

# C/CAG

## CITY/COUNTY ASSOCIATION OF GOVERNMENTS OF SAN MATEO COUNTY

*Atherton • Belmont • Brisbane • Burlingame • Colma • Daly City • East Palo Alto • Foster City • Half Moon Bay • Hillsborough • Menlo Park  
Millbrae • Pacifica • Portola Valley • Redwood City • San Bruno • San Carlos • San Mateo • San Mateo County • South San Francisco • Woodside*

**1:15 p.m., Thursday, September 17, 2015**  
**San Mateo County Transit District Office<sup>1</sup>**  
**1250 San Carlos Avenue, 2<sup>nd</sup> Floor Auditorium**  
**San Carlos, California**

### TECHNICAL ADVISORY COMMITTEE (TAC) AGENDA

- |     |  |               |              |
|-----|--|---------------|--------------|
| 1.  | Public comment on items not on the Agenda (presentations are customarily limited to 3 minutes).  | Porter/Hurley | No materials |
| 2.  | Issues from the last C/CAG Board meeting (September 2015): <ul style="list-style-type: none"><li>• Approved – Appointments of Linda Koelling (business communities) and Adina Levin (transportation communities) on the CMEQ Committee</li><li>• Approved – Endorsement of the list of projects to be submitted to MTC for the update of the Plan Bay Area 2040 and authorize the Exec Director to modify the list based on final negotiation with MTC</li></ul> |               | No materials |
| 3.  | Approval of the minutes from August 20, 2015   | Hoang         | Page 1-3     |
| 4.  | Measure A 2015 Highway Program Call for Projects (Information)   | Slavit (TA)   | Page 4-26    |
| 5.  | Review and recommend approval of the Draft 2015 Congestion Management Program (CMP) and Monitoring Report (Action)   | Lacap         | Page 27-63   |
| 6.  | Review and recommend approval of the Draft 2016 State Transportation Improvement Program (STIP) for San Mateo County   | Higaki        | Page 64-66   |
| 7.  | Review and recommend approval of the Measure M Fiscal Year 2014-15 Annual Performance Report (Action)  | Hoang         | Page 67-74   |
| 8.  | Regional Project and Funding Information (Information)   | Higaki        | No materials |
| 9.  | Executive Director Report  | Wong          | No materials |
| 10. | Member Reports   | All           |              |

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<sup>1</sup> For public transit access use SamTrans Bus lines 260, 295, 390, 391, KX or take CalTrain to the San Carlos Station and walk two blocks up San Carlos Avenue. Driving directions: From Route 101 take the Holly Street (west) exit. Two blocks past El Camino Real go left on Walnut. The entrance to the parking lot is at the end of the block on the left, immediately before the ramp that goes under the building. Enter the parking lot by driving between the buildings and making a left into the elevated lot. Follow the signs up to the levels for public parking.

<b>2015 TAC Roster and Attendance</b>							
<b>No.</b>	<b>Member</b>	<b>Agency</b>	<b>Jan</b>	<b>Feb</b>	<b>Apr</b>	<b>Jun</b>	<b>Aug</b>
1	Jim Porter (Co-Chair)	San Mateo County Engineering	x	x	x	x	x
2	Joseph Hurley (Co-Chair)	SMCTA / PCJPB / Caltrain	x	x	x		x
3	Afshin Oskoui	Belmont Engineering	x	x	x		x
4	Randy Breault	Brisbane Engineering	x		x	x	x
5	Syed Murtuza	Burlingame Engineering	x	x	x	x	x
6	Bill Meeker	Burlingame Planning					
7	VACANT	Caltrans					
8	Sandy Wong	C/CAG	x	x	x	x	x
9	Brad Donohue	Colma Engineering	x	x	x		x
10	John Fuller	Daly City Engineering		x	x	x	x
11	Tatum Mothershead	Daly City Planning	x	x		x	
12	Mo Sharma	Half Moon Bay Engineering		x	x	x	x
13	Paul Willis	Hillsborough Engineering	x	x	x	x	x
14	Jeff Moneda	Foster City Engineering	x		x		x
15	Chip Taylor	Millbrae Engineering		x		x	
16	Van Ocampo	Pacifica Engineering	x	x		x	
17	Jessica Manzi	Redwood City Engineering	x			x	x
18	Jimmy Tan	San Bruno Engineering	x	x		x	x
19	Jay Walter	San Carlos Engineering	x	x		x	x
20	Brad Underwood	San Mateo Engineering	x	x	x	x	x
21	Brian McMinn	South San Francisco Engineering		x	x	x	x
22	Billy Gross	South San Francisco Planning	x		x	x	x
23	Paul Nagengast	Woodside Engineering	x			x	
24	Kenneth Folan	MTC					

# **CONGESTION MANAGEMENT PROGRAM (CMP) TECHNICAL ADVISORY COMMITTEE (TAC)**

**August 20, 2015  
MINUTES**

The meeting of the Technical Advisory Committee (TAC) was held in the SamTrans Offices located at 1250 San Carlos Avenue, 4<sup>th</sup> Floor Dining Room, San Carlos, CA. Co-chair Hurley called the meeting to order at 1:18 p.m. on Thursday, August 20, 2015.

TAC members attending the meeting are listed on the Roster and Attendance on the preceding page. Others attending the meeting were: Joel Slavitt – SMCTA; Ellen Barton – County of San Mateo; Jean Higaki, Jeff Lacap, John Hoang – C/CAG; and other attendees not noted.

**1. Public comment on items not on the agenda.**

None.

**2. Issues from the last C/CAG Board meeting.**

As shown on the agenda.

**3. Approval of the Minutes from June 18, 2015.**

Approved.

**4. Receive information on the Measure A Highway CIP**

Joel Slavitt, SMCTA Manager, presented information on Measure A Highway Capital Improvement Program (CIP) for FY 2016-FY 2025 reviewing the CIP goals and development process highlighting the costs, funding, and shortfall as well as identifying potential policies options to address the findings including program imbalance, timing of needs, and funding large projects. Mr. Slavitt also provided the “Summary of Identified Project Cost vs. Project Funding” and “Summary of Costs by Project” tables and indicated that the TA Board will review the draft recommendations in September and take action on the CIP policy and programming in Oct/Nov.

Discussions were as follows:

- Clarification was made that KCA (Key Congested Areas) and SR (Supplemental Roadways) categories were set by the Expenditure Plan.
- For larger projects on US-101, outside funds (e.g., private) or bond funds will be needed. In addition, projects need to be ready. It was suggested that a subcommittee may be set up to address bond. Also, there is only so much debt capacity therefore there is a need to balance.
- Regarding the issue of private funding contribution, consideration should be made for looking into implementing a traffic impact fee (TIF) for the region. Most cities that currently have a TIF address local funding rather than regional. There is a lack of regional fee collection currently. It was mentioned that Contra Costa County already has a county level TIF. Consideration should also be made for public/private partnership.
- With TIF, consideration should be taken for existing development projects versus new development projects.

- There is a need to include bike, pedestrian, and transit when looking at capacity options.
- It was noted that some cities may have some cash on hand from past city-level TIF.
- Staff will take the TAC's suggestions for a TIF into consideration and form a smaller subcommittee to perform a nexus study.

**5. Review and recommend endorsement of the list of project to be submitted to MTC for the update of the Regional Transportation Plan/Sustainable Communities Strategy (RTS/SCS) also known as Plan Bay Area 2040 (RTP)**

Jean Higaki presented on the list of project to be submitted to MTC for the RTP/SCS update (updated every four years) highlighting the Plan Bay Area 2040 targets and schedule (adoption by early summer of 2017), outreach activities undertaken by C/CAG, and MTC planning to conduct project level performance assessments during winter 2015. There is a change in the formula used which results in less money overall. A list of "Proposed Projects for the Update of the Plan Bay Area 2040" was provided. The list, currently financially unconstrained, may be further reduced based further constraints imposed.

**6. Update on projects along the US-101 Corridor**

Sandy Wong, C/CAG Executive Director, provided an update regarding current developments associated with the US 101 Corridor. There are a lot of interests from various groups, especially the business community, that are looking for solutions to relieve congestion on the 101 corridor. Since the last TAC meeting, the Bay Area Council held a meeting that included C/CAG, SMCTA, MTC, Caltrans, and SamTrans to discuss what the HOV/HOT project would look like. Currently, there is no consensus as to what the project will look like as far as providing for carpool lanes or express lanes. Assembly member Kevin Mullin has been engaged and there is currently a spot bill in place that may help San Mateo County with coming up with a solution. The potential solution may include improvements to highway, Caltrans, bike/pedestrian, private transit, 1<sup>st</sup>/last mile, public/private partnership, east/west connection. There is a follow up meeting scheduled for Sept 15<sup>th</sup> with the Bay Area Council. There are also concurrent discussions with the business sector and MTC with regards to seeking out additional money to fund the project. MTC is also working with SamTrans to facilitate more transit on freeway.

Co-chair Hurley added that C/CAG and TA staff met with Secretary of Transportation, Brian Kelley. Mr. Hurley mentioned that data collection and analysis will need to be performed to come up with the appropriate solution. C/CAG consultant and Caltrans will be doing the analysis. Currently, there are three options: 1) do nothing, 2) converting the #1 lane to HOT lane (also consider enhanced bus service), and 3) adding a lane (time consuming and expensive). There are also policy solutions that need to be considered that addresses express lane (support and opposed), carpool requirements of 2+ (currently on 101) or increasing to 3+ occupancy thus creating excess capacity.

It was suggested that analysis for the project should consider impacts to local street specifically major arterials and collectors. The TAC can help staff with defining the purpose and need as the project begins the environmental phase.

**7. Regional Project and Funding Information**

Jean Higaki reported on the 2016 MTC project delivery plan, Inactive project list, MTC Federal Obligation Status for FY15-16, PMP Certification status, and the Bay Area Grant Proposal (OBAG 2). OBAG has less money due to lower revenue and a change in the formula.

Comments and discussions were as follows:

- How much money were available pre-OBAG and how much money is being proposed? As far as local streets and roads (LSR) under OBAG2, funds are not separated for the different programs therefore we will need to maintain approximately the same the ratio as in the past.
- It was mentioned that MTC has a resolution to “fix it first” but are not implementing its policy. Funds from MTC are both STP and CMAQ and in the past C/CAG tries to maximize STP funds for pavement projects.
- It is important that cities clarify to the legislature what the money is being spent on and that not all funding goes to roads. We need to provide lobbyist the right information.
- Since MTC is not planning to have PTAP 17, cities will need to use their own money to pay for the inspection work.

### **8. Executive Director Report**

Sandy Wong introduced new C/CAG staff Jeff Lacap. Ms. Wong mentioned that C/CAG is currently updating the travel demand model, indicating that some cities are participating and asking cities to be involved to assure that more accurate information be provided to CCAG for incorporation in model update. A follow up message will be sent to the City Manager as a reminder for cities to be engaged in the process.

The State Assembly Select Committee on transportation is hosting an informational hearing tomorrow on improving Bay Area transportation system. City staff is free to attend. A new emergency bill, AB 779, recently released, will change the congestion management monitoring performance standard. Currently, LOS is the measurement but if passed, the Bill will require CMAs to come up with alternative measures. This emergency bill will go into effect immediately. C/CAG staff is developing recommendations.

With regards to the MTC and ABAG agency issue, C/CAG and TA has not taken any position on the matter.

### **9. Member Reports**

None.

Meeting adjourned at 2:37 p.m.



SAN MATEO COUNTY

**Transportation  
Authority**

# Measure A 2015 Highway Program Call for Projects

September 17, 2015  
C/CAG CMP TAC



# Presentation Overview

- **Program Overview**
- **Process**
- **Evaluation Criteria**
- **Project Proposals**
- **Highway CIP context**
- **Next Steps**



# Program Overview

- **Focus is to reduce congestion, improve throughput and safety on most critical commute corridors**
- **Per voter approved Expenditure Plan 27.5% of Measure A revenue dedicated for the Highway Program**
  - 17.3% for Key Congested Areas (KCA)
  - 10.2% for Supplemental Roadways (SR)
- **Funds all phases of capital highway development**





# Process

## **TA Strategic Plan calls for the following:**

- **Funding considerations made through a Call for Projects (CFP)**
- **Project Review Committee assembled to evaluate applications**
- **Projects reviewed based on a set of evaluation criteria**
- **Funding recommendations anchored to the evaluation criteria**



# Evaluation Criteria

	<u>Pre-env.</u>	<u>Post-env.</u>
• <b>Need:</b>	<b>35%</b>	<b>15%</b>
• <b>Effectiveness:</b>	<b>20%</b>	<b>40%</b>
• <b>Readiness:</b>	<b>20%</b>	<b>20%</b>
• <b>Funding Leverage:</b>	<b>10%</b>	<b>10%</b>
• <b>Policy Consistency &amp; Sustainability:</b>	<b>15%</b>	<b>15%</b>



# Evaluation Criteria: Need & Effectiveness

<b>Evaluation Criteria Category</b>	<b>Detailed Criteria</b>
<b>Need</b>	<ul style="list-style-type: none"><li>• Current congestion</li><li>• Projected congestion</li><li>• Located in a Countywide Transportation Plan Priority Corridor</li><li>• Identified safety issue</li></ul>
<b>Effectiveness</b>	<ul style="list-style-type: none"><li>• Ability to relieve congestion/performance improvement</li><li>• Ability to address safety issue</li><li>• Regional significance</li><li>• Demonstrates coordination with adjacent projects/integration of inter-related projects</li><li>• Cost effectiveness</li></ul>



# Evaluation Criteria: Readiness & Funding Leverage

<b>Evaluation Criteria Category</b>	<b>Detailed Criteria</b>
<b>Readiness</b>	<ul style="list-style-type: none"><li>• Clear and complete proposal</li><li>• Project status and schedule</li><li>• Ease and speed of implementation</li><li>• Results from a public planning process</li><li>• Demonstrates stakeholder support</li><li>• Has a solid funding plan</li></ul>
<b>Funding Leverage</b>	<ul style="list-style-type: none"><li>• Percent of matching fund contribution</li><li>• Private sector contribution</li></ul>



# Evaluation Criteria: Sustainability & Policy Consistency

Prioritization Criteria Category		Detailed Criteria
Sustainability and Policy Consistency	Sustainability	<ul style="list-style-type: none"><li>• Project is primarily an operational improvement vs. infrastructure expansion</li><li>• Project accommodates multiple modes, where contextually appropriate and to the extent feasible (Complete Streets)</li><li>• Supports transit-oriented development</li><li>• Spurs economic activity/new development in the vicinity</li><li>• Includes green construction practices and elements</li></ul>
	Policy Consistency	<ul style="list-style-type: none"><li>• Project recognized in regional, county or local planning documents</li></ul>



# Project Proposals

- **Up to \$125 million available for programming and allocation**
- **11 applications submitted from 9 sponsors**
- **\$158 million requested**
- **\$117 million in eligible requests for FY2016 and FY2017 timeframe**



# Project Proposals

- **Mix of project types**
  - 6 freeway interchanges
  - 2 freeway mainline projects
  - 3 arterial projects
- **Phases of work w/in FY2016 & 2017**
  - **Construction: 3 projects**
  - **ROW: 2 projects**
  - **PS&E: 1 project**
  - **Environmental: 4 projects**
  - **Planning/PID: 2 projects**



# Project Proposals

- **Eligible funding requests within the FY 2016 and FY2017 timeframe**
  - **Pre-construction: 22 percent**
  - **ROW and construction: 78 percent**
- **Distribution of KCA and SR categories**

	<b>Expenditure Plan</b>	<b>2012 CFP</b>	<b>2015 CFP</b>
<b>KCA</b>	63%	46%	74%
<b>SR</b>	37%	54%	26%





# Project Proposals

Measure A 2015 Highway Program Funding Call - Tier I Projects			
Project	Project Type	Eligible Request for FY2016 & FY2017	Funding Request Phase Details
SR 92/82 (El Camino Real) Interchange Improvements	KCA	\$16,200,000	Construction
US 101/Woodside Road (SR 84) Interchange Improvements <sup>3</sup>	KCA	\$2,650,000	PS&E: \$3,510,000 ROW: \$10,550,000
US 101/Willow Interchange Improvements	KCA	\$64,400,000	Construction
US 101/Holly Street Interchange Improvements <sup>4</sup>	SR	\$10,720,000	ROW: \$630,000 Construction: \$12,950,000
<b>Total Measure A Highway Program</b>		<b>\$93,970,000</b>	



# Project Proposals

Measure A 2015 Highway Program Funding Call - Tier II Projects			
Project	Project Type	Eligible Request for FY2016 & FY2017	Funding Request Phase Details
US 101 Staged HOV Lanes (Whipple to San Bruno)	SR	\$8,500,000	Environmental
US 101/Peninsula Avenue Interchange Improvements	KCA	\$2,500,000	Environmental
US 101 Auxiliary Lanes (Oyster Point to San Francisco County Line)	SR	\$8,000,000	Environmental
US 101/Produce Avenue Interchange	SR	\$3,050,000	Environmental
<b>Totals:</b>		<b>\$22,050,000</b>	



# Project Proposals

Measure A 2015 Highway Program Funding Call - Tier III Projects			
Project	Project Type <sup>1</sup>	Eligible Request for FY2016 & FY2017	Funding Request Phase Details
SR 1/Manor Drive Overcrossing and Milagra On-ramp <sup>3</sup>	KCA	\$1,250,000	Planning: \$600,000 PID: \$600,000 Environmental: \$1,800,000 PS&E: \$1,800,000 ROW: \$130,000 Construction: \$15,000,000
Ralston Avenue Corridor Complete Streets Improvements <sup>4</sup>	SR	\$0	PS&E: \$2,245,000 ROW: \$250,000 Construction: \$5,391,000
Railroad Avenue Extension	SR	\$660,000	Planning: \$180,000 PID: \$450,000
<b>Totals:</b>		<b>\$1,910,000</b>	

