C/CAG

CITY/COUNTY ASSOCIATION OF GOVERNMENTS
OF SAN MATEO COUNTY

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AGENDA

Congestion Management & Environmental Quality (CMEQ) Committee

Date: Monday, September 28, 2015 at 3:00 p.m.
Place: San Mateo City Hall
330 West 20th Avenue, San Mateo, California
Conference Room C (across from Council Chambers)

PLEASE CALL Jeff Lacap (650-599-1455) IF YOU ARE UNABLE TO ATTEND

1.	Public comment on items not on the agenda.	Presentations are limited to 3 mins	
2.	Approval of minutes of August 31, 2015 meeting.	Action (Garbarino)	Pages 1 - 9
3.	Receive an update from the MTC regarding Plan Bay Area 2040 Performance Measures and Targets.	Information (Noelting)	No Materials
4.	Review and recommend approval of the Measure M Fiscal Year 2014-15 Annual Performance Report.	Action (Hoang)	Pages 10 - 17
5.	Review and recommend approval of the Draft 2016 State Transportation Improvement Program (STIP) for San Mateo County.	Action (Higaki)	Pages 18 - 20
6.	Review and recommend approval of the Draft 2015 Congestion Management Program (CMP) and Monitoring Report.	Action (Lacap)	Pages 21 - 66
7.	Executive Director Report.	Information (Wong)	Oral Report
8.	Member comments and announcements.	Information (Garbarino)	
9.	Adjournment and establishment of next meeting date: **October 26, 2015**	Action (Garbarino)	

NOTE: All items appearing on the agenda are subject to action by the Committee.

Actions recommended by staff are subject to change by the Committee.

NOTE: ***Persons with disabilities who require auxiliary aids or services in attending and participating in this meeting should contact Mima Guilles at 650 599-1406, five working days prior to the meeting date.***

Other enclosures/Correspondence - None

CITY/COUNTY ASSOCIATION OF GOVERNMENTS COMMITTEE ON CONGESTION MANAGEMENTAND ENVIRONMENTAL QUALITY (CMEQ)

MINUTES
MEETING OF August 31, 2015

The meeting was called to order by Vice Chair O'Neill in Conference Room C at City Hall of San Mateo at 3:00 p.m. Attendance sheet is attached. Chair Garbarino presided the meeting at 3:05 pm.

1. Public comment on items not on the agenda.

Sandy Wong, C/CAG Executive Director, introduces new C/CAG Staff, Jeff Lacap.

The CMEQ Committee acknowledges the retirement of Onnolee Trapp and Jim Bigelow and extends its appreciation for the contribution from these two long-standing CMEQ Committee members.

2. Approval of minutes of June 29, 2015 meeting.

Motion: To approve the Minutes of the June 29, 2015 meeting, Bigelow/Bonilla, Motion carried unanimously.

3. Receive a presentation and update from the 21 Elements Housing Program (Information).

Joshua Abrams provided a presentation on the 21 Elements Housing Program, supported by C/CAG to have all cities in San Mateo County to collaborate on housing policy, planning, and implementation within the county.

Member Lee asked about how will parking issues be handled with higher density housing. Abrams responded that the solution is to have a good a connection between land use and transportation options. He added that millennials currently have less car ownership and that the key is having transportation near housing to have the option of other modes of transportation. Member Lee commented that smaller cities like Milbrae have limited bus service which would preclude the solution suggested by Abrams.

Member O'Neill commented that millennials are still young, but once they start having kids, the car ownership will increase. Abrams responded that the housing trends of millennials are still being analyzed and that it's an open ended question.

Member Stone commented that there's an assumption that if there's an in-law unit or 2nd unit, there will be another vehicle added on the street, but it's not necessarily the case because senior citizens typically reside in in-law units and do not drive anymore. The City of Belmont has data that shows there will be plenty of on-street spaces for in-law units.

Member Pierce commented about a presentation made at the GBI and how interesting housing fees were calculated and that having a streamlined process that all jurisdictions share makes going forward with housing projects much easier.

Member Aguirre commented that 21 Elements is providing a playbook to make it easier on the jurisdictions. She also noted that new housing, especially in Redwood City, is being built within transit corridors and not within existing neighborhoods.

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

Jean Higaki presented this item and the staff recommendation regarding the list of projects to be submitted to MTC for the update of Plan Bay Area 2040.

The CMEQ committee received four public comments regarding the list of projects to be submitted to MTC for the update of the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) also known as Plan Bay Area 2040. Three of the public comments were specific to the Calera Parkway project in Pacifica (shown as attachments to the minutes of this meeting). The three speakers were in opposition to the project being forwarded to the MTC for the update of Plan Bay Area 2040. Another speaker representing Facebook had asked the committee to consider adding the Dumbarton Rail to the list before submitting to the MTC.

