	38%	50,860	58,100	7,240	14%	-8,420	-116%
	Unincorporated CCC	40,220	54,040	13,820	34%	35,790	41,100	5,310	15%	-8,510	-160%
	CONTRA COSTA TOTAL	244 020	467 200	122 470	26%	260 220	400 100	127 970	29%	15 /00	11%

Plan Bay Area 2040 - Preferred

Comparing PBA