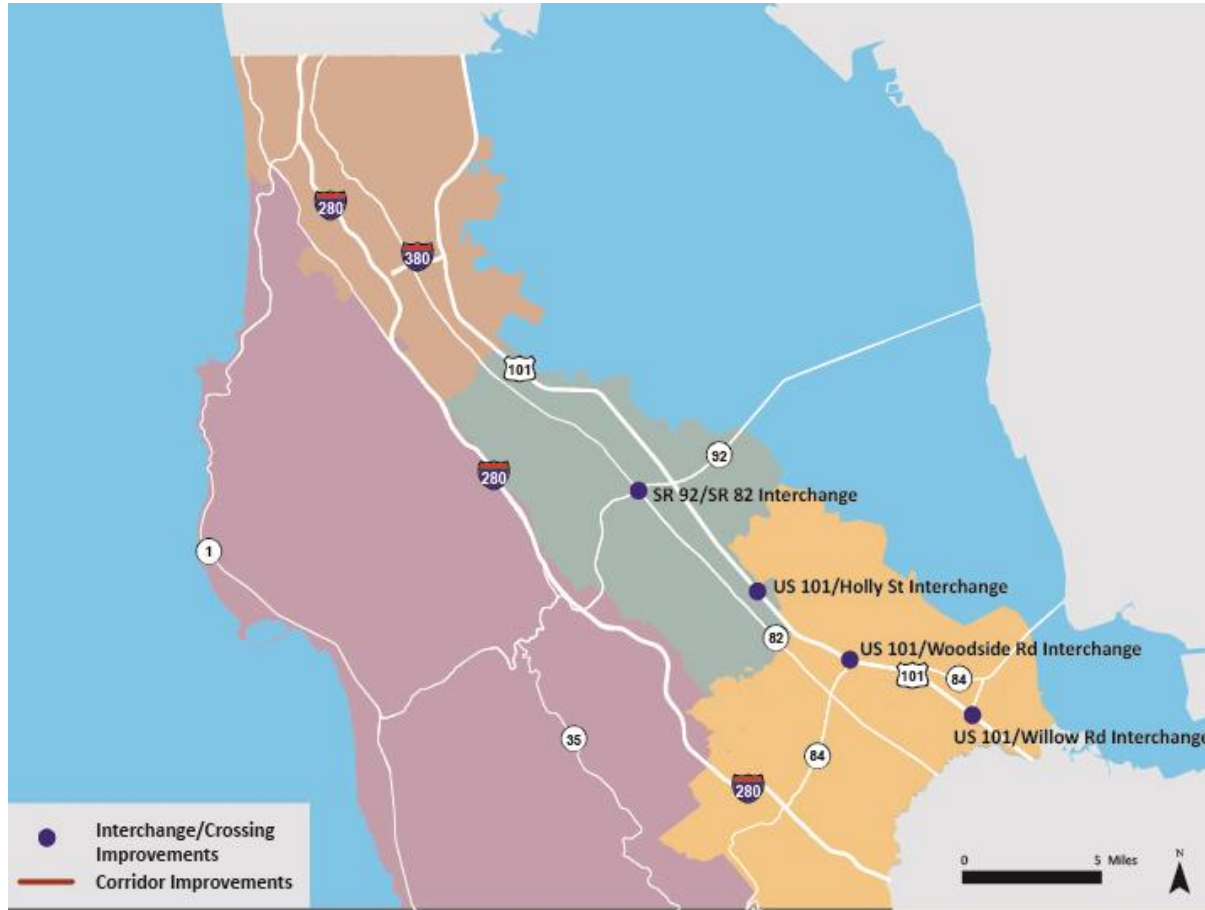


# Location of Project Requests



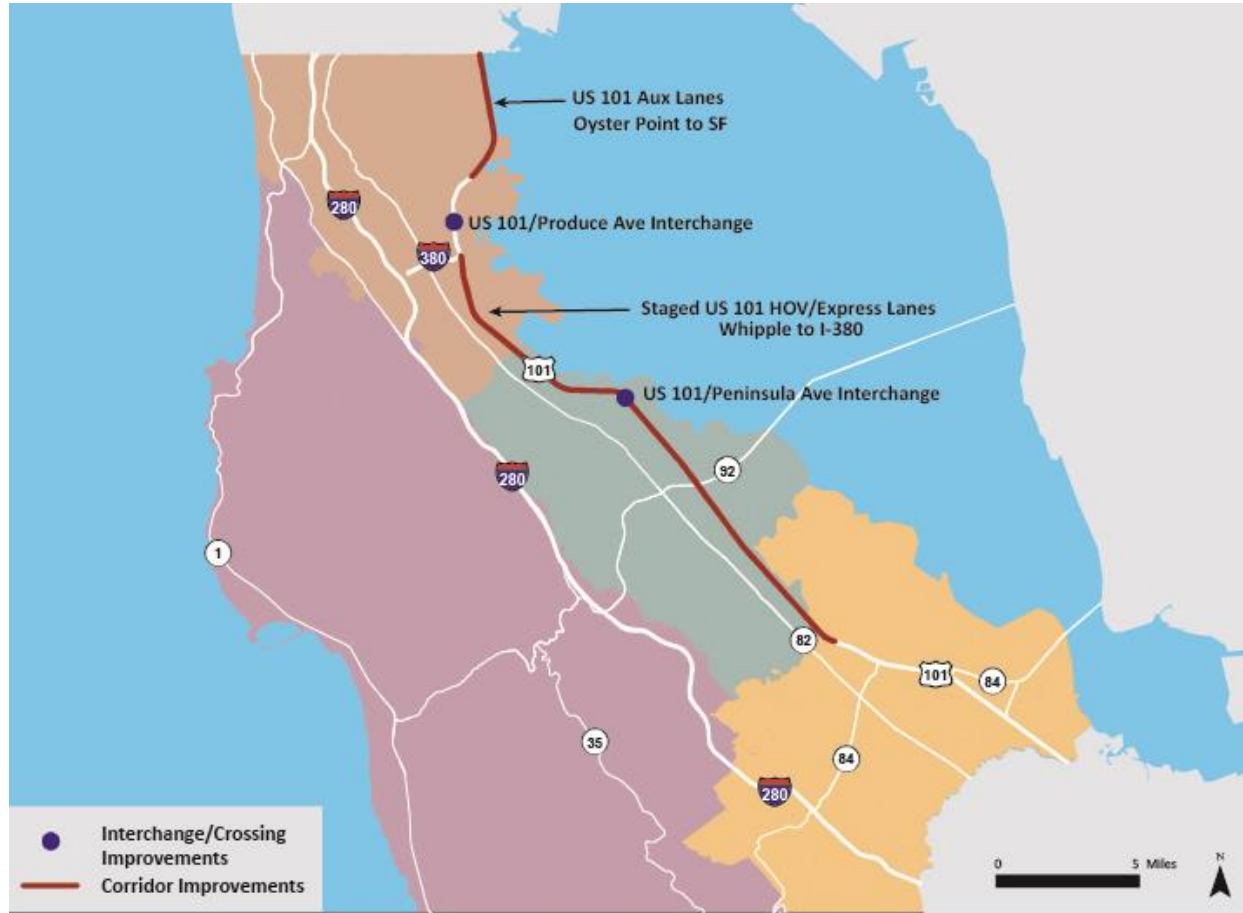


# Location of Tier I Projects



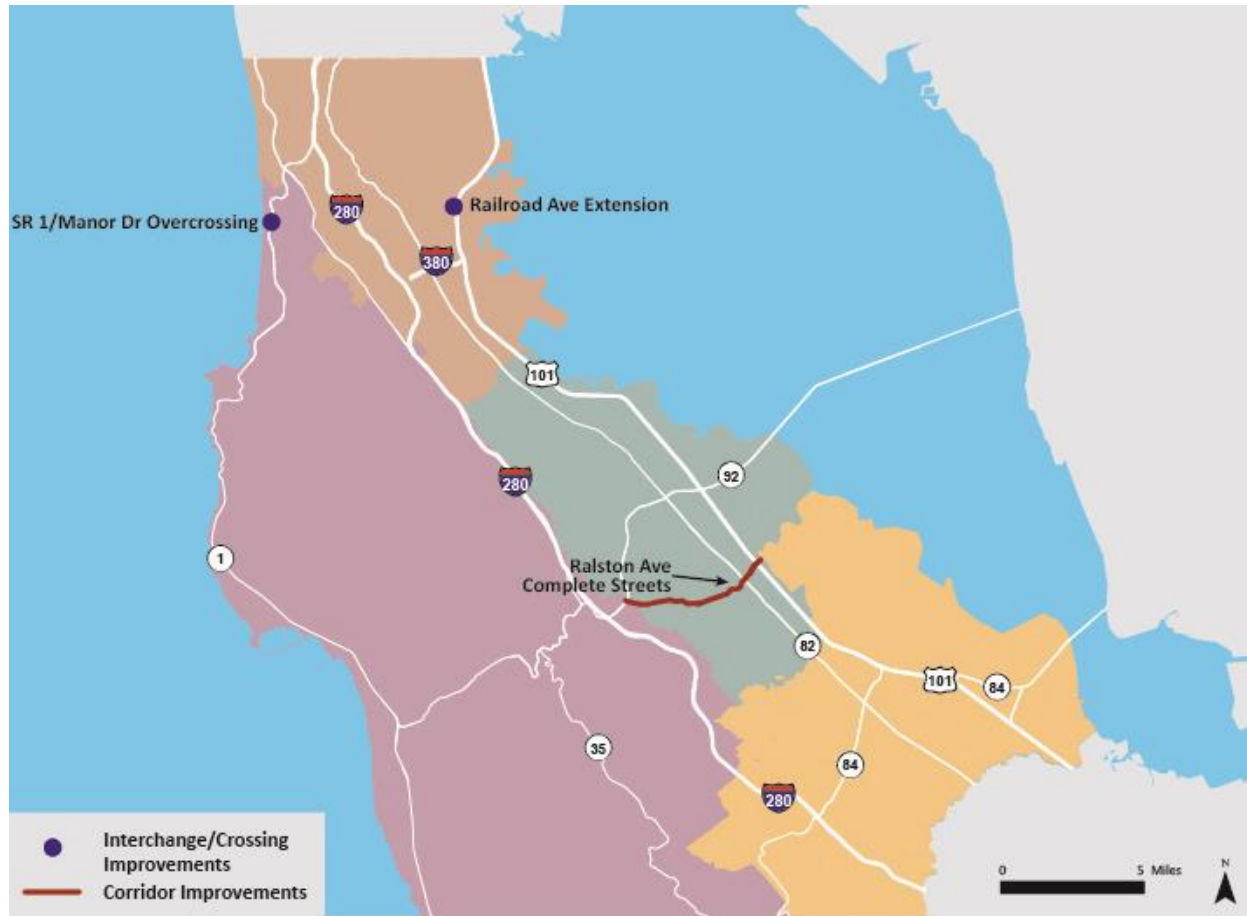


# Location of Tier II Projects





# Location of Tier III Projects





# **FY2016-FY2025 Highway Capital Improvement Program (CIP)**

- **Draft CIP presented August 2015**
- **Provides overview of long term needs vs. funding availability**
- **Helps to better inform current Call for Projects**
- **Identifies policy issues for further discussion; staff to work with Board Subcommittee on future program changes and advocacy**





# Next Steps - Schedule

Timeline	Activity
Sept. 2015	Informational item to TA CAC, TA Board and C/CAG TAC
Sept./Nov. 2015	Highway CIP Board Subcommittee to consider policy issues that may influence funding recommendations
Oct./Nov. 2015	TA Board approves 2015 Highway Program of Projects

Measure A 2015 Highway Program Funding Call - Tier I Projects							
Project	Sponsor	Project Type <sup>1</sup>	Overall Project Description	Sponsor Funding Request	TA Program Support <sup>2</sup>	Eligible Request for FY2016 & FY2017	Funding Request Phase Details
SR 92/82 (El Camino Real) Interchange Improvements	San Mateo	KCA	Conversion from a full to partial cloverleaf interchange. Realign and widen on and off-ramps and add signalized intersections at ramp termini. Widen sidewalks and add bike lanes on SR 82.	\$16,000,000	\$200,000	\$16,200,000	Construction
US 101/Woodside Road (SR 84) Interchange Improvements <sup>3</sup>	San Carlos	KCA	Add vehicular lanes, sidewalks and bikeways on Woodside Road/Seaport Boulevard, expand and signalize ramp intersections, eliminate southbound off-ramp "fifth leg" at Broadway, and build a direct ramp serving Veterans Boulevard.	\$14,060,000	\$50,000	\$2,650,000	PS&E: \$3,510,000 ROW: \$10,550,000
US 101/Willow Interchange Improvements	Menlo Park	KCA	Conversion from a full to partial cloverleaf interchange. Replace the existing Willow Road overcrossing with additional vehicular lanes, sidewalks on both sides and new enhanced bikeways. Realign and widen on and off-ramps with new signals at intersections.	\$64,000,000	\$400,000	\$64,400,000	Construction
US 101/Holly Street Interchange Improvements <sup>4</sup>	Redwood City	SR	Conversion from a full to partial cloverleaf interchange. Realign on and off-ramps and add signalized intersections at ramp termini. New and widened sidewalks and the addition of bike lanes. A separate pedestrian/bicycle overcrossing has been proposed as part of this project but is not eligible to be funded from the Highway Program.	\$13,580,000	\$150,000	\$10,720,000	ROW: \$630,000 Construction: \$12,950,000
<b>Total Measure A Highway Program</b>				<b>\$107,640,000</b>		<b>\$93,970,000</b>	

**Footnotes**

- 1) KCA: Key Congested Areas, SR: Supplemental Roadways
- 2) TA program support costs have been added to eligible requests where the TA is not the lead but will be providing support to the project sponsor and implementing agency. TA program support costs are already included in requests where the TA is the lead.
- 3) US 101/Woodside Road Interchange: Sponsor funding request includes \$3,510,000 to cover additional design costs due to scope increase and \$10,550,000 for partial ROW needs. \$1,600,000 of the \$3,510,000 funding request for design is for the PS&E phase; the remainder is for design services during construction, not projected to start until April 2020. The request for ROW includes \$1,000,000 for real estate pre-acquisition services, projected to start October 2016, and partial property acquisition, in the amount of \$9,550,000, not projected to start until October 2018. The requests for design services during construction, in the amount of \$1,900,000, and partial property acquisition, in the amount of \$9,550,000, are beyond the FY2016 and FY2017 timeframe of the current funding call.
- 4) US 101/Holly Street Interchange: Only \$10,570,000 of the \$13,580,000 sponsor funding request is eligible to be funded from the Highway Program. \$3,010,000 is proposed to fund construction of a separate pedestrian/bicycle overcrossing, which is not eligible to be funded from the Highway Program.

Measure A 2015 Highway Program Funding Call - Tier II Projects							
Project	Sponsor	Project Type <sup>1</sup>	Overall Project Description	Sponsor Funding Request	TA Program Support <sup>2</sup>	Eligible Request for FY2016 & FY2017	Funding Request Phase Details
US 101 Staged HOV Lanes (Whipple to I-380)	C/CAG	SR	Provide HOV and/or express (toll) lanes in both the north and southbound direction of US 101 from Whipple Avenue to I-380 by converting existing auxiliary lanes to through lanes by continuing them through interchanges. New auxiliary lanes to be added back where essential for maintaining freeway operations.	\$8,500,000	\$0	\$8,500,000	Environmental
US 101/Peninsula Avenue Interchange Improvements	San Mateo	KCA	Conversion of a partial interchange to a full interchange at Peninsula Avenue by adding new southbound on and off-ramps and closing the southbound on and off-ramps at East Poplar Avenue.	\$2,500,000	\$0	\$2,500,000	Environmental
US 101 Auxiliary Lanes (Oyster Point to San Francisco County Line)	C/CAG, South San Francisco	SR	Add auxiliary lanes in both the north and south bound direction of US 101 between the Candlestick Point Interchange and Oyster Point Boulevard. Includes analysis of HOV and/or express (toll) lanes in the north and southbound direction of US 101 between I-380 and the San Francisco County line.	\$8,000,000	\$0	\$8,000,000	Environmental
US 101/Produce Avenue Interchange	South San Francisco	SR	Add new interchange on US 101 at Produce Avenue. Includes a new vehicular overcrossing with sidewalks and bike lanes connecting Utah Avenue, on the east side of US 101, to San Mateo Avenue, on the west side of US 101, and the reconfiguration of existing north and southbound on and off-ramps in the vicinity.	\$3,000,000	\$50,000	\$3,050,000	Environmental
<b>Totals:</b>				<b>\$22,000,000</b>		<b>\$22,050,000</b>	

**Footnotes**

- 1) KCA: Key Congested Areas, SR: Supplemental Roadways
- 2) TA program support costs have been added to eligible requests where the TA is not the lead but will be providing support to the project sponsor and implementing agency. TA Program support costs are already included in requests where the TA is the lead.

Measure A 2015 Highway Program Funding Call - Tier III Projects							
Project	Sponsor	Project Type <sup>1</sup>	Overall Project Description	Sponsor Funding Request	TA Program Support <sup>2</sup>	Eligible Request for FY2016 & FY2017	Funding Request Phase Details
SR 1/Manor Drive Overcrossing and Milagra On-ramp <sup>3</sup>	Pacifica	KCA	Widen the existing Manor Drive overpass from Palmetto Avenue, to the west, and Oceana Boulevard, to the east, with larger turning radii at corners and new traffic signals at the intersections. A new northbound on-ramp to SR 1 at Milagra Drive is included.	\$19,930,000	\$50,000	\$1,250,000	Planning: \$600,000 PID: \$600,000 Environmental: \$1,800,000 PS&E: \$1,800,000 ROW: \$130,000 Construction: \$15,000,000
Ralston Avenue Corridor Complete Streets Improvements <sup>4</sup>	Belmont	SR	Multi-modal traffic improvements on Ralston Avenue from US 101 to SR 92 that include: adding new traffic signals, modifying signal timing of existing traffic signals, adding a roundabout at Notre Dame de Namur University, removal of on-street parking, widened sidewalks, enhanced crosswalks, new bikeways on and nearby Ralston Avenue and other Complete Street treatments.	\$7,886,000	\$0	\$0	PS&E: \$2,245,000 ROW: \$250,000 Construction: \$5,391,000
Railroad Avenue Extension	South San Francisco	SR	Eastern extension of Railroad Avenue from South Linden Avenue to the intersection of East Grand and Allerton Avenues with a new undercrossing of US 101. Includes the removal of an existing Union Pacific railroad spur east of US 101.	\$630,000	\$30,000	\$660,000	Planning: \$180,000 PID: \$450,000
<b>Totals:</b>				<b>\$28,446,000</b>		<b>\$1,910,000</b>	

**Footnotes**

- 1) KCA: Key Congested Areas, SR: Supplemental Roadways
- 2) TA program support costs have been added to eligible requests where the TA is not the lead but will be providing support to the project sponsor and implementing agency. TA Program support costs are already included in requests where the TA is the lead.
- 3) SR 1/Manor Drive Overcrossing and Milagra On-ramp: Only the Planning (start May 2016) and PID (start May 2017) phases of work are projected to start within the FY2016 and FY2017 timeframe of the current funding call.
- 4) Ralston Avenue Complete Streets Improvements: Funding need not until FY2018 (PS&E to start January 2018), which is outside the FY2016 and FY2017 timeframe of the current funding call.

Total Measure A Highway Program sponsor funding requests for all projects	\$158,086,000
Total eligible sponsor funding requests for work projected to start in FY2016 & 2017	\$117,000,000
TA program support costs	\$930,000
Total eligible sponsor requests for work projected to start in FY2016 & 2017 with TA program support costs	\$117,930,000

# C/CAG AGENDA REPORT

**Date:** September 17, 2015

**To:** Congestion Management Program Technical Advisory Committee (TAC)

**From:** Jeff Lacap

**Subject:** Review and recommend approval of the Draft 2015 Congestion Management Program (CMP) and Monitoring Report

(For further information contact Jeff Lacap at 650-599-1455)

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## **RECOMMENDATION**

That the CMP TAC review and recommend approval of the Draft 2015 Congestion Management Program (CMP) and Monitoring Report

## **FISCAL IMPACT**

It is not anticipated that the changes in the 2015 CMP will result in any increase in the current fiscal commitment that C/CAG has made to the Program.

## **BACKGROUND/DISCUSSION**

### *Overview*

Every two years, C/CAG as the Congestion Management Agency for San Mateo County, is required to prepare and adopt a Congestion Management Program (CMP) for San Mateo County. The CMP is prepared in accordance with state statutes, which also establish requirements for local jurisdictions to receive certain gas tax subvention funds. The CMP's conformance with regional goals enable San Mateo County jurisdictions to qualify for state and federal transportation funding.