It was pointed out that the project description for the Calera Parkway project in the staff report did not match with the project description in the project's environmental document. The CMEQ committee directed staff to seek clarification.

Some Q&A from CMEQ members ensued.

Motion: To submit the list of San Mateo County projects to the C/CAG Board for consideration along with providing the CMEQ's concern regarding the Calera Parkway project in light of the concerns brought up by the public comment speakers, Lee/Stone. Motion carried unanimously.

5. Update on projects along the US 101 corridor (Information).

Sandy Wong provided an update on the US 101 corridor improvement strategies and will continue to provide regular updates on said project. Two Project Study Reports (PSR) have been approved by Caltrans: A) Provide carpool lane between Whipple Ave in Redwood City and I-380; B) Provide auxiliary lane between Oyster Point in SSF and the San Francisco County Line. C/CAG is working closely with the TA and Caltrans on the technical aspect of the project. Challenges with a project of this magnitude are the funding of the project, technical challenges, and what institutional procedural measures can be done to expedite the project delivery from ten to five years. Another meeting with the Bay Area Council and other applicable stakeholders is scheduled for September 15 and Assemblyman Kevin Mullins will chair the September meeting.

6. Executive Director Report (Information).

Sandy Wong, C/CAG Executive Director, provided the following update:

The Smart Corridor Project was brought up due to the accident that occurred on US-101 over the weekend that caused closures on US-101 and major congestion on local streets. There will be a debriefing meeting with Caltrans to go over the Smart Corridor Project and how we can learn from the

events that occurred over the weekend and how we can improve the project. The project is currently in the final system integration stage and is scheduled to be completed by the end of this year.

7. Member comments and announcements (Information).

None.

8. Adjournment and establishment of next meeting date.

The meeting adjourned at 4:55 pm.

The next regular meeting was scheduled for September 28, 2015.

Attachments:

- Public comment from Cynthia Kaufman
- Pubic comment from Chaya Gordon
- Public comment from Mike Ferreira

2015 C/CAG Congestion Management & Environmental Quality (CMEQ) Committee Attendance Report

Agency	Representative	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Metropolitan Transportation Commission	Alicia Aguirre	X	X						x				
City of Redwood City	Barbara Pierce	X	X		X				x				
City of Belmont	Charles Stone	X	X						x				
Town of Atherton	Elizabeth Lewis	X	X		X								
City of San Bruno	Irene O'Connell	X					X		x				
Business Community	Jim Bigelow	X	X		X		X		x				
Environmental Community	Lennie Roberts	X	X				X		x				
City of Pacifica	Mike O'Neill	X	X		X		X		x				
Agencies with Transportation Interests	Onnolee Trapp	X	X		X		X		x				
City of South San Francisco	Richard Garbarino	X	X		X		X		x				
Public	Steve Dworetzky	X	X		X								
City of Millbrae	Wayne Lee	X							x				
City of San Mateo	Rick Bonilla	NA	NA		X		X		x				
City of Pacifica	John Keener	NA	NA		X		X		x				

Staff and guests in attendance for August 31, 2015 meeting:

Sandy Wong, Jean Higaki, Jeff Lacap - C/CAG Staff

Cary Wiest, Council Member from Atherton, sat in for Member Lewis

Joshua Abrams - 21 Elements

Cynthia Kaufman

Chaya Gordon

Juan Salazar

Mike Ferriera

Public

Attachment to the August 31, 2015 Minutes

Cynthia Kaufman Member of Pacificans for Highway 1 Alternatives.

We have been working for 3 years to get the city of Pacifica and the relevant agencies to reject the Calera Parkway Project, which you hake listed as a project to forward to the MTC for inclusion in the updated Plan Bay Area.

I am here to ask that you not include this project on that list for 6 reasons:

1. The project is inconsistent with the goals of Plan Bay Area. Performance target #1 looks for projects that cut greenhouse gas emissions and Performance target #9, asks for strategies that decrease Vehicle Miles Travelled. The CCP will increase emissions through induced driving. As the experience of Los Angeles shows, building more freeways tend to encourage more driving.

Performance target #4 asks that you reduce fatalities especially bike and pedestrian ones. Performance target #5 asks for increases in biking and walking. The CCP has minimal bike lanes. There is a traffic light one of the key intersections in the project that is used by many children crossing on the way to school and going to the beach. The project widens that stretch from a modest 4 lane road to something wider than 280. Caltrans says it considered an island in the middle for pedestrian to wait if they did not have time to cross, and decided against it because cars would be going too fast for that to be safe. So instead, children and seniors will need to run across something like a freeway.