The Metropolitan Transportation Commission (MTC) also provides guidance for consistency and compatibility with the Regional Transportation Plan (RTP). MTC's findings for the consistency of CMPs focus on five areas:

- Goals and objectives established in the RTP,
- Consistency of the system definition with adjoining counties,
- Consistency with federal and state air quality plans,
- Consistency with the MTC travel demand modeling database and methodologies; and
- RTP financial assumptions.

### ***2015 CMP Update***

The Draft 2015 CMP includes updated information and changes from the adopted 2013 CMP. The majority of the document is unchanged from the 2013 CMP. Some key updates are highlighted below:

- Updated Chapter 5 – Trip Reduction and Travel Demand Element
  - Reflects the current Transportation Demand Element (TDM) and Transportation System Management (TSM) measures.
- Updated Chapter 7 – Deficiency Plan Guidelines
  - Reflects updated 2015 monitoring results and amended San Mateo County Congestion Relief Plan (CRP).
- Updated Chapter 8 – Seven Year Capital Improvement Program
  - Reflects the adopted 2014 State Transportation Improvement Program (STIP) project list.
- Appendices that were updated includes the following:
  - Appendix F - 2015 CMP Monitoring (Draft)
  - Appendix G – Status of Capital Improvement Projects

### ***2015 Traffic Level of Service and Performance Monitoring***

C/CAG is required to measure the roadway segments and intersections on the Congestion Management Program roadway network to determine the change in LOS from one period to the next. As part of the 2015 CMP update, C/CAG has retained a consultant to monitor the roadway segments and intersections on the CMP roadway network. This year's study was conducted in the spring of 2015 with travel time data from INRIX being used between March and May of 2015. The most recent assessment prior to this study was performed in March - May 2013. The primary tasks completed as part of this study include conflation of travel time data to Level of Service monitoring network and Level of Service Analysis. As a result of this monitoring, C/CAG is required to determine what location(s), if any, has (have) exceeded the LOS standard that was established by C/CAG in 1991.

As noted in the 2013 Monitoring Report, it was recommended to C/CAG to consider the use of private sector data available through the Metropolitan Transportation Commission (MTC) in 2015. After first being introduced in San Francisco and Marin counties in 2011, the MTC has procured a region-wide private sector dataset that is available to each county for their use and incorporation into the CMP efforts.

As part of the CMP update work effort, the consultants conducted research on the applicability of private sector traffic data to assist C/CAG in evaluating future data collection alternatives. Various data providers are available in the market today, but INRIX was evaluated in this study due to the fact that the dataset is being made available through the Metropolitan Transportation Commission (MTC) for use in the Bay area.

In determining conformance with the LOS standards, C/CAG historically excludes traffic impacts attributable to interregional travel based on the C/CAG Travel Demand Forecasting Model. To address deficiencies on the CMP network, C/CAG developed the San Mateo County Congestion Relief Plan (CRP). Originally adopted in 2002 and reauthorized in 2015 to be effective through July 2019, the CRP fulfills the requirement of a Countywide Deficiency Plan for all roadway segment and intersection deficiencies identified through the monitoring done for the 1999 through the current Congestion Management Programs. With the CRP in place, no jurisdiction will be required to develop a deficiency plan as a result of this monitoring report.

In calculating the LOS for the CMP network, C/CAG identifies the deficient locations after deducting for interregional travel (all trips originating outside San Mateo County). Based on the monitoring report and after the exclusions for interregional traffic was applied, two out of the 53 roadway segments exceeded the LOS standard. The segments in violation of the LOS Standard in 2015 are as follows:

- AM – Westbound SR 84 between I-280 and Alameda de Las Pulgas
- PM – Westbound SR 84 between I-280 and Alameda de Las Pulgas
- AM – Eastbound and Westbound SR 92 between I-280 and US 101
- PM – Eastbound and Westbound SR 92 between I-280 and US 101

For the sixteen intersections monitored, the 2015 traffic volumes, lane configurations, and signal phasing were used as inputs to the intersection level of service calculations. This year’s monitoring as well as the 2013 monitoring used the 2000 Highway Capacity Manual method (average control delay) to calculate the LOS results.

All 16 CMP intersections are in compliance with the LOS Standard. There were two (2) LOS standard violations for intersections in 2013.

A summary of the number of roadway segments and intersections with a LOS F (F designated the worse possible congestion) since the 2001 CMP are as follows:

Year	LOS F*		Year	LOS F*	
	Roadways	Intersections**		Roadways	Intersections**
2001	16	1	2009	10	3
2003	13	0	2011	14	2
2005	12	0	2013	12	2
2007	14	2	<b>2015</b>	<b>10</b>	<b>0</b>

\* Without Exemption

\*\* Majority of intersections monitored are along Route 82 (El Camino Real)

It is noted that eight (8) of the ten (10) CMP segments had deficient level of service (without exemptions) in both the AM and PM peak periods. Two (2) segments had deficient level of service in the PM peak period only.

**Average Travel Times on US-101**

Travel times were also measured for the U.S. 101 corridor between the San Francisco and Santa Clara County Lines. The U.S. 101 corridor was selected because, in addition to mixed-flow lanes, it includes High Occupancy Vehicle (HOV) lanes, bus routes, and passenger rail.

The total travel time for carpools was estimated by adding the travel time in the HOV lanes between the Santa Clara County Line and Whipple Avenue to the travel time in the mixed-flow lanes between Whipple Avenue and the San Francisco County Line. Travel times for bus and passenger rail modes were estimated based on SamTrans and Caltrain published schedules. SamTrans bus route KX and 398 operates in the U.S. 101 corridor. This route provides service through San Mateo County from San Francisco to Palo Alto. Travel times were based on the average travel time between County lines during the commute hours. Travel time via Caltrain was calculated in a similar manner.

Travel time for single occupancy identified as part of the 2015 monitoring indicates a 21% decrease in the southbound AM peak period, a 11% increase in the northbound AM peak period, a 25% increase in the northbound PM peak period, and a 5% decrease in the southbound PM peak period. Carpool lanes show an increase of 23% in both the southbound AM peak period and northbound PM peak periods. Caltrain travel times show an increase of more than 45% in both the northbound and southbound AM peak period and an increase of more than 40% in both the northbound and southbound PM peak period. SamTrans travel times show an increase of 15% in the northbound AM peak period and an increase of 22% in the southbound PM peak period. Results for the 2015 travel time surveys are summarized below.

Average Travel Time On US 101 Corridor (in minutes) - Between San Francisco and Santa Clara County Lines																
Mode	AM - Morning Commute Peak Period								PM - Evening Commute Peak Period							
	NB				SB				NB				SB			
	2015	2013	2011	2009	2015	2013	2011	2009	2015	2013	2011	2009	2015	2013	2011	2009
Auto - Single Occ.	31	28	29	30	34	41	34	28	38	30	32	33	31	33	40	29
Carpool - HOV Lane	36	32	28	30	34	37	30	26	45	37	30	32	35	32	35	27
Caltrain <sup>1</sup>	39	23	35	35	43	27	31	31	38	24	34	34	38	23	35	35
SamTrans Route KX <sup>2</sup>	80	68	76	79	-	73	81	85	-	72	81	83	91	74	78	89

1 Baby Bullet b/n Palo Alto and Menlo and Approximate north county line near Bayshore Station - but not stop on Baby Bullet.

2 Route KX b/n RWC and SF(AM NB Only, PM SB Only) & 398 (b/n Palo Alto and Redwood City).



### ***Transit Ridership***

As shown in the table below, the 2015 transit ridership data indicates annual total ridership for SamTrans has increased by 5% whereas Caltrain ridership increased by 20% when compared to the CMP update 2013. Annual total ridership for BART increased by 10% at the Colma and Daly City stations and increased by 9% for the SFO Extension stations. Overall annual total transit ridership increased about 11% when compared with the previous 2013 CMP Update.

Transit Agency	Annual Total		Average Weekday	
	2015	2013	2015	2013
SamTrans	13,158,703	12,445,748	42,981	40,966
Caltrain	18,156,173	15,595,559	58,429	49,031
BART (Colma & Daly City)	8,155,340	7,778,180	28,050	27,102
BART (SFO Ext. Stations)	12,614,731	11,685,236	40,741	38,696
Combined Transit	<b>33,928,774</b>	<b>47,504,723</b>	<b>170,201</b>	<b>155,795</b>

With the introduction of AB 779 bill, there will be significant changes to the next update of the CMP in 2017. There will be different performance measures that will be used to analyze the CMP network such as VMT (vehicle miles traveled).

The complete draft Monitoring Report is included in Appendix F of the Draft 2015 Congestion Management Program. (A copy is attached to this staff report)

### ***2015 CMP Approval Schedule (tentative)***

<u>Date</u>	<u>Activity</u>
September 17	Draft CMP to TAC
September 28	Draft CMP to CMEQ
October 8	Draft CMP to Board
Sep/Oct	Draft CMP due to MTC
November 19	Final CMP to TAC
November 20	Final CMP to CMEQ
November	MTC performs Consistency Findings
December 10	Final CMP to Board

### **ATTACHMENT**

- Draft Level of Service and Performance Measure Monitoring Report – 2015
- Draft 2015 San Mateo County CMP – Executive Summary
- Draft 2015 San Mateo County CMP & Appendix (*Available for download at:*  
<http://ccag.ca.gov/committees/congestion-management-program-technical-advisory-committee/>)

## A. EXECUTIVE SUMMARY

The City/County Association of Governments of San Mateo County (C/CAG) has an established Congestion Management Program (CMP) to monitor the transportation network within the county. All roadways included in the CMP network are evaluated for conformity at least every two years.

The goal of the monitoring program is to improve the performance of the transportation system by identifying congested areas and related transportation deficiencies. This information is then used to help prioritize transportation funding decisions based on system performance, land use factors, multimodal characteristics, and other considerations.

This year's monitoring study was conducted in the spring 2015 with data collection between March and May including travel time runs on approximately 163.3 directional miles of freeways and arterials, 72-hour counts on 21 segments representing 301.4 centerline miles of arterials, and 16 intersection turning movement counts.

This is the first monitoring cycle during which the C/CAG has used commercially available travel speed data from INRIX integrated in a geographic information system (GIS) to monitor Level of Service (LOS) on the CMP network. The primary tasks completed as part of this study include:

- Conflation of travel time data to LOS Monitoring network
- LOS Analysis

With the 2015 monitoring cycle, C/CAG is calculating LOS based on two methodologies—Highway Capacity Manual (HCM) 1994 and HCM 2010. This dual reporting facilitates historical comparisons while also reporting LOS based on the more current methodology. For freeways, only HCM 1994 LOS is reported, as the HCM 2000 methodology requires traffic volume information for all unique freeway segments and ramps. The HCM 2010 criteria was used only for the intersection LOS using the collected peak period turning movement counts analyzed in Synchro. Collection of comprehensive freeway traffic volumes is beyond the scope of the CMP monitoring effort.

## B. INTRODUCTION

### History of the Congestion Management Program

C/CAG has an established Congestion Management Program (CMP) to monitor the transportation network within the county. All roadways included in the CMP network are evaluated for conformity at least every two years by the agency, which is the designated Congestion Management Agency (CMA) for San Mateo County. The goal of the monitoring program is to improve the performance of the transportation system by identifying congested areas and related transportation deficiencies. This information is then used to help prioritize transportation funding decisions in light of system performance, land use factors, multimodal characteristics, and other considerations.

This year's study was conducted in the spring of 2015 with travel time data from INRIX being used between March and May of 2015. The most recent assessment prior to this study was performed in March - May 2013. The primary tasks completed as part of this study include:

- Conflation of travel time data to LOS Monitoring network
- Level of Service Analysis

### Study Background

This year's monitoring study was conducted in the spring 2015 with data sourced between March and May on approximately 163.3 directional miles of freeways and arterials, 72-hour counts on 21 segments representing 301.4 centerline miles of arterials, and 16 intersection turning movement counts. CMP legislation requires that state highways (including freeways) and principal arterials be included in the CMP network. The network must be useful to track the transportation impacts of land development decisions, as well as to help assess the congestion management implications of proposed transportation projects. C/CAG's network therefore includes numerous local thoroughfares since most urban traffic occurs on city arterials (rather than on the freeways). **Figure 1** shows the routes that were monitored.

All of the study roadways were evaluated during the AM and PM peak period between the hours of 7 AM - 9 AM and 4 PM - 7 PM. As in previous studies, both time periods are considered when determining the LOS to be reported. The directionality of the segment is not reported in many of the summary tables, but the worst LOS found for either direction for either AM or PM peak period is shown as the official result. In most cases, the PM period is the focus of the CMP since consistently, the PM period results in higher volumes, slower speeds, and more congestion. The methodology used included using INRIX travel time data, 72-hour traffic counts, and intersection turning movement counts.

The total directional miles and number of route segments for each roadway type are shown in **Table 1**.

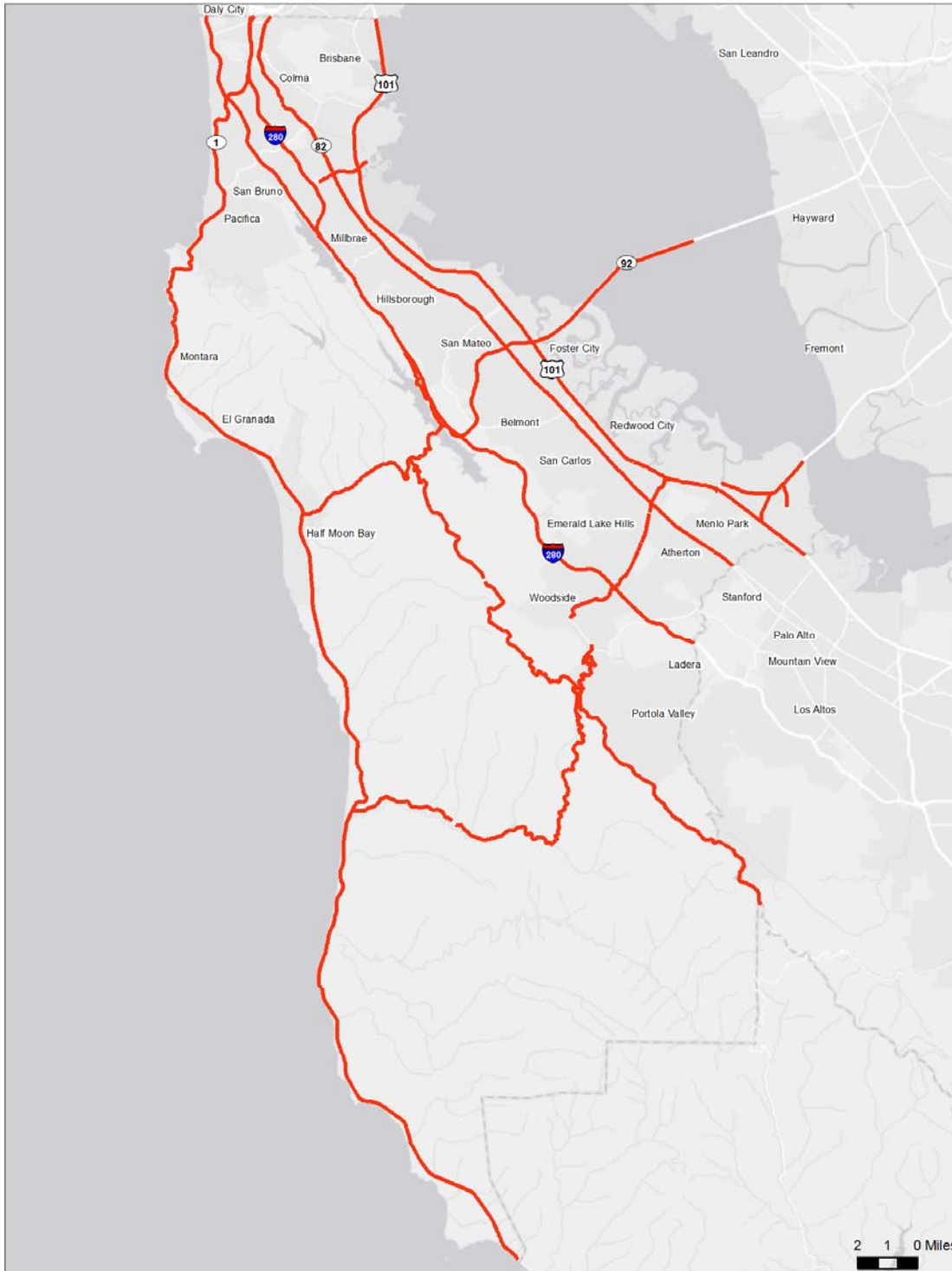


Figure 1 – Spring 2015 CMP Monitored Routes

Table 1 – Total Study Miles Summary

Roadway Type	Total Directional Miles
Arterial / State Routes	301.4
Freeway	163.3
Total	464.7

This monitoring report focused on the five performance measures established in the San Mateo County Congestion Management Program. These performance measures are:

1. Roadway Level of Service
  - a. Travel Time – Average Speed
  - b. 72-hour traffic counts – V/C for rural arterials
2. Intersection LOS
3. Travel Time for various modes (single occupant, carpools, and transit)
4. Pedestrian and Bicycle Improvements
5. Ridership / Person Throughput for Transit

As noted, the “Roadway Level of Service and Intersection LOS” are the primary CMP performance measures; therefore, a mitigation plan is required if the resulting LOS is below the established minimum standard.

The following sections focus on each of the above performance measures with emphasis on the Roadway and Intersection LOS. The other items are included to provide some alternative views to help explain the changes in performance and the opportunities for improvement.

## C. METHODOLOGY

### Mapping of CMP Network

#### Global Positioning System (GPS)

Historically, CMP travel time runs were done manually. Jacobs introduced the use of GPS and GIS to C/CAG in 2011. In general, the equipment used by Jacobs received consistent GPS signals across the County.

All the roadways in the network were mapped using GPS technology in 2011 and 2013. With the introduction of INRIX datasets this update cycle, the network attributes were carried over from those past cycles. The Haicom-BT Bluetooth receiver was mounted on a vehicle and used in the mapping. The receiver uses differential GPS (DGPS) to provide position information to sub-meter accuracy. These receivers were used in combination with the controlling software developed by Jacobs while driving each roadway to inventory all roadway attributes related to speed.

The data collection process was made even more efficient this cycle by using data from INRIX.

### Travel Time Data

Travel time data was assembled from INRIX and conflated to the LOS Monitoring network.

Travel time data was conflated for the morning and afternoon peak periods on all applicable roadway segments; data were only used on Tuesdays, Wednesdays, or Thursdays, and school district spring break periods were avoided.

## D. EVALUATION

### LOS Analysis – HCM 1994

The tables in the Appendix highlight the 2015 CMP route segments that had LOS lower than the established standard during the AM or PM Peak by HCM 1994 standards directly from the travel time data or 72-hour counts. The CMP enabling legislation allows for the reduction in volume for those interregional trips for those segments that have a LOS lower than the established standard; i.e. those trips that originate from outside the county and either pass through the county or have a destination within San Mateo County.

### Other Performance Measures Results

Apart from average speeds aggregated to the CMP route segments level, intersection segment level average speeds were also calculated in 2015 for all routes. These results are available in the GIS tables provided to C/CAG.