My second point: Our last election showed that a very strong majority of people in Pacifica do not want this project. No members of our current city council are advocating publically for this project. It is moving forward on inertia.

3. There are currently 3 lawsuits pending that challenge this project, two that challenge it in federal court based on the endangered species act, and one in superior court that challenges the EIR. That one alleges, among other things, that Caltrans failed to offer specific plans, as is required for an EIR; the EIR does not say how long traffic delays will be during construction; and it says sound walls may be built, but does not specify where they would be, so the public has not been able to weigh in on them.

4. The EIR for the project says that as a best case scenario the project will eventually shave a minute and a half off of commute times. So there is a huge expense, with years of inconvenience, a permanent massive ugly project, and a permanent loss of safety, for an incredibly small gain in traffic flow.

5. On a personal note I want to say that I have a 13 year old who crosses the road there all the time, and I will not let her cross if this project goes through.

6. Nationally people are driving less. The traffic problems we face in Pacifica can easily be solved with a variety of soft alternatives, such as better light timing, better engineering of the ways people get on and off that stretch, safe routes to schools, increased transit, and staggered school start times. We would like help working on that combination of alternatives. This project is a holdover from a 1950s Caltrans

mentality, one that Plan Bay Area, and indeed Caltrans' own new mission statement, have solidly rejected. Please do not burden our town with a brand new dinosaur. Take this project off the list.

Attachment to the August 31, 2015 Minutes

COMMENTS BY CHAYA GORDON
Page 1

CCAG/CMEQ August 31, 2015 3 PM Agenda Item 4. Review and recommend endorsement of the list of projects to be submitted to MTC for the update of the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) also known as Plan Bay Area 2040.

_____

Good afternoon. My name is Chaya Gordon, I live in Pacifica, and I am speaking today as a representative of Pacificans for Highway 1 Alternatives. PH1A now has 700 supporters.

The Caltrans Project to widen highway 1 in Pacifica is on your list for inclusion in the updated Plan Bay Area. What you may not know is that the majority of people in Pacifica have serious objections to it. I would like to share some of them with you, so you can understand why the Project should not be forwarded to the MTC.

#1 The project information in your meeting packet is wrong. The correct information I am citing comes from the Caltrans Final Environmental Impact Report.

The Project Title is correct: Construct Route 1 north and southbound lanes from Fassler to Westport Drive in Pacifica. But the Project Description only refers to the addition of a northbound lane. Also, contrary to your project description, there is nothing in the FEIR about coordinating the traffic signals, about a 3rd coordinated signal, or about the intersection at Westport Drive being closed.

It seems like a bad idea to approve a project until you know that its information is accurate. Caltrans often refers to it as adding 1 lane in each direction, neglecting to mention that the plan includes various other lanes and medians for a total of 144 feet,

more than double its current width. The errors in your project description are significant, and compound the errors that Caltrans often makes about the project.

The project listed is very different from the one in Caltrans' FEIR. Where did this project come from? Do you know who the sponsor or funding agency is? Your due diligence requires you to make sure the project description is correct and that you know who changed it, if the changes are deliberate. It also requires you to really examine the issues, and not just rubberstamp the project.

#2 Coordinating the traffic signals is an alternative that needs to be implemented, but Caltrans has NEVER included it. In fact, Caltrans rejected all alternatives but build and build bigger. It's no wonder that the California 2014 State Smart Transportation Initiative found that Caltrans' practices do not match current conditions.

#3 There is significant public opposition to the widening project. In Pacifica's City Council election last November, 2 of the 3 candidates elected put opposing the Caltrans Plan front and center in their campaigns. This sent a clear message: the majority of voters do not support it.

Most of all, the residents of Pacifica want to maintain Pacifica's natural beauty and small-town coastal atmosphere. It starts with not widening Highway 1, our Main Street. I have just given you many reasons that support your removing the Calera Parkway Project from the list of projects you forward to the MTC.

Thank you very much.

Attachment to the August 31, 2015 Minutes

Good afternoon Committee Members,

My name is Mike Ferreira. I am a former council member in Half Moon Bay and I am now the Conservation Chair for the Sierra Club Loma Prieta Chapter as well as a member of its Executive Committee and Political Committee. I am also the Chapter's representative to the 3 Chapter Working Group that deals with SB 375, AB 32 and the pending SB 340 issues as relating to MTC's & ABAG's Plan Bay Area.