With the introduction of INRIX data this year's freeway travel time analyses, we now have the opportunity to include various new performance measures for the region. In prior years, a small sample of travel time runs were made during a small window of time in the AM and PM peak period. This year, using INRIX, we have 24 hour data for a few months of the year. One interesting new performance measure that can be evaluated is the **Duration of Congestion**, or amount of time below a certain speed / LOS within a segment. For example, **Figure 2** illustrates the 5-minute average speed for a 24-hour period between March and May of 2015. The red line depicts the average speed, while the vertical lines represent the minimum and maximum speeds for each respective time interval (showing the variability of speed for each time slice). Further, on the horizontal axis, the shaded regions depict the corresponding LOS for the average speed for the freeway section. Therefore, one can see that the average speed in the southbound US 101 segment between SR 92 and Whipple falls into the LOS F range in the morning period around 6:30 AM and remains at that LOS until around 10:30 AM. For the afternoon period, the average speed remains better than LOS F all afternoon, while at times over the 3 months, the minimum speed does drop to a very low speed around 9 mph.

In addition to Duration of Congestion, other performance measures that are now possible with the larger data set include such items as travel time reliability (how much does travel time vary along the various corridors, buffer index (how much time needs to be added to a drivers trip to make sure they get to work on-time 95% of the time), and temporal analysis (by time of day, day of week, and month of year).

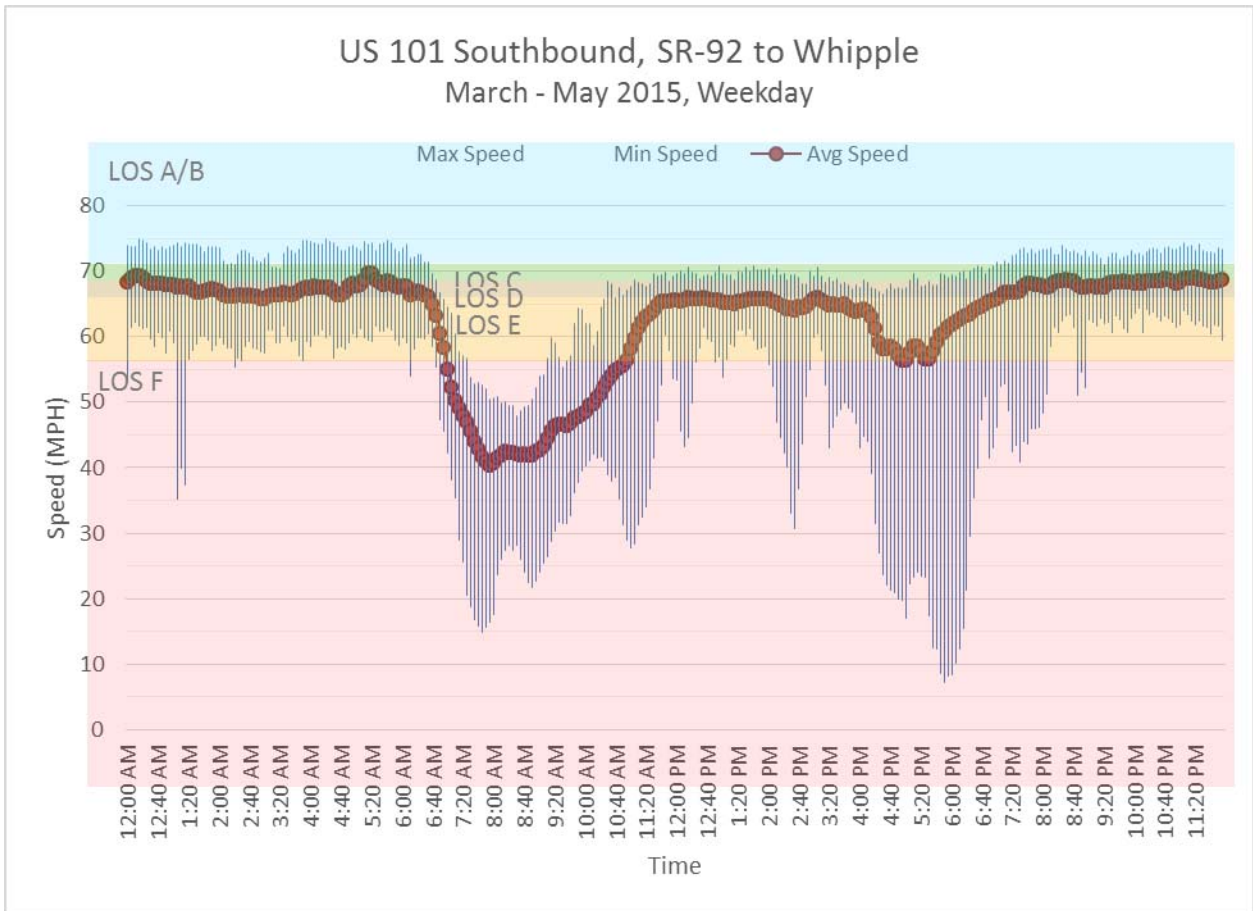


Figure 2 – Spring 2015 Duration of Congestion



## E. ROADWAY LEVEL OF SERVICE (LOS)

### Traffic Flow

The Highway Capacity Manual (HCM) defines capacity as “...the maximum hourly rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control conditions.”

The vehicle capacity and operational characteristics of a roadway are a function of a number of elements including: the number of lanes and lane widths, shoulder widths, roadway alignment, access, traffic signals, grades, and vehicle mix. Generally, roadways with wider travel lanes, fewer traffic control devices, straight alignments, etc. allow faster travel speeds and therefore greater vehicle flow per unit time.

### Level of Service

The HCM defines level of service (LOS) as “...a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.”

“Six LOS are defined for each type of facility that has analysis procedures available. Letters designate each level, from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each level of service represents a range of operating conditions and the driver’s perception of those conditions.”

In accordance with CMP legislation, the county and city governments are required to show that all CMP route segments within their jurisdiction are operating at or above the CMP traffic LOS standard. Section 65089(b)(1)(B) of the California Government Code states that “In no case shall the LOS standards established be below the LOS E or the current level, whichever is farthest from LOS A. When the level of service on a segment or at an intersection fails to attain the established level of service standard, a deficiency plan shall be adopted pursuant to section 65089.4.”

All freeway segments in the network, as included in **Figure 3**, were monitored using the INRIX travel time data, which allows for determination of LOS on the basis of average operating speed. C/CAG primarily uses the 1994 and 2000 HCM methodology to monitor LOS on the CMP network, as this methodology was utilized in the baseline monitoring cycle and is necessary to maintain historical comparisons, identify exempt segments, and monitor potential network deficiencies. The specific methodologies used for monitoring freeway and arterial segments are listed below per HCM definitions:

- **Freeway Segments (HCM 1994 - Chapter 3)** – All freeway segments were evaluated using the “basic freeway sections” methodology of HCM 1994 where the LOS for each freeway segment was determined using its average travel speed.

Freeway LOS was not calculated based on HCM 2000 methodology. In order to evaluate all freeway segments using the HCM 2000 methodology, the volumes on all freeway sections (mainline) with distinct characteristics (e.g., quantity of lanes), as well as on entrances and exits would be required. Changes to the methodology will be considered along with the next update cycle when the HCM 2010 may be incorporated. Until then, the methodology of previous updates was followed to maintain the historical context for comparisons of the results.

- **Multilane, Two-Lane and Arterial Segments (HCM 1994 – Chapters 7, 8, and 11)** – All non-freeway surface street segments were evaluated based on the volume to capacity ratio (V/C) dependant on the local free-flow speed, cross-section, number of lanes, % no-passing zones, and functional class.

Multilane and Two-Lane highways were evaluated primarily based on the current volumes as measured through 72-hour traffic counts at 21 locations throughout the county. These counts and resulting V/C were then compared to the applicable criteria in the HCM 1994 to determine the respective LOS.

Many arterial segments used by C/CAG for CMP purposes (called "CMP Segments") span several blocks and include multiple signals and/or stop controlled intersections. If an Intersection Segment is defined as a segment from one controlled intersection to the next, the CMP segments are a collection of consecutive Intersection Segments. INRIX segmentation, known as TMC segments, are many times longer or shorter than the desired limits for the CMP Segments. Jacobs methodology of travel time estimation can calculate average speeds at the Intersection Segment level and these data can be aggregated to calculate the average speeds at the CMP segment level. The average speed on each CMP segment is computed as the ratio of total length of the segment to the sum of average travel time on each individual intersection segment within the CMP segment. The average travel time on each intersection segment is computed as the arithmetic mean of travel times of accumulated data within the TMC segment. The average speed thus accounts for time in motion and time spent at the signals or stop signs.

**Table 2** shows the relationship between average travel speed and level of service for basic freeways according to HCM 1994. There are four (4) freeway categories based on the free-flow speed of the facility (ranging from 55-70 mph).

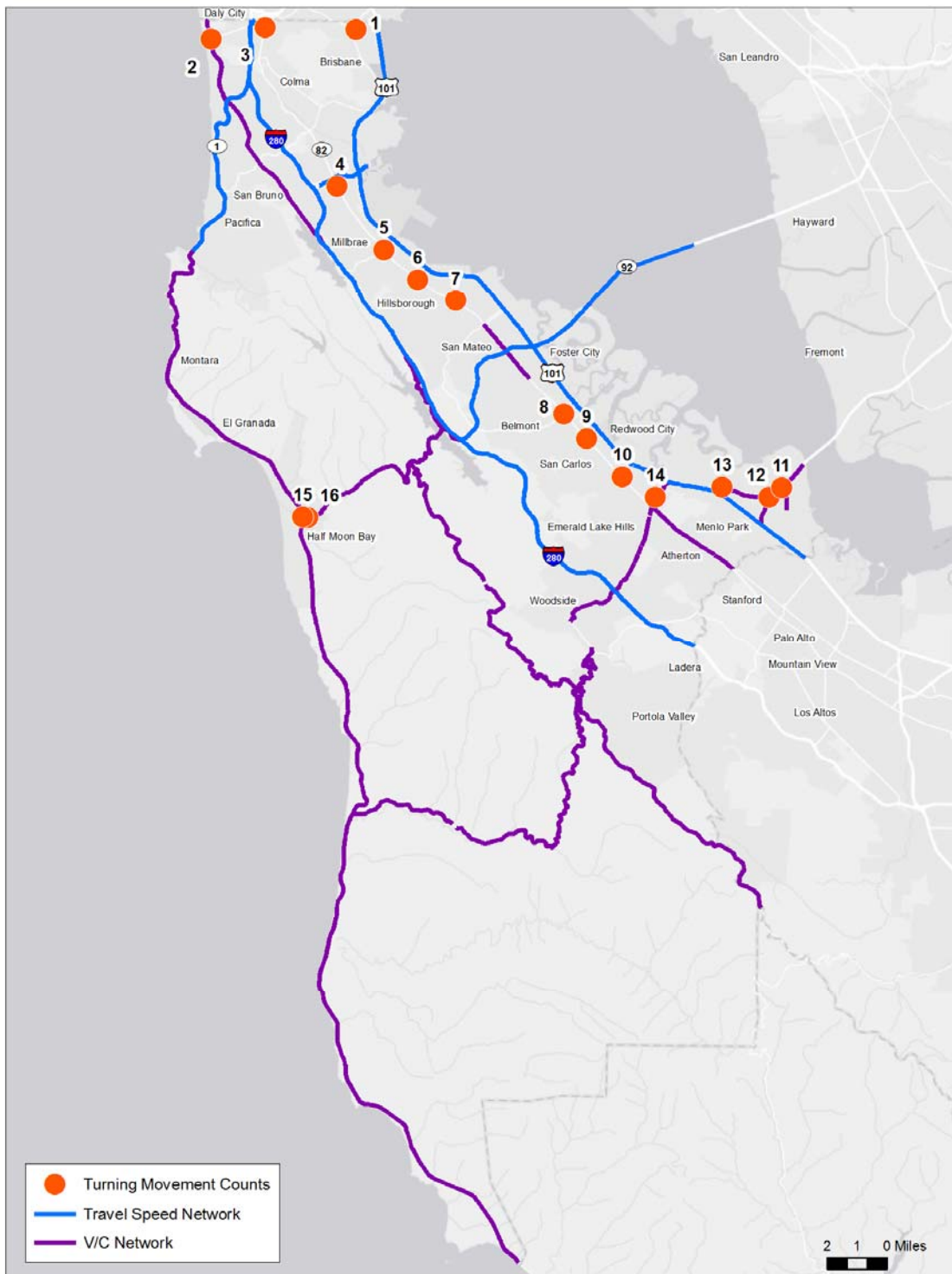


Figure 3 –2015 Routes and LOS Methodologies

Table 2 – Example LOS from Freeway with Free-Flow Speed of 65 mph (HCM 1994)

Roadway Type	Basic Freeway
Free Flow Speed (mph) Range	65
A	≥ 65
B	≥ 65
C	≥ 64.5
D	≥ 61
E	≥ 56/53
F	< 56

### Roadway Segment LOS Analysis Results

**Table 3** summarizes the current year roadway segment LOS. Additionally, **Figures 4, 5, 6, and 7** illustrate the results graphically. As highlighted in **Table 3**, there are 9 segments (plus the US 101 HOV segment between Whipple and SC County Line) found to be below the established minimum in each of the AM and PM peak periods. **Table 3** includes a summary of the historic results since 1999. All results included in this update have consistently used the HCM 1994 for all roadway types and the HCM 2000 for the intersections. Variations in the LOS results may be explained through capital improvements, construction, or use of transit and other modes. The values included in Table 3 reflect the lowest LOS for either direction. Basically, it is the worst case LOS for the link in either direction during the respective peak periods.

Table 3 – CMP Roadway Segment Monitoring Results (Lowest LOS)

2015 CMP Roadway Segment Levels of Service											
Route	Roadway Segment	LOS Standard	2015 LOS				2013 LOS <sup>2</sup>	2011 LOS <sup>2</sup>	2009 LOS <sup>2</sup>	2007 LOS <sup>2</sup>	2005 LOS <sup>2</sup>
			AM Without Exemption <sup>3</sup>	PM Without Exemption <sup>3</sup>	AM With Exemption	PM With Exemption					
1	San Francisco County Line to Linda Mar Blvd.	E	A	A			F <sup>3</sup> / F <sup>4</sup>	F <sup>3</sup> / B <sup>4</sup>	F <sup>3</sup> / F <sup>4</sup>	F <sup>3</sup> / F <sup>4</sup>	F <sup>3</sup> / F <sup>4</sup>
1	Linda Mar Blvd. to Frenchmans Creek Road	E	D	D			D	D	D	D	D
1	Frenchmans Creek Road to Miramontes Road	E	E	E			E	E	E	E	E
1	Miramontes Road to Santa Cruz County Line	D	B	C			B	B	B	B	C
35	San Francisco county Line to Sneath Lane	E	D	C			B	A	C	C	C
35	Sneath Lane to I-280	F	F	F			F	F	E	F	F
35	I-280 to SR 92	B	C	C	A	A	C <sup>3</sup> / B <sup>4</sup>	C <sup>3</sup> / B <sup>4</sup>	B	B	C/C
35	SR 92 to SR 84	B	B	B			B	B	B	B	B
35	SR 84 to Santa Clara County Line	E	B	B			B	B	B	B	B
82	San Francisco County Line to John Daly Blvd	E	A	A			A	A	A	A	A
82	John Daly Boulevard to Hickey Boulevard	E	A	A			A	A	A	A	A
82	Hickey Boulevard to I-380	E	A	A			A	A	A	C	A
82	I-380 to Trousdale Drive	E	A	A			A	A	A	B	A
82	Trousdale Drive to 3 <sup>rd</sup> Avenue	E	A	A			A	B	A	A	A
82	3 <sup>rd</sup> Avenue to SR 92	E	A	A			A	A	A	A	A
82	SR 92 to Hillside Avenue	E	A	A			A	A	B	B	B
82	Hillside Avenue to 42 <sup>nd</sup> Avenue	E	A	C			B	B	B	B	B
82	42 <sup>nd</sup> Avenue to Holly Street	E	A	B			A	A	B	B	A
82	Holly Street to Whipple Avenue	E	A	A			B	C	C	D	D
82	Whipple Avenue to SR 84	E	A	A			A	B	C	C	C
82	SR 84 to Glenwood Avenue	E	A	B			A	B	B	B	B
82	Glenwood Avenue to Santa Cruz Avenue	E	B	C			C	B	B	C	D
82	Santa Cruz Avenue to Santa Clara County Line	E	B	B			B	A	B	B	C
84	SR 1 to Portola Road	C	C	D		B	C	C	C	C	C
84	Portola Road to I-280	E	C	C			B	B	B	B	B
84	I-280 to Alameda de las Pulgas	C	D	D	D	D	D <sup>3</sup> / D <sup>4</sup>	D <sup>3</sup> / C <sup>4</sup>	C	D/A	C
84	Alameda de las Pulgas to U.S. 101	E	D	D			D	E	E	E	E
84	U.S. 101 to Willow Road	D	D	C			C	B	E/E	C	B
84	Willow Road to University Avenue	E	F	F	A	B	F <sup>3</sup> / B <sup>4</sup>	F <sup>3</sup> / C <sup>4</sup>	F/E	F/F	F/F
84	University Avenue to Alameda County Line	F	F	F			F	F	F	F	F
92	SR 1 to I-280	E	E	E			E	E	E	E	E
92	I-280 to U.S. 101	D	F	F	E	E	F <sup>3</sup> / E <sup>4</sup>	F <sup>3</sup> / F <sup>4</sup>	E <sup>3</sup> / D <sup>4</sup>	F <sup>3</sup> / D <sup>4</sup>	F <sup>3</sup> / E <sup>4</sup>
92	U.S. 101 to Alameda County Line	E	C	F		F	E	F <sup>3</sup> / A <sup>4</sup>	A/B <sup>3</sup>	A/B <sup>3</sup>	A/B <sup>3</sup>

Table 3 (cont) – CMP Roadway Segment Monitoring Results (Lowest LOS)

2015 CMP Roadway Segment Levels of Service											
Route	Roadway Segment	LOS Standard	2015 LOS				2013 LOS <sup>2</sup>	2011 LOS <sup>2</sup>	2009 LOS <sup>2</sup>	2007 LOS <sup>2</sup>	2005 LOS <sup>2</sup>
			AM Without Exemption <sup>3</sup>	PM Without Exemption <sup>3</sup>	AM With Exemption	PM With Exemption					
101	San Francisco County Line to I-380	E	F	F	E	E	F <sup>3</sup> /A <sup>4</sup>	D <sup>3</sup>	E <sup>3</sup>	D <sup>3</sup>	
101	I-380 to Millbrae Avenue	E	E	F		D	F <sup>3</sup> /C <sup>4</sup>	F <sup>3</sup> /C <sup>4</sup>	D <sup>3</sup>	F <sup>3</sup> /C <sup>4</sup>	
101	Millbrae Avenue to Broadway	E	E	F		E	F <sup>3</sup> /C <sup>4</sup>	F <sup>3</sup> /C <sup>4</sup>	F <sup>3</sup> /C <sup>4</sup>	F <sup>3</sup> /C <sup>4</sup>	
101	Broadway to Peninsula Avenue	E	F	F	C	E	F <sup>3</sup> /C <sup>4</sup>	F <sup>3</sup> /C <sup>4</sup>	F <sup>3</sup> /D <sup>4</sup>	F <sup>3</sup> /C <sup>4</sup>	
101	Peninsula Avenue to SR 92	F	F	F			F	F <sup>3</sup>	F <sup>3</sup>	F <sup>3</sup>	
101	SR 92 to Whipple Avenue	E	F	F	C	E	F <sup>3</sup> /D <sup>4</sup>	F <sup>3</sup> /D <sup>4</sup>	F <sup>3</sup> /E <sup>4</sup>	F <sup>3</sup> /D <sup>4</sup>	
101	Whipple Avenue to Santa Clara County Line	F	F	F			F	F	F <sup>3</sup>	F <sup>3</sup>	
109	Kavanaugh Drive to SR 84 (Bayfront Expwy.)	E	C	D			D	C	D	D	
114	U.S. 101 to SR 84 (Bayfront Expressway)	E	B	C			A	B	C	C	
280	San Francisco County Line to SR 1 (north)	E	E	E			E	E	F <sup>3</sup> /D <sup>4</sup>	F <sup>3</sup> /A	
280	SR 1 (north) to SR 1 (south)	E	E	D			E	A/B	E	E	
280	SR 1 (south) to San Bruno Avenue	D	F	F	A	C	F <sup>3</sup> /D <sup>4</sup>	F <sup>3</sup> /D <sup>4</sup>	E <sup>3</sup> /D <sup>4</sup>	F <sup>3</sup> /C <sup>4</sup>	
280	San Bruno Avenue to SR 92	D	A	C			B	D	E <sup>3</sup> /C <sup>4</sup>	A/B <sup>3</sup>	
280	SR 92 to SR 84	D	E	E	C	A	C	A/B	D <sup>3</sup>	D <sup>3</sup>	
280	SR 84 to Santa Clara County Line	D	A	F		A	F <sup>3</sup> /A <sup>4</sup>	E <sup>3</sup> /A <sup>4</sup>	D <sup>3</sup>	D <sup>3</sup>	
380	I-280 to U.S. 101	F	F	F			F	F	F <sup>3</sup>	F <sup>3</sup>	
380	U.S. 101 to Airport Access Road	C	A	A			A	A	B <sup>3</sup>	D <sup>3</sup> /C	
Mission St	San Francisco County Line to SR 82	E	A	A			A	A	A	A	
Geneva Ave.	San Francisco County Line to Bayshore Blvd.	E	A	A			A	A	A	A	
Bayshore Blvd.	San Francisco County Line to Geneva Avenue	E	A	A			A	A	A	A	

Notes:

<sup>2</sup> The first value represents LOS without exemptions, and the second value represents LOS with exemptions.

<sup>3</sup> Based on average speed from travel time surveys.

<sup>4</sup> Exemptions applied to volume-to-capacity ratios estimated from average speeds.

"-" = not applicable. LOS standard is not violated. Therefore, exemptions were not applied.

LOS Standard violations (after application of exemptions) are highlighted in red

LOS based on 1994 Highway Capacity Manual Methodology.

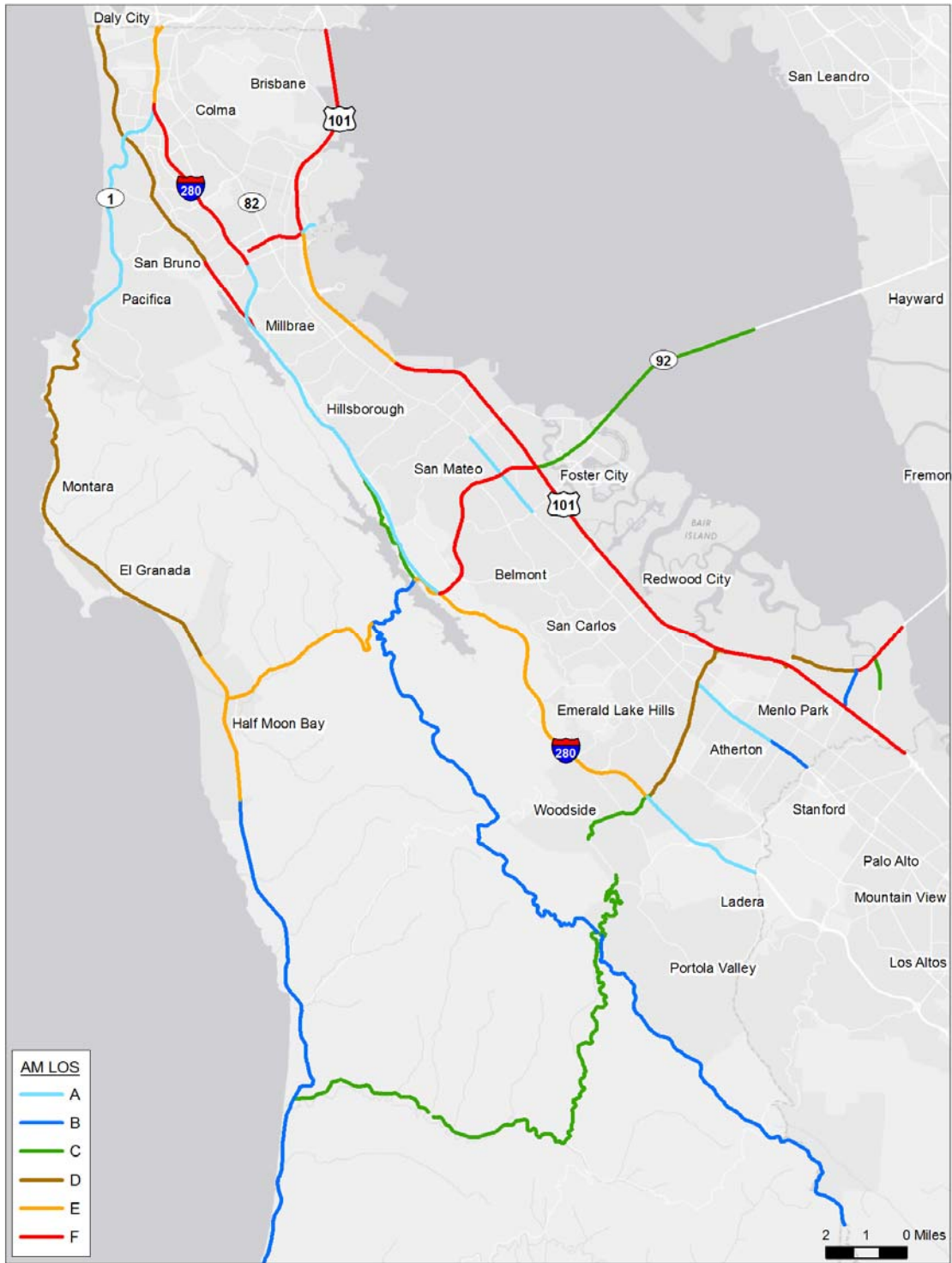


Figure 4 – AM LOS Results (before Exemptions)



Figure 5 – PM LOS Results (before Exemptions)



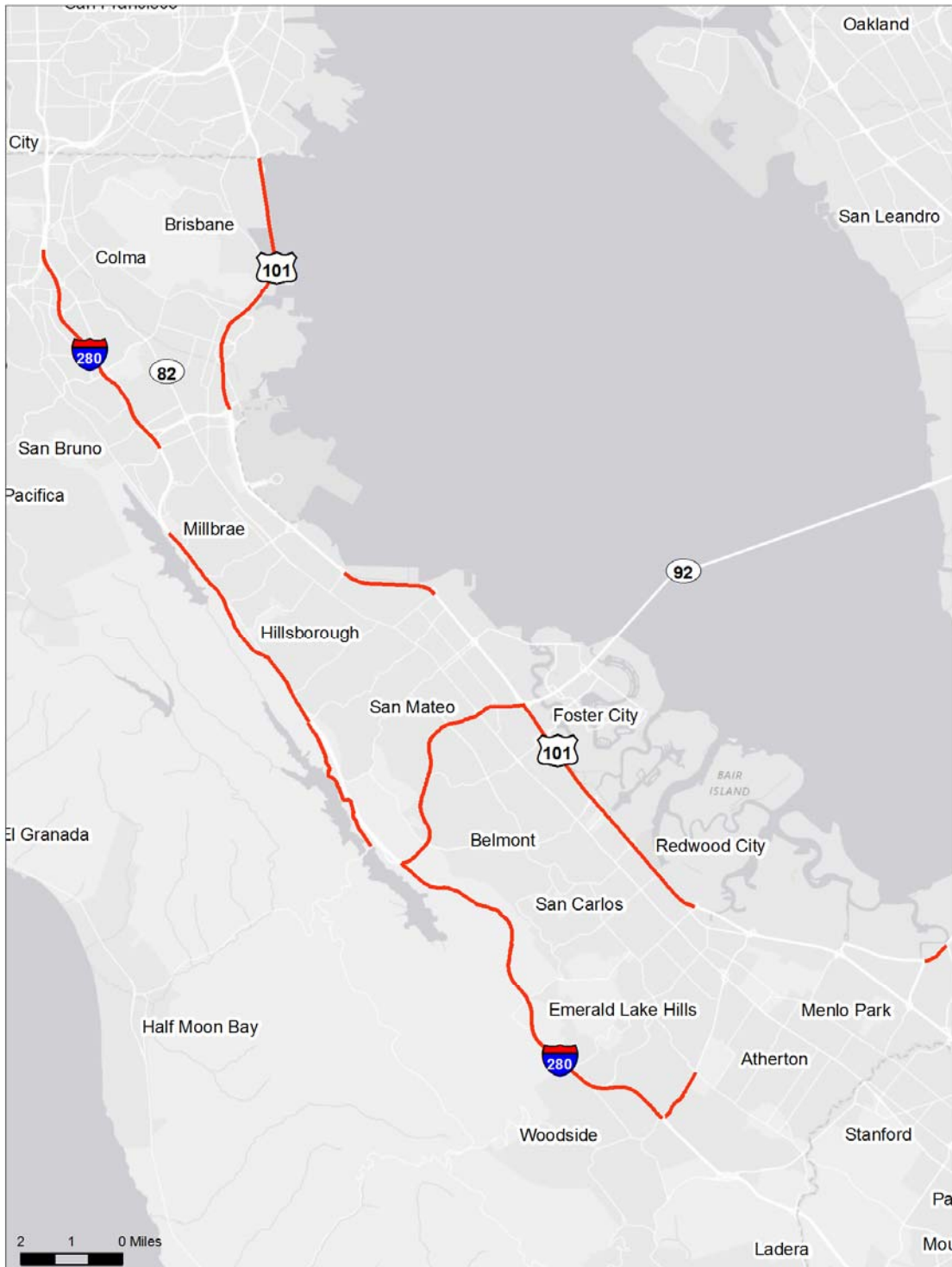


Figure 6 – AM CMP Segments with LOS Lower than Standard (before Exemptions)

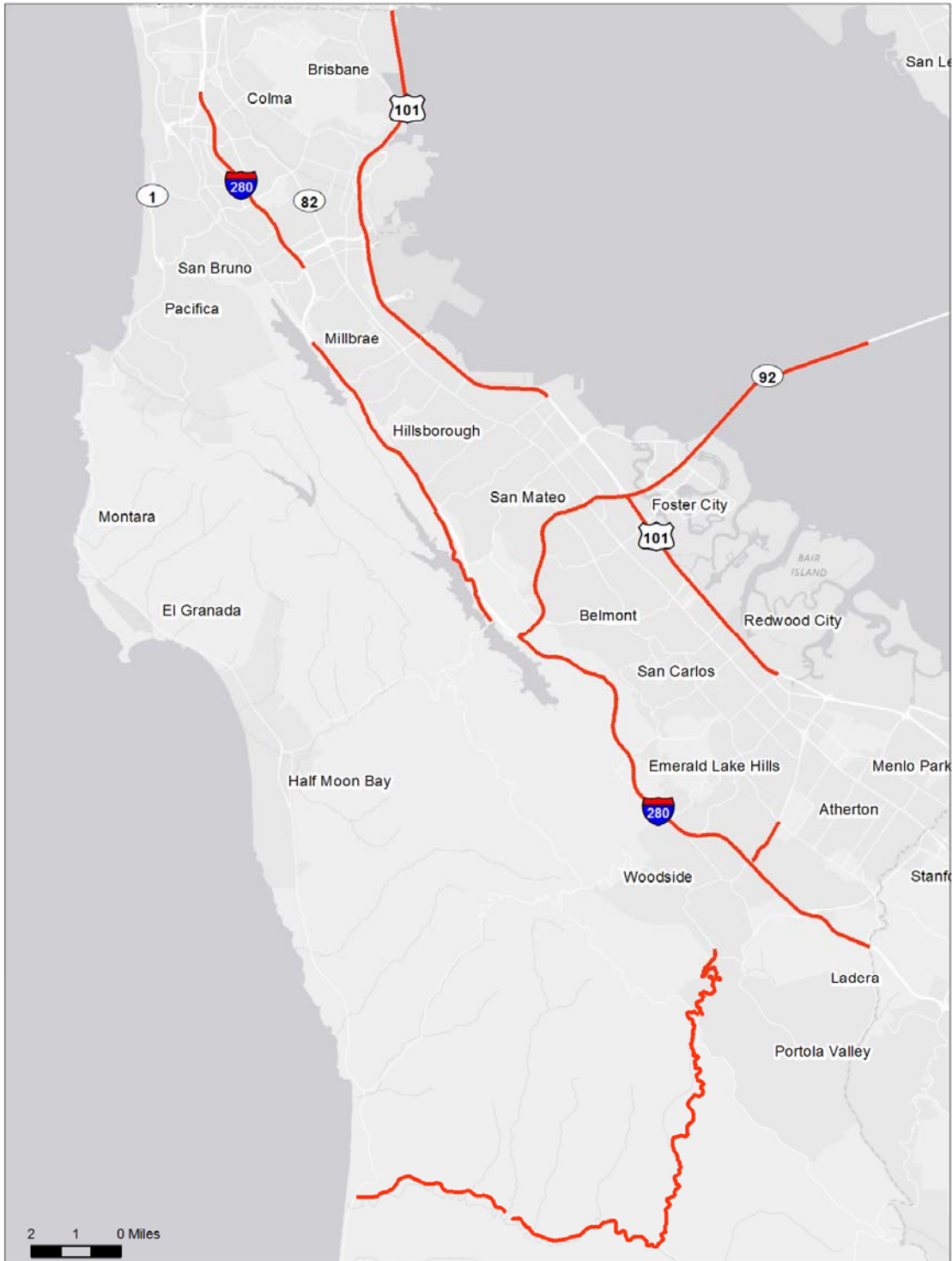


Figure 7 – PM CMP Segments with LOS Lower than Standard (before Exemptions)

## F. REDUCTION IN VOLUMES DUE TO INTERREGIONAL TRIPS

The CMP-enabling legislation allows for the reduction in volume for those trips that are interregional. In this case, “interregional” are those trips that originate from outside the county. That is those that either traverse the county or have a destination within the county. For those CMP segments found with a LOS below the standard, the county travel demand model is used to determine the proportion of the volume estimated to be from interregional travel. As shown in **Table 3**, there were 14 segments that had at least one direction in either the AM or PM peak period that had a lower LOS than the established standard. **Table 4** includes the resulting percentage of traffic from the travel demand model that is estimated to be interregional by segment.

Table 4 – Interregional Trips for Segments with LOS Lower than Standard

Link	Segment	Time Period	AM Peak		PM Peak	
			Direction	NB / WB	SB / EB	NB / WB
SR 35	I-280 to SR 92	AM SB, PM SB		28.06		27.16
SR 84	SR 1 to Portola Rd	PM WB			34.9%	
SR 84	I-280 to Alameda de Las Pulgas	AM WB, PM WB	1.3%		3.0%	
SR 84	Willow to University Av	AM WB, PM EB	94.1%			40.0%
SR 92	I-280 to US 101	AM EB/WB & PM EB/WB	13.2%	30.1%	8.9%	39.2%
SR 92	US 101 to Alameda Co Line	PM EB				6.5%
US 101	SF Co Line to I-380	AM NB/SB & PM NB	21.53	67.38	16.58	
US 101	I-380 to Millbrae Av	PM NB/SB			22.6%	60.4%
US 101	Millbrae Av to Broadway	PM SB				43.3%
US 101	Broadway to Peninsula Av	AM NB/SB, PM SB	46.3%	45.1%		34.0%
US 101	SR 92 to Whipple Av	AM NB/SB, PM NB	35.3%	36.7%	33.2%	
I-280	SR 1 (south) to San Bruno Av	AM SB, PM NB		73.2%	36.3%	
I-280	SR 92 to SR 84	AM SB, PM NB		48.5%	71.8%	
I-280	SR 84 to SC Co Line	PM NB			91.0%	

When applying reductions, they can be deducted directly for those where V/C is the performance measure used, but for those segments that use floating car to determine the average speed of a segment, a few extra steps are required to reflect the exemption. As mentioned earlier, freeway LOS is primarily determined based on density, but historically, the LOS Monitoring Study has made use of the LOS tables as included in the HCM 1994 that include reference speeds for given free-flow speeds and LOS. In order to reflect the reduction, the V/C must first be estimated from the same tables. This adds a level of error given that density is the preferred performance measure and the methodology is to use a secondary measure to estimate another secondary measure, take the reduction, and then reverse the calculation using the V/C and determine the adjusted LOS with the exemption.

## G. DEFICIENT CMP SEGMENTS

After incorporating the reduction in volume for those segments found to have a LOS lower than the standard, while the AM peak period has 3 segments deficient, the PM peak period was found to have the same 3 segments deficient, as shown in **Figures 8 and 9**. As was the case in 2013, these same segments were deficient in the last LOS Monitoring study. Those include the following:

- AM & PM – Westbound SR 84 between I-280 and Alameda de Las Pulgas
- AM & PM – Eastbound and Westbound SR 92 between I-280 and US 101

While the worst LOS of either peak period has historically been presented in the summary table, the individual peak periods have been separated for improved analysis in the body of the report this year and not just in the appendix as in the past. The segments deficient in the PM period are also highlighted in Table 3.

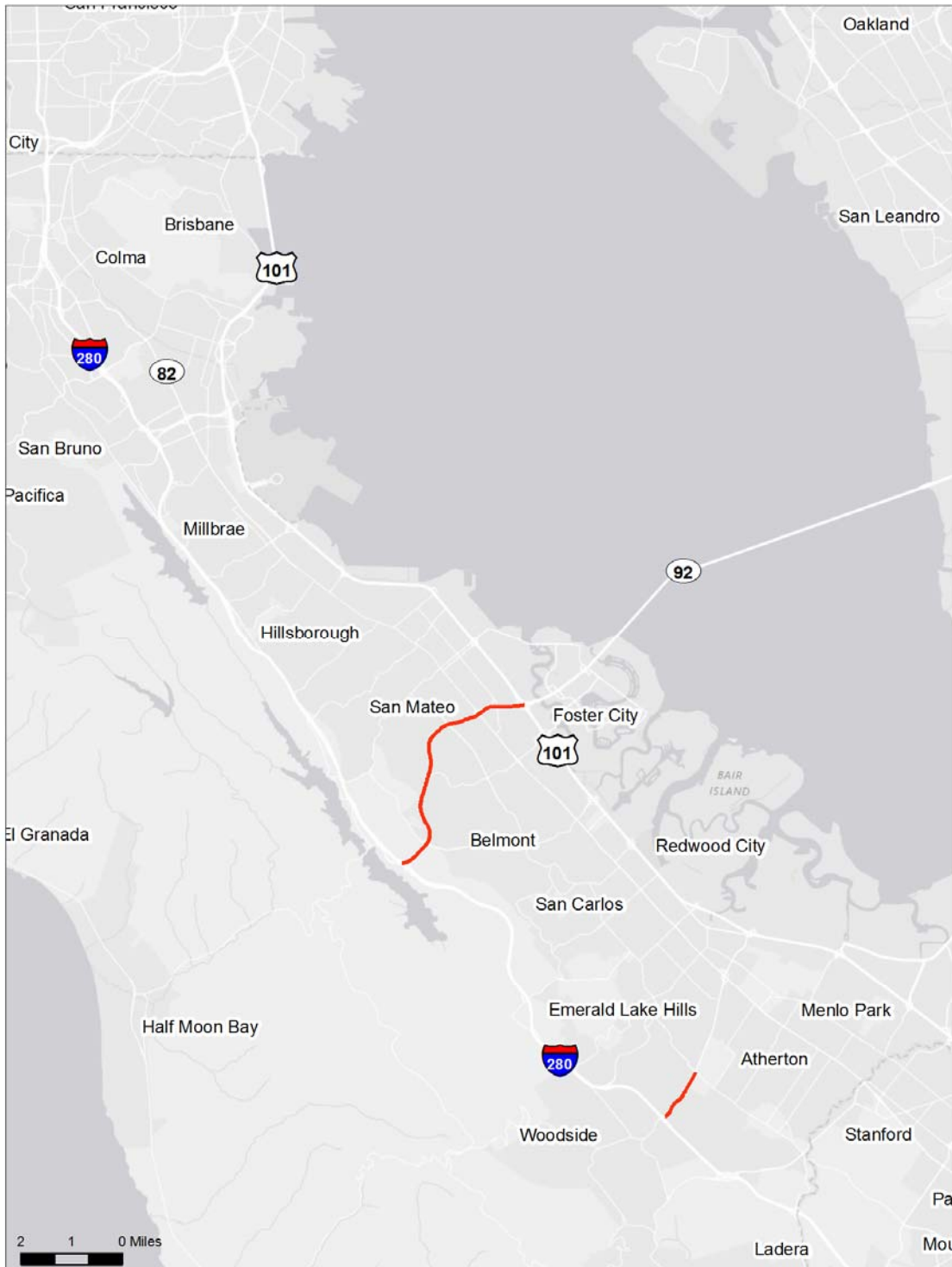


Figure 8 – AM Deficient Segments after Exemption

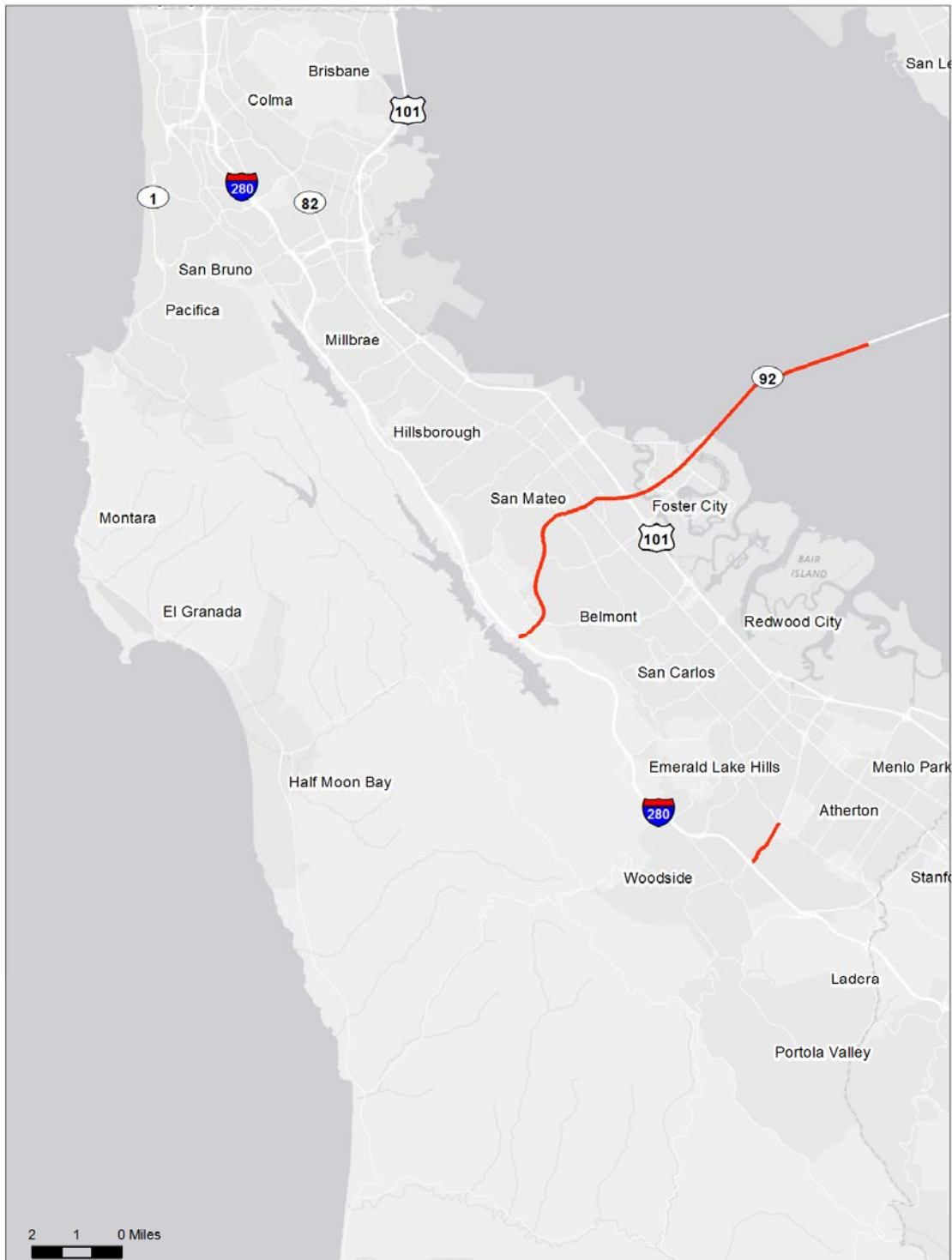


Figure 9 – PM Deficient Segment after Exemption

## H. INTERSECTIONS

Sixteen intersections were analyzed as part of the 2015 LOS Monitoring. These intersections have been included in previous studies since 1999 and are included in **Table 5** for reference. The performance measure for intersections is LOS, but different from freeways and highways, the HCM 2000 was used to determine the LOS. Turning movement counts were collected for each intersection during the AM and PM peak periods and modeled in Synchro. The intersections were analyzed as if they were isolated (not coordinated or part of a signal system) and optimized given the current geometry. The modeled results provide an estimate of the optimized LOS and may not represent the actual conditions if the intersection is either using less than optimal phasing, splits or cycle length.

**Table 5** includes the results for the 2015 study as well as those back to 2005 using the HCM 2000 methods. As highlighted in the table, all intersections are operating (under optimized signal timing) within established LOS standards. Intersections 2 and 5 are operating at standard and should be monitored to avoid exceeding the established LOS standard. Intersections 11, 12 and 13 are operating at LOS F which is the standard at those locations, but should be evaluated for possible improvements.

Table 5 – Intersection LOS

Int #	Intersection	LOS Standard	Peak Hour	2000 HCM Method						2015 Standard Exceeded
				2015 LOS	2013 LOS	2011 LOS	2009 LOS	2007 LOS	2005 LOS	
1	Bayshore & Geneva	E	AM	B	B	B	C	B	C	No
			PM	B	B	B	C	C	C	No
2	SR 35 & John Daly Blvd	E	AM	D	C	C	B	B	B	No
			PM	E	C	C	C	B	C	No
3	SR 82 & Hillside/John Daly	E	AM	C	C	B	C	C	C	No
			PM	C	C	C	D	C	D	No
4	SR 82 & San Bruno Ave	E	AM	C	C	C	C	C	C	No
			PM	C	C	C	D	D	D	No
5	SR 82 & Milbrae Ave	E	AM	D	E	F/D	E	E	E	No
			PM	E	D	E	D	E	E	No
6	SR 82 & Broadway	E	AM	B	B	B	B	B	B	No
			PM	B	B	B	A	B	B	No
7	SR 82 & Park-Peninsula	E	AM	C	C	C	B	B	B	No
			PM	C	C	C	B	B	B	No
8	SR 82 & Ralston	E	AM	C	C	C	D	D	E	No
			PM	C	D	C	D	D	E	No
9	SR 82 & Holly	E	AM	C	C	C	C	C	C	No
			PM	C	C	C	D	C	C	No
10	SR 82 & Whipple Ave	E	AM	C	C	C	C	C	D	No
			PM	C	C	C	D	D	D	No
11	University & SR 84	F	AM	C	E	C	B	B	B	No
			PM	F	F	F	F	F	E	No
12	Willow & SR 84	F	AM	D	D	C	C	C	C	No
			PM	F	F	E	F	F	E	No
13	SR 84 & Marsh Rd	F	AM	F	D	D	C	C	C	No
			PM	F	D	E	F	D	C	No
14	Middlefield & SR 84	E	AM	C	D	C	D	D	D	No
			PM	D	D	D	D	D	D	No
15	SR 1 & SR 92	E	AM	C	C	D	C	D	D	No
			PM	C	C	C	D	D	D	No
16	Main St & SR 92	F	AM	C	B	C	C	C	C	No
			PM	B	B	B	C	C	C	No

Figures 10 and 11 illustrate the finding for the intersection LOS. Each intersection is represented with two shapes. The larger one is the base and is the LOS Standard. The smaller shape in the middle is the resulting peak period LOS for the respective time period.



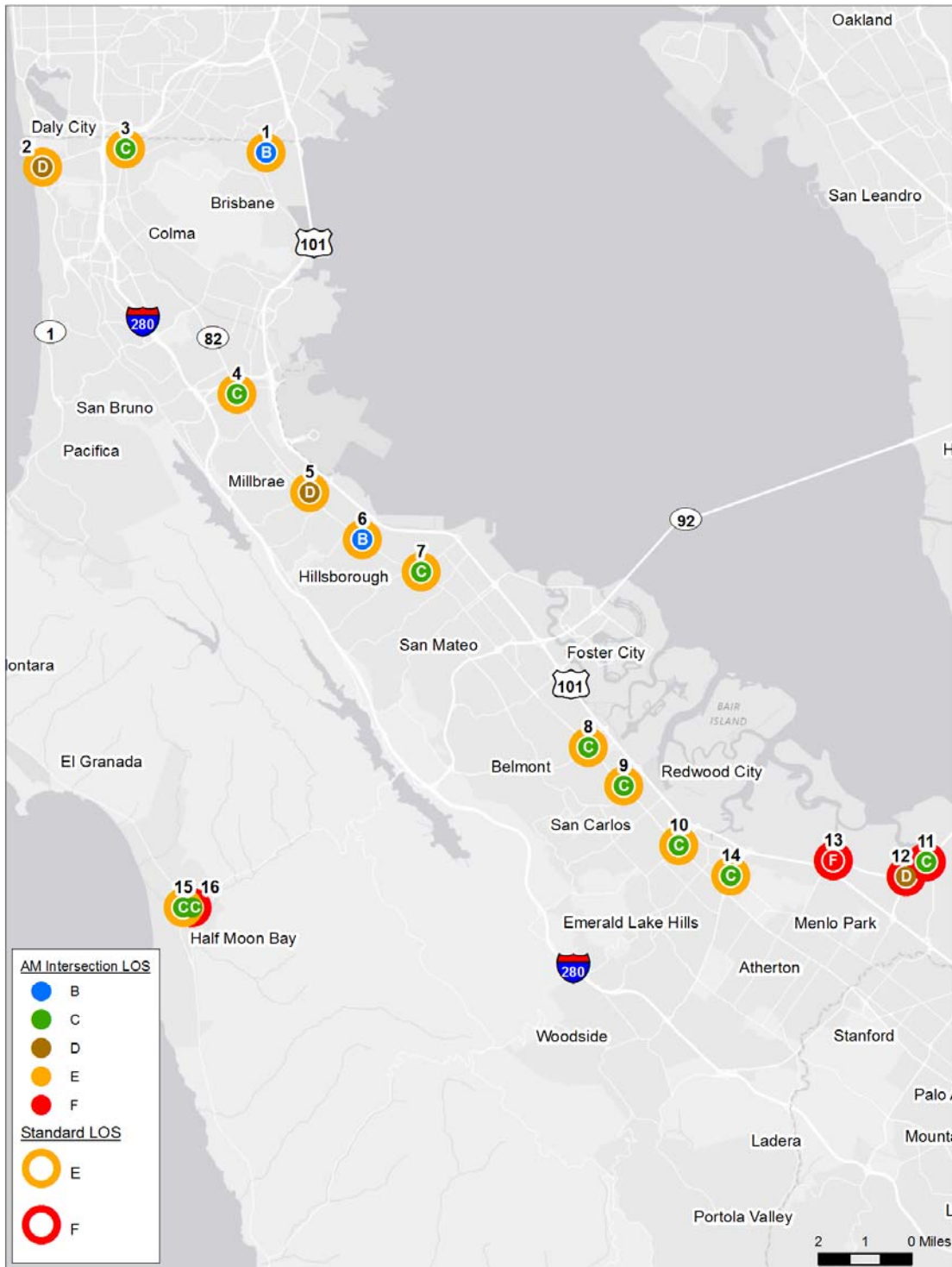


Figure 10 – AM Intersection LOS (Underlying Color is LOS Standard)

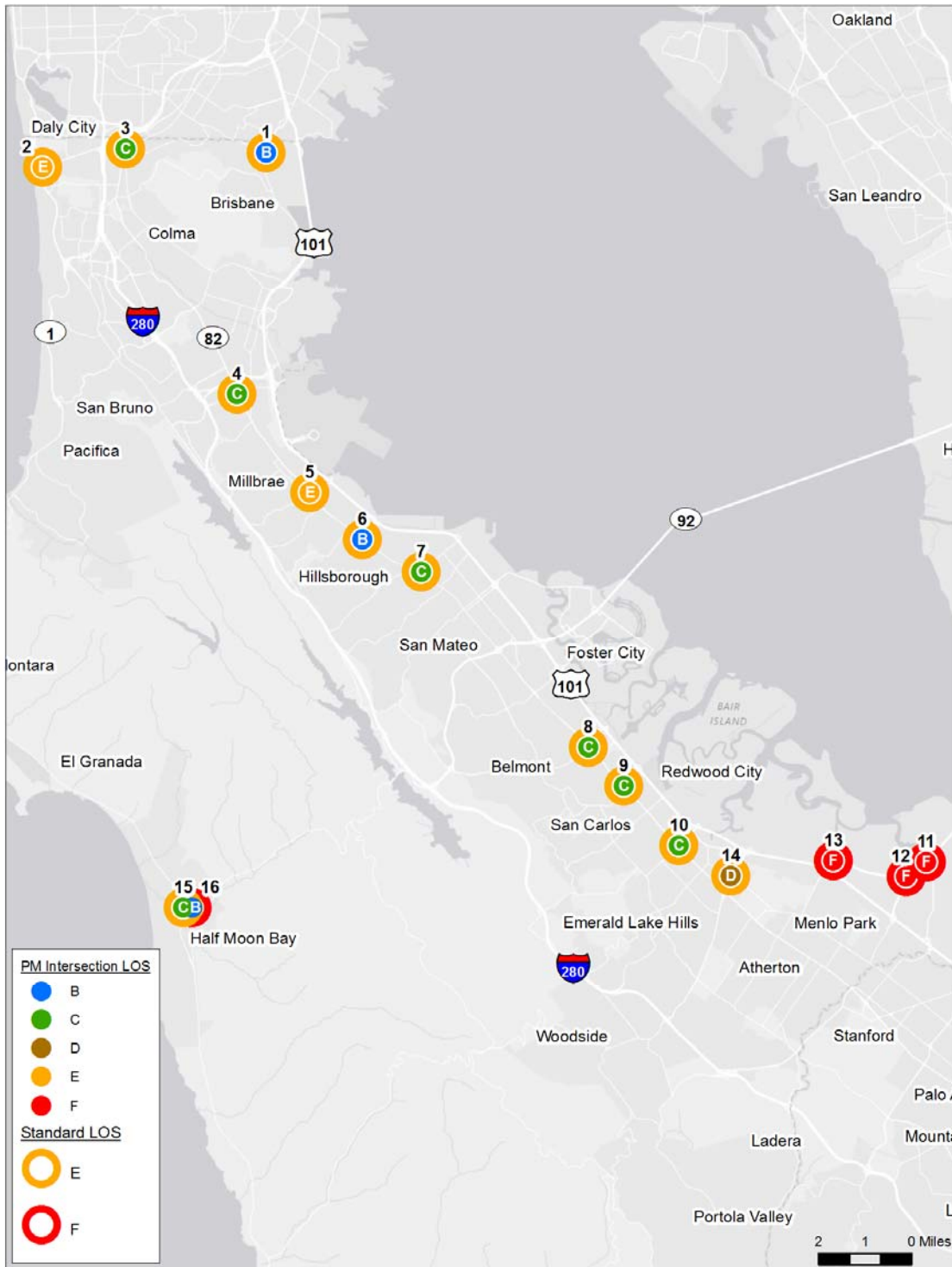


Figure 11 – PM Intersection LOS (Underlying Color is LOS Standard)

## I. 2015 MULTI-MODAL PERFORMANCE MEASURE MONITORING PROGRAM

Beginning in 1995, the Transit LOS Standard element of the San Mateo County CMP was replaced with the Performance Measure element. Four Performance Measures were selected and incorporated in the 1997 CMP Update and used each update cycle through 2009. The four measures are used to measure the performance of the overall multi-modal transportation system, including non-automotive modes. They are:

- Level of service,
- Travel times from single-occupant automobiles, carpools, and transit,
- Pedestrian and bicycle improvements, and
- Ridership / person throughput for transit.

This section presents the 2015 measurements of these performance measures and includes the historic results for context.

### Level of Service

The levels of service of the CMP corridors and segments are included in the previous sections of this monitoring report. The results show that one roadway exceeded the respective LOS standard following reflection of the interregional trips. For the 16 intersections included in the CMP network, all intersections were found to operated at or better than the established standard after incorporating exemptions.

### Travel Times for Single-Occupant Automobiles, Carpools, and Transit

This multi-modal performance measure compares the travel time of the various modes available in the US 101 corridor from the Santa Clara County line to the San Francisco County line. Those include using the general purpose lanes, using the carpool lane for the limits available, or using transit via SamTrans or Caltrain.

The general purpose travel times previously presented early in this report will represent the average time and speed for those using the general purpose lanes for the full length of the county along US 101.

The current limits of the carpool lane in San Mateo County are from the Santa Clara County line to Whipple Avenue. For those that are able to use this lane during the peak hours, the remainder of the run will take place in the general purpose lane.

Travel times for those using transit include the option to access SamTrans route KX along the US 101 corridor or Caltrain. The travel times for the transit options are represented based on the published schedules. Actual data collection for these routes was not performed but is shown consistent with methods used in previous LOS monitoring studies.

The travel times for the various mode options are included in **Table 6** below. The table includes the respective travel times, listed by direction and peak periods, for the current reporting period as well as previous years back to 2005.

Table 6 – Average Travel Time in US 101 Corridor (in minutes)  
Between San Francisco and Santa Clara County Lines

Average Travel Time On US 101 Corridor (in minutes) - Between San Francisco and Santa Clara County Lines																
Mode	AM - Morning Commute Peak Period								PM - Evening Commute Peak Period							
	NB				SB				NB				SB			
	2015	2013	2011	2009	2015	2013	2011	2009	2015	2013	2011	2009	2015	2013	2011	2009
Auto - Single Occ.	31	28	29	30	34	41	34	28	38	30	32	33	31	33	40	29
Carpool - HOV Lane	36	32	28	30	34	37	30	26	45	37	30	32	35	32	35	27
Caltrain <sup>1</sup>	39	23	35	35	43	27	31	31	38	24	34	34	38	23	35	35
SamTrans Route KX <sup>2</sup>	80	68	76	79	-	73	81	85	-	72	81	83	91	74	78	89

<sup>1</sup> Baby Bullet b/n Palo Alto and Menlo and Approximate north county line near Bayshore Station - but not stop on Baby Bullet.

<sup>2</sup> Route KX b/n RWC and SF(AM NB Only, PM SB Only) & 398 (b/n Palo Alto and Redwood City).

The AM northbound auto travel times in the general purpose lanes have fluctuated slightly since 2009, while the northbound travel time in the afternoon has increased from 30 to 38 minutes. In contrast, the southbound runs in the same general purpose lanes, the travel times have decreased when compared to 2013 in southbound direction in the AM and PM periods.

The carpool travel times have increased slightly in most cases other than the southbound AM period.

Caltrain has made minor changes to its schedules since 2009 on the Baby Bullet express that was introduced in 2005, thus the travel times have changed slightly from 2013 between the express stops of Palo Alto just south of the county line to the SF stop north of the county line since the last stop in San Mateo County is Millbrae.

The published schedule for SamTrans Route KX indicate a shorter travel time from that previously shown in 2013 for all directions and time. The KX route only goes as far north as SFO and requires a transfer onto Route 398 to continue north to San Francisco. The times shown reflect the duration of the trip between Palo Alto and San Francisco.

### Pedestrian and Bicycle Improvements

The purpose of this performance measure is to maintain a focus on non-vehicular alternatives. This should be reflected in connectivity to transit and other modes to not only make connections convenient, but safe and attractive. During the CMP update process, seven-year Capital Improvement Program (CIP) projects are identified and evaluated. The top-ranked projects are forwarded to MTC to be evaluated in the regional process for State and Federal funding.

C/CAG developed the San Mateo County Comprehensive Bicycle and Pedestrian Plan to address the planning, design, funding, and implementation of bicycle and pedestrian projects of countywide significance. The Plan includes a policy framework to guide and evaluate implementation of projects identified by the local implementing cities and the County. To maximize funding available for bikeway projects, the Plan emphasizes projects that improves safety, promote access to jobs, and located within high population as well as employment densities. The Plan also establishes geographical focus areas for countywide investment in pedestrian infrastructure.

**Ridership / Person Throughput for Transit**

The purpose of this performance measure is to document the number of patrons using the available transit options. Within San Mateo County, there are three options including SamTrans, Caltrain, and BART. BART has three stops that serve the county including the SFO Airport extension that opened in 2005, Colma, and Daly City.

The 2015 transit ridership data for SamTrans, Caltrain, and BART (Bay Area Rapid Transit) is included in **Table 7**.

As shown in Table 7 below, the 2015 transit ridership data indicates annual total ridership for SamTrans has increased by 5% whereas Caltrain ridership increased by 20% when compared to the CMP update 2013. Annual total ridership for BART increased by 10% at the Colma and Daly City stations and increased by 9% for the SFO Extension stations. Overall annual total transit ridership increased about 11% when compared with the previous 2013 CMP Update.

Table 7 – Transit Ridership

Transit Agency	Annual Total		Average Weekday	
	2015	2013	2015	2013
<b>SamTrans</b>	13,158,703	12,445,748	42,981	40,966
<b>Caltrain</b>	18,156,173	15,595,559	58,429	49,031
<b>BART (Colma &amp; Daly City)</b>	8,155,340	7,778,180	28,050	27,102
<b>BART (SFO Ext. Stations)</b>	12,614,731	11,685,236	40,741	38,696
<b>Combined Transit</b>	<b>33,928,774</b>	<b>47,504,723</b>	<b>170,201</b>	<b>155,795</b>

## J. TRENDS AND NEXT STEPS

Overall between 2013 and 2015 there were a few areas that showed improvements while there were a larger number of segments in other areas that worsened especially in the AM Peak Period. A few specifics to highlight during the AM period that either improved a letter grade in LOS or over 10 mph faster travel time include the following:

- SR 1 between SF County Line and Linda Mar Blvd – southbound
- SR 82 between Hillside Ave and 42<sup>nd</sup> St – northbound
- SR 92 between US 101 and Alameda County Line – westbound
- US 101 between Millbrae Ave and Broadway - southbound
- I-280 between San Bruno Ave and SR 92 - northbound

Similarly, for those that worsened a letter grade in LOS or slower by more than 10 mph during the AM period include:

- SR 35 between SF County Line and Sneath – southbound
- SR 84 between Portola Rd and I-280
- SR 84 between US 101 and Willow – westbound
- US 101 from San Francisco County Line to I-380 – northbound
- US 101 from I-380 to Millbrae – westbound
- SR 109 between Kavanaugh Dr and SR 84 – southbound
- SR 114 between US 101 and SR 84 – westbound
- I-280 between San Francisco County Line and SR 1 - northbound

A few specific segments to highlight during the PM period that either improved a letter grade in LOS or over 10 mph faster travel time include the following:

- SR 1 between SF County Line and Linda Mar Blvd –northbound and southbound

Similarly, for those that worsened a letter grade in LOS or slower by more than 10 mph during the PM period include:

- SR 1 between Miramontes Rd and Santa Cruz County Line
- SR 35 between San Francisco County Line and Sneath - southbound
- SR 82 between Hillside Ave and 42<sup>nd</sup> St - northbound
- SR 82 between 42<sup>nd</sup> St and Holly St - southbound
- SR 82 between SR 84 and Glenwood Ave - northbound
- SR 84 between SR 1 and Portola Rd
- SR 84 between Portola Rd and I-280
- SR 84 between I-280 and Alameda de Las Pulgas - westbound
- SR 84 between Alameda de Las Pulgas and US 101 - westbound
- SR 92 between I-280 and US 101 – eastbound
- SR 92 between US 101 and Alameda County Line – eastbound
- US 101 between SF County Line and I-380 - southbound
- US 101 between Millbrae Ave and Broadway - southbound
- SR 114 between US 101 and SR 84 – eastbound

- I-280 between San Bruno Ave and SR 92 - northbound
- I-280 between SR 92 and SR 84 - southbound

The LOS and Performance Measure Monitoring Report for many years has continued to use the 1994 Highway Capacity Manual as the basis for determining LOS for freeways, arterials and intersections. There have been a couple substantial updates to this manual over the years that not only changed the thresholds for determining LOS but also the methodology to be used over the last 15 years. With these changes have come new data sources that allow additional performance measures to be evaluated included travel time reliability and duration of congestion. Nationally, these performance measures are many times of more interest not only to planners and engineers but to drivers. A driver, many times is more concerned with the consistency or reliability with their travel time than they are with the actual conditions. That allows the driver to better plan their trip, departure time, and arrival time with some level of reliability.

It is recommended for the next update cycle, C/CAG transition to the current 2010 HCM.

# 2015 Congestion Management Program for San Mateo County

## Executive Summary

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The City/County Association of Governments of San Mateo County (C/CAG), as the Congestion Management Agency for San Mateo County, is required to prepare and adopt a Congestion Management Program (CMP) on a biennial basis. The purpose of the CMP is to identify strategies to respond to future transportation needs, develop procedures to alleviate and control congestion, and promote countywide solutions. The CMP is required to be consistent with the Metropolitan Transportation Commission (MTC) planning process that includes regional goals, policies, and projects for the Regional Transportation Improvement Program (RTIP). The 2015 CMP, which is developed to be consistent with MTC's Plan Bay Area, provides updated program information and performance monitoring results for the CMP roadway system.

The CMP roadway system comprises of 53 roadway segments and 16 intersections. The roadway network includes all of the State highways within the County in addition to Mission Street, Geneva Avenue, and Bayshore Boulevard. The intersections are located mostly along El Camino Real. (Chapter 2). Baseline Level of Service (LOS) Standards were adopted for each of the roadway segments and intersections on the system wherein five roadway segments and four intersections were designated LOS F (F designated as the worse possible congestion) (Chapter 3). In addition to the roadway system LOS, the CMP also includes other elements to evaluate the performance of the roadway and transit network such as travel time to traverse the length of the County by single-occupant vehicle, carpool, and transit in addition to transit ridership during the peak periods (Chapter 4). Monitoring is completed every two years to determine compliance with the adopted LOS standards and changes to the performance elements are measured.

The results of the 2015 Monitoring indicate the following roadway segments exceeded its LOS Standard.

- AM – Westbound SR 84 between I-280 and Alameda de Las Pulgas
- PM – Westbound SR 84 between I-280 and Alameda de Las Pulgas
- AM – Eastbound and Westbound SR 92 between I-280 and US 101
- PM – Eastbound and Westbound SR 92 between I-280 and US 101

Ten (10) CMP segments had an LOS of F (without exemptions) in both the AM and PM peak periods. Two segments had LOS of F in the AM peak period only and two segments had LOS F in the PM peak period only. Regarding intersections, all intersection locations are in compliance with their LOS Standards. The 2015 travel times for single-occupancy auto and carpool, when compared to 2013 figures, decreased by up to Travel time for single occupancy identified as part of the 2015 monitoring indicates a 21% decrease in the southbound AM peak period, a 11% increase in the northbound AM peak period, a 25% increase in the northbound PM peak period, and a 5% decrease in the southbound PM peak period. Carpool lanes show an increase of 23% in both the southbound AM peak period and northbound PM peak periods.

Travel times for bus and passenger rail modes are estimated based on SamTrans and Caltrain published schedules for travel between County lines during peak commute periods (7 a.m. – 9 a.m. and 4 p.m. to 7 p.m.). Caltrain travel times show an increase of more than 45% in both the northbound and southbound AM peak period and an increase of more than 40% in both the northbound and southbound PM peak period. SamTrans travel times show an increase of 15% in the northbound AM peak period and an increase of 22% in the southbound PM peak period.

(The complete 2015 Monitoring results are included in Appendix F)

The CMP includes C/CAG's programs and policies regarding transportation systems management (TSM) and transportation demand management (TDM), which address efforts to increase efficiency of the existing system and encourage utilization of alternative modes of transportation. The TSM/TDM programs under Measure A, the Alliance, TFCA, local cities, and C/CAG are updated in the 2015 CMP to reflect the current status. (Chapter 5) Also included in the CMP is the C/CAG Land Use Impact Analysis Program Policy which address long-range planning, individual large developments generating 100 or more net peak period trips on the CMP network), and cumulative developments. The Policy provides procedures for local jurisdictions to analyze and mitigate potential impacts to the CMP network resulting from land use decisions. (Chapter 6 and Appendix I) The Countywide Congestion Relief Plan (CRP), reauthorized through June 2019) was developed to address the



roadway system deficiencies (or violations of LOS Standards) on a countywide basis. The CRP relieves individual jurisdictions from the need to develop individual deficiency plans to mitigate (or reduce) existing congestion on specific locations. Elements contained in the CRP includes revised provisions for Countywide programs such as Employer-based shuttle program and local transportation services, Travel Demand Management, Countywide Intelligent Transportation System (ITS) program and traffic operational improvement strategies, Ramp Metering, and other programs Linking Transportation and Land Use (Chapter 7).

The seven-year Capital Improvement Program (CIP) consists of projects programmed in the updated 2014 State Transportation Improvement Program (STIP) in Chapter 8, Table 8-1.

Other elements included in the 2015 CMP are updates to the Vehicle Registration Fee (VRF) Program. The \$4 VRF Program, initially adopted in 2005 provides San Mateo County jurisdictions funding for the management of traffic congestion and stormwater pollution prevention. The \$4 VRF Program ended January 2013. Measure M, an additional VRF approved by the voters in November 2010, imposes an annual fee of ten dollars (\$10) on motor vehicles registered in San Mateo County to help fund transportation-related congestion mitigation and water pollution mitigation programs. (Chapter 11) The most current Measure M 5-Year Implementation Plan is included in Appendix M.

The Traffic Impact Analysis (TIA) Policy, which provides uniformed procedures to analyze traffic impacts on the CMP network, was added to the 2009 CMP and remains the same. The TIA Policy applies to all General Plan updates, Specific Area Plans, and modifications to the CMP roadway network. (Chapter 12 and Appendix L) New for the 2015 CMP is the addition of Appendix N to include the document MTC Guidance for Consistency of Congestion Management Programs with the Regional Plan for 2015(This page intentionally left blank)

## C/CAG AGENDA REPORT

Date: September 17, 2015

To: Congestion Management Technical Advisory Committee (TAC)

From: Jean Higaki, Transportation System Coordinator

Subject: Review and recommend approval of the Draft 2016 State Transportation Improvement Program (STIP) for San Mateo County.

(For further information or response to questions, contact Jean Higaki at 650-599-1462)

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### **RECOMMENDATION**

That the TAC Committee review and recommend approval of the Draft 2016 State Transportation Improvement Program (STIP) for San Mateo County

### **FISCAL IMPACT**

No direct impact to the C/CAG budget.

### **SOURCE OF FUNDS**

The 2016 State Transportation Improvement Program (STIP) fund will come from State and Federal fund sources.

### **BACKGROUND**

C/CAG is the designated agency responsible to develop the regional share of the State Transportation Improvement Program (STIP) for San Mateo County. STIP candidate projects must be consistent with the Regional Transportation Plan as well as the County's Congestion Management Plan. In addition, projects must have an approved Project Study Report (PSR).

The STIP is a five-year document adopted every two years that displays commitments of transportation funds for improving highway, transit, and other transportation systems. On June 25, 2015, Caltrans presented the draft STIP Fund Estimates for the five-year STIP period (FY 2016/17 through FY 2020/21) to the California Transportation Commission (CTC). The CTC adopted this estimate at their August 27, 2015 meeting.

The adopted 2014 STIP covered the period between FY 2012/13 through 2016/17. Funds previously programmed for highway and transit projects as adopted in the 2014 STIP are still committed; however the timing of those funds being available is not guaranteed. CTC may also reprogram projects currently programmed in the FY 15/16 into later years.

Due to a severe shortfall in STIP capacity, San Mateo County, along with all other counties statewide, will not be able to program any new funds in the 2016 STIP. There is no new programming capacity in the STIP however existing funds may move.

Staff collaborated with the San Mateo County Transportation Authority (SMCTA) and Caltrans staff and recommends the Proposed Draft 2016 STIP as attached. Below are some proposed highlights:

1. Construction phase funds for the Willow Interchange have been moved from FY 17/18 to FY 16/17 to match the project schedule; however it is unlikely that the CTC will approve the acceleration of funds.
2. Construction phase funds for the SR 1 Calera Parkway project have been moved from FY 16/17 to FY 17/18 due to project delays.
3. Design phase and construction phase funds for the Countywide Intelligent Transportation Systems (ITS) project were moved out by one year to FY 17/18 and FY 18/19 respectively.
4. Construction phase funds have been deleted for the improvement of the SR 92/ US 101 interchange and environmental and design phases have been moved out a year.
5. Deleted funds from the construction phase of the SR 92/US 101 have been moved to partially fund the environmental and design phases of a new US 101 High Occupancy/ Express Lane Project from Santa Clara County Line to I-380. The C/CAG Board made a commitment of directing STIP funds towards this project in June 2015.

Upon approval by the C/CAG Board, the Proposed 2016 STIP for San Mateo County will be forwarded to the Metropolitan Transportation Commission (MTC) for inclusion in the Bay Area regional STIP proposal. If approved by the MTC as scheduled in December 2015, the proposal will be forwarded to the California Transportation Commission (CTC) for approval in March 2016. During the coming months, it is anticipated Bay Area-wide and statewide negotiations will take place regarding the exact amount of funds available for each county in each fiscal year.

#### **ATTACHMENTS**

1. Proposed Draft Summary of 2016 STIP for San Mateo County.

Lead Agency	Rte	PPNO	Project	Total	(Info Only) Prior Year	(Info Only) 15-16	16-17	17-18	18-19	19-20	20-21
Burlingame	101	702A	US 101/Broadway Interchange	23,218	23,218						
Menlo Park	101	690A	US 101/Willow interchange reconstruction	28,951	11,552		17,399	17,399			
Pacifica	1	632C	SR 1 Calera Parkway - Pacifica	6,900			6,900	6,900			
Pacifica	1	2140H	Hwy 1 San Pedro Creek Bridge Replacement	3,000	3,000						
San Mateo	92/82	668A	Phase 1 of SR 92 Improvement from I-280 to US 101 - Construction of Operational Improvement at the SR 92/EI Camino Real Interchange	5,000			5,000				
SM C/CAG	92	668D	Phase 2 of SR 92 Improvement from I-280 to US 101 - <del>Environmental Study for</del> Improvement at the SR 92/US 101 Interchange Vicinity	12,711			<del>2,411</del>	3,411	<del>18,211</del>	9,300	
SM C/CAG	101	New	US 101 High Occupancy/ Express Lane Project from Santa Clara County Line to I-380	11,128			2,528	8,600			
SM C/CAG	VAR	2140E	Countywide ITS Project	4,298			800	3,498			
SM C/CAG	VAR	2140F	Smart Corridor Segment (TLSP)	10,000	10,000						
SM C/CAG	VAR	2140F/Q	Smart Corridor Segment (STIP) - Segment 3 to Santa Clara county line	1,977	1,977						
			<b>SUBTOTAL - HIGHWAY (2016/17 thru 2020/21):</b>	<b>57,436</b>			<b>24,927</b>	<b>19,711</b>	<b>12,798</b>	<b>0</b>	<b>0</b>
JPB		2140J	CalTrain San Bruno Ave Grade Separation (HSRCSA)	19,203	19,203						
BART		1003J	Daly City BART station improvement, elevator, lighting	900	900						
			<b>SUBTOTAL - PTA ELIGIBLE (2016/17 thru 2020/21):</b>	<b>0</b>							
SM C/CAG		2140L	TE Reserve (County Share)	1,964	1,964						
South San Francisco		2140C	Grandfathered MTC TE - ECR Complete Streets	1,991				1,991			
MTC		2140	Planning, programming, and monitoring (MTC)	214			69	71	74	0	0
SM C/CAG		2140A	Planning, programming, and monitoring (CMA)	1,138			462	338	338	0	0
			<b>SUBTOTAL - TE and PLANNING (2016/17 thru 2020/21):</b>	<b>3,343</b>			<b>531</b>	<b>2,400</b>	<b>412</b>	<b>0</b>	<b>0</b>
			<b>Grand Total (2016/17 thru 2020/21):</b>	<b>60,779</b>			<b>25,458</b>	<b>22,111</b>	<b>13,210</b>	<b>0</b>	<b>0</b>

## **C/CAG AGENDA REPORT**

Date: September 17, 2015  
To: Congestion Management Program Technical Advisory Committee (CMP TAC)  
From: John Hoang  
Subject: Review and recommend approval of the Measure M Fiscal Year 2014-15 Annual Performance Report

(For further information or response to questions, contact John Hoang at 650-363-4105)

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### **RECOMMENDATION**

That the CMP TAC review and recommend approval of the Measure M Fiscal Year 2014-15 Annual Performance Report.

### **FISCAL IMPACT**

Approximately \$6.7 million annually

### **SOURCE OF FUNDS**

Measure M - \$10 Vehicle Registration Fee (VRF)

### **BACKGROUND**

The C/CAG sponsored Measure M; approved by the voters of San Mateo County in 2010, impose an annual fee of ten dollars (\$10) on motor vehicles registered in San Mateo County for transportation-related traffic congestion and water pollution mitigation programs. The revenue is estimated at \$6.7 million annually over a 25 year period. Per the Expenditure Plan, 50% of the net proceeds will be allocated to cities/County for local streets and roads and 50% will be used for countywide transportation programs such as transit operations, regional traffic congestion management, water pollution prevention, and safe routes to school.

A 5-Year Implementation Plan, approved by the C/CAG Board on March 10, 2011 and amended May 10, 2012, established the percentage breakdown and estimated revenue for the respective categories and programs as follows:

<b>Category / Programs</b>	<b>Allocation</b>	<b>Annual Revenue</b> (Million)	<b>5-Year Revenue</b> (Million)
▪ Program Administration	5%	\$0.34	\$1.70
▪ Local Streets and Roads	50% of net revenue	\$3.18	\$15.90
▪ Transit Operations and/or Senior Transportation*	22%	\$1.40	\$7.00
▪ Intelligent Transportation System (ITS) and Smart Corridors*	10%	\$0.64	\$3.18
▪ Safe Routes to Schools (SR2S)*	6%	\$0.38	\$1.90
▪ National Pollutant Discharge Elimination System (NPDES) and Municipal Regional Permit (MRP)*	12%	\$0.76	\$3.82
	<b>Total</b>	<b>\$6.70</b>	<b>\$33.50</b>

\* Countywide Transportation Programs (50% of net revenue)

The allocations for the Countywide Transportation Programs are derived based on anticipated needs and estimated implementation cost to fund each respective programs and projects, annually and over the 5-Year implementation period. It is the intent that the Countywide Transportation programs and projects will be evaluated at the end of five (5) to determine whether the initial funding level (allocations) was adequate or whether it requires adjustments based on the actual expenditures incurred during the previous year.

The Measure M Annual Performance Report for Fiscal Year 2014-15 is attached.

**ATTACHMENTS**

1. Measure M Fiscal Year 2014-15 Annual Performance Report (September 2015)

**MEASURE M - \$10 VEHICLE REGISTRATION FEE**  
**FISCAL YEAR 2014-15 ANNUAL PERFORMANCE REPORT**

September 2015

**REVENUE**

Collection of the \$10 Vehicle Registration Fee (VRF) commenced in May 2011. As part of the 5 Year Implementation Plan, the annual program budget is estimated at \$6.7 million with average monthly revenue of \$560,000. The actual revenue received during Fiscal Year 2014-15 is \$7.15 million with average monthly revenue of approximately \$596,000. The following table summarizes the actual revenue received by C/CAG as of September 1, 2015, and accrued interest income for each fiscal year to date. Interest is accumulated and is reallocated to the countywide programs in future years. The amount allocated to the various program categories is the total revenue received, excluding interest earned and after subtracting 5% from the top for program administration, as summarized below.

REVENUE		Total to Date	FY 2011-12 <sup>1</sup>	FY 2012-13	FY 2013-14	FY 2014-15
Total VRF Collected		\$ 28,967,645.21	\$7,981,295.73	\$6,849,938.05	\$ 6,981,049.88	\$ 7,155,361.55
DMV fees		\$ (69,556.25)	\$ (59,062.75)	(\$3,425.13)	\$ (3,490.70)	\$ (3,577.67)
To C/CAG		\$ 28,898,088.96	\$7,922,232.98	\$6,846,512.92	\$ 6,977,559.18	\$ 7,151,783.88
Interest <sup>2</sup>		\$ 84,971.00	\$ 24,342.00	\$ 15,403.00	\$ 45,226.00	\$ 26,711.00
<b>Total Revenue</b>		<b>\$29,009,770.96</b>	<b>\$7,946,574.98</b>	<b>\$6,861,915.92</b>	<b>\$7,022,785.18</b>	<b>\$7,178,494.88</b>
<b>ADMINISTRATION</b>						
Program Administration	5%	\$ 1,444,904.45	\$ 396,111.65	\$ 342,325.65	\$ 348,877.96	\$ 357,589.19
County Assessors Election Costs		\$ (549,527.25)	\$ (549,527.25)			
<b>Net Available for Programs</b>		<b>\$ 26,903,657.26</b>	<b>\$ 6,976,594.08</b>	<b>\$ 6,504,187.27</b>	<b>\$ 6,628,681.22</b>	<b>\$ 6,794,194.69</b>

1. FY 2011-12 Revenue includes fees collected in May and June 2011
2. Interest not included in distribution

**ALLOCATION**

Jurisdiction	50%	\$ 13,451,828.63	\$ 3,488,297.04	\$ 3,252,093.64	\$ 3,314,340.61	\$ 3,397,097.34
<i>Local Streets and Roads (Traffic Congestion Management/Stormwater Pollution Prevention)</i>						
<b>Programs</b>						
Transit Operations/Senior Programs	22%	\$ 5,918,804.60	\$ 1,534,850.70	\$ 1,430,921.20	\$ 1,458,309.87	\$ 1,494,722.83
ITS / Smart Corridor	10%	\$ 2,690,365.73	\$ 697,659.41	\$ 650,418.73	\$ 662,868.12	\$ 679,419.47
Safe Routes to School	6%	\$ 1,614,219.44	\$ 418,595.64	\$ 390,251.24	\$ 397,720.87	\$ 407,651.68
NPDES and MRP admin and projects	12%	\$ 3,228,438.87	\$ 837,191.29	\$ 780,502.47	\$ 795,441.75	\$ 815,303.36
<b>Program Total</b>		<b>\$ 26,903,657.26</b>	<b>\$ 6,976,594.08</b>	<b>\$ 6,504,187.27</b>	<b>\$ 6,628,681.22</b>	<b>\$ 6,794,194.69</b>

## ALLOCATION AND EXPENDITURE

### Program Administration

Funds allocated under this category pays for program management and administration activities. For FY 2014-15, actual expenditures totaled \$167,406.81. Overall, out of \$1,444,904.45 reserved to date for administration, \$433,165.66 has been spent, which is approximately 30% of the available allocation (or 1.5% of the total revenue). Per the adopted Measure M 5-Year Implementation Plan, unexpended allocation for program administration will be reallocated to the countywide programs in future years, similar to the accumulated interest.

		Revenue	Expenditure	Balance
Administration (Excl Interest)	5%	\$ 1,444,904.45	\$ (433,165.66)	\$ 1,011,738.79

### Local Streets and Roads / Countywide Transportation Programs

Net funds available to date for distribution, after subtracting five percent for program administration, and the actual expenditure for each program category is summarized in the table below.

Program Distribution	% Split	Revenue	Expenditure	Balance
Local Streets and Roads	50%	\$ 13,451,828.63	\$ (10,576,377.03)	\$ 2,875,451.60
Transit Operations/Senior	22%	\$ 5,918,804.60	\$ (5,310,365.19)	\$ 608,439.41
ITS / Smart Corridor	10%	\$ 2,690,365.73	\$ (700,000.00)	\$ 1,990,365.73
Safe Routes to School	6%	\$ 1,614,219.44	\$ (1,226,429.16)	\$ 387,790.28
NPDES and MRP	12%	\$ 3,228,438.87	\$ (2,880,559.01)	\$ 347,879.86
Total		\$26,903,657.26	\$ (20,693,730.39)	\$ 7,221,665.66

### Local Streets and Roads

Funds for local streets and roads are allocated to jurisdictions to reimburse expenditures related to traffic congestion management or stormwater pollution prevention related activities. Allocations are issued biennially for funds collected from July to December and from January to June of each fiscal year, after funds are collected for each six-month period. In March 2015, an allocation was issued in the amount of \$1,555,013.84 (funds collected from July 2014 to Dec 2014). The second allocation for FY 2014-15 in the amount of \$1,842,083.51 will be issued in September 2015. To date, C/CAG has allocated \$13.45 million with \$10.58 million claimed by the local jurisdictions. Approximately 61% of the total distribution has reimbursed jurisdictions for street resurfacing and congestion management related projects with 39% of the funds used to reimburse stormwater pollution prevention related activities such as street sweeping, storm drain inlet cleaning, and Municipal Regional Permit (MRP) compliance. The total allocations and reimbursements to date, FY 2011-12 through FY 2014-15, are as follows.



Jurisdiction	%	Allocation	Reimbursement		
			Stormwater	Traffic	Total
ATHERTON	2.36%	\$ 317,010.90	\$ -	\$ 158,846.60	\$ 158,846.60
BELMONT	3.29%	\$ 442,016.35	\$ 90,600.98	\$ 239,789.47	\$ 330,390.45
BRISBANE	2.36%	\$ 317,010.90	\$ 89,028.80	\$ 133,821.85	\$ 222,850.65
BURLINGAME	3.95%	\$ 531,173.06	\$ 29,702.31	\$ 367,329.39	\$ 397,031.70
COLMA	2.36%	\$ 317,010.90	\$ 41,241.04	\$ 117,605.56	\$ 158,846.60
DALY CITY	9.62%	\$ 1,293,400.11	\$ -	\$ 966,767.48	\$ 966,767.48
EAST PALO ALTO	3.06%	\$ 411,878.87	\$ -	\$ 64,709.00	\$ 64,709.00
FOSTER CITY	3.12%	\$ 419,413.24	\$ 42,291.30	\$ 319,687.80	\$ 361,979.10
HALF MOON BAY	2.36%	\$ 317,010.90	\$ -	\$ 236,953.61	\$ 236,953.61
HILLSBOROUGH	2.81%	\$ 377,974.21	\$ 32,055.75	\$ 294,158.95	\$ 326,214.70
MENLO PARK	4.50%	\$ 604,835.67	\$ 226,275.12	\$ 280,816.58	\$ 507,091.70
MILLBRAE	2.74%	\$ 367,928.38	\$ 279,938.37	\$ 37,606.18	\$ 317,544.55
PACIFICA	4.84%	\$ 650,467.24	\$ 313,522.01	\$ 247,870.73	\$ 561,392.74
PORTOLA VALLEY	2.36%	\$ 317,010.90	\$ 93,316.53	\$ 143,000.00	\$ 236,316.53
REDWOOD CITY	8.82%	\$ 1,186,663.21	\$ 759,945.20	\$ 264,217.22	\$ 1,024,162.42
SAN BRUNO	4.76%	\$ 640,421.41	\$ 245,660.41	\$ 307,062.17	\$ 552,722.58
SAN CARLOS	4.03%	\$ 542,474.61	\$ 165,119.48	\$ 303,069.06	\$ 468,188.54
SAN MATEO	11.02%	\$ 1,481,759.35	\$ 309,883.59	\$ 968,964.73	\$ 1,278,848.32
SOUTH SAN FRANCISCO	7.17%	\$ 964,399.31	\$ 213,555.94	\$ 507,295.93	\$ 720,851.87
WOODSIDE	2.36%	\$ 317,010.90	\$ 41,186.62	\$ 232,413.04	\$ 273,599.66
SAN MATEO COUNTY	12.15%	\$ 1,634,958.20	\$ 1,154,204.70	\$ 256,863.53	\$ 1,411,068.23
<b>Total</b>	<b>100%</b>	<b>\$ 13,451,828.63</b>	<b>\$ 4,127,528.15</b>	<b>\$ 6,448,848.88</b>	<b>\$ 10,576,377.03</b>

## Countywide Transportation Programs

### Transit Operations/Senior Mobility Programs

Funds for this category are currently used for paratransit (disabled and senior) service including Senior Mobility programs. C/CAG provides the San Mateo Transit District (SamTrans) \$1.4 million annually to partially fund the RediWheels and Senior Mobility programs. SamTrans' annual paratransit service budget for the FY 2014-15 is \$15.4 million. The programs are summarized as follows:

The Senior Mobility Program provides the following services:

- Community Transit – promote/coordinate community shuttles
- Community-Based Transportation – provide rides through a network of coordinated transportation providers and maximize existing vehicle resources
- Encouraging Use of Transit – provide through volunteer Mobility Ambassadors
- Information and Assistance – provide guides, mobility assessments and trip planning, and older driver safety programs
- Taxicab Services – promote acquisition of accessible taxi vehicles
- Walking – promote improvements to remove barriers to pedestrian activities by older adults

The RediWheels program is a fixed-route paratransit service for persons with disabilities who cannot independently use regular SamTrans bus service. The RediWheels service is provided on the bayside of the County (RediCoast on the coast side). SamTrans offers paratransit customers a financial incentive to use the

services by allowing ADA (American with Disabilities Act) certified customers and personal care attendants to ride all regular fixed-route SamTrans trip without paying a fare.

Performance measures to assess effectiveness of the RediWheels program regarding ridership and contractor are provided below.

Shuttle Service	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
Revenue Hours	12,284	12,986	13,387	43,845
Ridership (one way trips)	22,094	22,453	23,053	72,951
Individual Riding <sup>1</sup>	1,963	2,012	2,062	2,170
Cost Per Rider	\$46.22	\$47.69	\$52.15	\$48.47 <sup>2</sup>

Contractor	FY 11-12	FY 2012-13	FY 2013-14	FY 2014-15
Productivity (Passengers/hr.) [Std. 1.7]	1.7	1.73	1.72	1.66
On Time Performance [90%]	88.7%	89.5%	90.5%	89%
Complaints per thousand riders [2.5]	0.70	0.68	0.72	0.67
Telephone hold time (minutes) [1.5]	0.9	1.0	1.5	1.2

<sup>1</sup> Number of enrolled individual RediWheels users who rode

<sup>2</sup> Does not include June 2015 data

### Intelligent Transportation System (ITS)/Smart Corridor

Funds are being accumulated under this program category to be used primarily for the San Mateo County Smart Corridor project construction and maintenance in addition to funding other countywide ITS projects. The Smart Corridor project deploys and integrates ITS elements, including communication network, signal system upgrade, signage and close circuit cameras along state routes (El Camino Real) and major local streets enabling Caltrans and local cities to implement strategies to manage recurring and non-recurring traffic congestion to reduce delays and improve mobility. The project is located from I-380 to the Santa Clara County line and includes local arterials connecting US 101 and SR 82 (El Camino Real).

Of the \$36 million budget for the construction phases, approximately \$3.5 million is budgeted as local funds, which is provided through a combination of AB1546 (\$4 VRF) and Measure M. The major construction phase of the Smart Corridor project commenced in October 2012 and is expected to be completed this calendar year. Out of \$2.69 million set aside from Measure M, \$700,000 has been spent on design and construction of the project to date (\$500,000 in FY 13-14 and \$200,000 in FY 14-15) with another \$200,000 budgeted for FY 15-16. An annual maintenance program will be developed for the Smart Corridors during this fiscal year.

For other ITS projects within the County, an assessment will be performed to prioritize needs for San Mateo County for the next year and beyond.

### Safe Routes to School (SRTS)

The San Mateo County SRTS Program is a countywide effort to promote activities that increase the number of students walking, biking and carpooling to schools as ways of promoting students' health and fitness, in addition to reducing traffic congestion around schools and improving air quality. The program focuses on non-infrastructure project outreach activities such as education, encouragement, and evaluation. C/CAG

subcontracts to the San Mateo County Office of Education (COE) for the day-to-day management of the program, which commenced in July 2011. The SRTS Program is guided by two committees, the Policy Advisory Committee and Operations Committee.

The SRTS Program, funded by a combination of STP/CMAQ and matching funds from Measure M, is budgeted at approximately \$1 million annually with 25% reserved for administration and indirect costs and 75% of the funds provided to the schools in the form of grants. Through a competitive process, individual schools are eligible for up to \$10,000 with a maximum of \$100,000 per school district. Typical non-infrastructure projects include walking and bicycle audits and student education such as bike rodeos, safety assemblies, pedestrian safety, and development of educational videos. Schools are also implementing walking school buses, bike trains/carpools, and parking lot management. Encouragement events include Walk and Roll Wednesdays/Fresh Air Fridays, Bike to School Day, Walk to School Day, and various contests.

For FY 2014-15, \$600,000 was awarded to 133 schools funding over a thousand outreach and education activities and four (4) walkability/bikability audits. In addition to the non-infrastructure projects, 10 small capital infrastructure projects were also awarded funds for signage, safety measures within school parking lots, bike lockers/racks, and other improvements addressing bicyclist and pedestrian access to/from school as well as promoting safe driving practices. Through the first four years of the Program (FY 2011-12 through FY 2014-15), over \$2.5 million in grants have been awarded to schools. A summary of participants and types of activities provided are as follows:

Participation	Total
School Districts	18
Individual Schools	109
Students	Over 57,700

Activities/Events	Total
Educational Bicycle Rodeos	314
Assemblies and Classes	1,609
Encouragement Events	1,488
Walk and Bike Audits	76
Route Maps	69

Student hand tallies and parent surveys conducted in Fall 2012, Fall 2013, and Fall 2014 indicated the following mode split:

	Family Car	Walk	Bike	Transit	Carpool
Fall 2012	61%	24%	4%	2%	6%
Fall 2013	52%	27%	6%	3%	7%
Fall 2014	54%	27%	7%	4%	8%

C/CAG partnered with the San Mateo Foster City School District and City of San Mateo to facilitate and fund the design and construct of the Laurel Elementary School Sustainable Stormwater and Safe Routes to School Project. The project, which demonstrates an integrated approach of merging safe routes to school improvements and stormwater pollution prevention management, included construction of infrastructures within and around the school to improve access for children walking or bike to school as well as vehicle movements, at the same time incorporating elements for the capture and treatment of stormwater runoff from

impervious areas such as streets and parking lots, increased landscaping and trees resulting in a more aesthetically pleasing environment. Design of the project commenced in December 2013 and construction was completed in April 2015. C/CAG contributed \$250,000 in SRTS funds towards the project cost of \$620,000.

National Pollutant Discharge Elimination System (NPDES)/Municipal Regional Permit (MRP)

Funds accumulating under this program category are designated for pollution mitigation programs and projects, as allowed under Measure M’s authorizing legislation, Government Code Section 65089.20. The C/CAG Board authorized unrestricted use of these funds for Municipal Regional Permit compliance activities in May 2012. As such, these funds are being directed toward countywide compliance activities through C/CAG’s Countywide Water Pollution Prevention Program, primarily for technical consultant costs for regulatory compliance support programs. Use of funds varies from year to year based on the level of technical support needed to meet each year of Municipal Regional Permit compliance. Measure M funds supplement other revenue to the Countywide Water Pollution Prevention Program and generally cover half of the Countywide Program’s consultant costs each year. Staff utilized \$1.3 million for programmatic support in Fiscal Year 2014-15, and budgeted a similar amount for Fiscal Year 2015-16.

NPDES/MRP	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	Totals
Revenue (000s)	\$837	\$780	\$795	\$815	\$3,228
Expenditures (000s)	-	\$908	\$972	\$1,001	\$2,881

C/CAG’s typical use of Measure M funding over the past five years for consultant support in meeting Municipal Regional Permit requirements is detailed in the following table, showing the various categories of technical support for which funds were utilized:

Area of Support/Permit Provision	Typical % of Expenditures
Water quality monitoring	25
Mercury/PCBs controls	10
Trash load reduction	12
Public information and outreach	18
General education, trainings, and guidance, and regional involvement & coordination	25
Annual reporting	10
Total	100

Use of these funds for MRP compliance activities allows the local jurisdictions to use any portion of their annual allocations under the Local Streets and Roads portion of funding for MRP-related compliance activities.