The Sierra Club has consistently opposed the Calera Parkway widening project from its beginning and we have supported litigation against the project financially and otherwise. We expect to continue to do so.

The previous speakers have used some of my best lines so I'll try to cover other ground.

We regard the Calera Parkway Project as one of the worst in the Bay Area. This project - at $59 million - is a prime example of using a shotgun to kill a fly. I now live in Moss Beach and frequently drive northward through Pacifica at commute time and, when schools are not in session, it's a breeze. Sometimes in the summertime I am able to drive through at morning commute time and catch all green lights, never having to stop. It seems to us that a much better and much less expensive approach would be to work with the school district to achieve a solution rather than spending huge sums for a big concrete solution that would have doubtful success - and only marginal success even if it worked.

In closing, I would like to express the Club's support for the BRT portion of the plan. BRT does not need to be "dedicated lane" in order to be successful and the Club regards this portion of the plan to be a commendable use of public funds.

Mike Ferreira
Conservation Chair
Sierra Club Loma Prieta Chapter

PS I was speaking extemporaneously and I have tried to limit this text above to the gist of what I said during a limited period of time. This does not, can not, encompass all of our positions regarding the projects above or the plan itself.

C/CAG AGENDA REPORT

Date: September 28, 2015

To: Congestion Management and Environmental Quality Committee

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)

RECOMMENDATION

That the CMEQ Committee 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:

Category / Programs	Allocation	Annual Revenue (Million)	5-Year Revenue (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
	Total	$6.70	$33.50

** 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[1]	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[2]		$ 84,971.00	$ 24,342.00	$ 15,403.00	$ 45,226.00	$ 26,711.00
Total Revenue		$29,009,770.96	$7,946,574.98	$6,861,915.92	$7,022,785.18	$7,178,494.88
ADMINISTRATION						
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)			
Net Available for Programs		$ 26,903,657.26	$ 6,976,594.08	$ 6,504,187.27	$ 6,628,681.22	$ 6,794,194.69

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

ALLOCATION						
Jurisdiction *Local Streets and Roads (Traffic Congestion Management/Stormwater Pollution Prevention)*	50%	$ 13,451,828.63	$ 3,488,297.04	$ 3,252,093.64	$ 3,314,340.61	$ 3,397,097.34
Programs						
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
Program Total		$ 26,903,657.26	$ 6,976,594.08	$ 6,504,187.27	$ 6,628,681.22	$ 6,794,194.69

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	$ (1,261,290.16)	$ 352,929.28
NPDES and MRP	12%	$ 3,228,438.87	$ (2,880,559.01)	$ 347,879.86
Total		$26,903,657.26	$ (20,728,591.39)	$ 6,175,065.87

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
Total	100%	$ 13,451,828.63	$ 4,127,528.15	$ 6,448,848.88	$ 10,576,377.03

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[1]	1,963	2,012	2,062	2,170
Cost Per Rider	$46.22	$47.69	$52.15	$48.47[2]

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

1 Number of enrolled individual RediWheels users who rode
2 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.

C/CAG AGENDA REPORT

Date: September 28, 2015

To: Congestion Management & Environment Quality Program Committee (CMEQ)

From: Jean Higaki, Transportation System Coordinator

Subject: Review and recommend approval of the proposed 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)

RECOMMENDATION

That the Congestion Management & Environment Quality Program Committee (CMEQ) review and recommend approval of the proposed 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 10 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.

The proposed Draft 2016 STIP summary was presented to the Congestion Management Technical Advisory Committee (TAC) on September 17, 2015 and recommended for approval.

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.

SUMMARY of PROPOSED 2016 STIP FOR SAN MATEO COUNTY

($1,000's)

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/El Camino Real Interchange	5,000			5,000				
SM C/CAG	92	668D	Phase 2 of SR 92 Improvement from I-280 to US 101 - ~~Environmental Study for~~ Improvement at the SR 92/US 101 Interchange Vicinity	12,711			~~2,411~~	~~3217~~ 3,411	~~18,211~~ 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~~ 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						
			SUBTOTAL - HIGHWAY (2016/17 thru 2020/21):	**57,436**			24,927	19,711	12,798	**0**	**0**
JPB		2140J	CalTrain San Bruno Ave Grade Separation (HSRCSA)	19,203	19,203						
BART		1003J	Daly City BART station improvement, elevator, lighting	900	900						
			SUBTOTAL - PTA ELIGIBLE (2016/17 thru 2020/21):	**0**							
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**
			SUBTOTAL - TE and PLANNING (2016/17 thru 2020/21):	**3,343**			531	2,400	412	**0**	**0**
			Grand Total (2016/17 thru 2020/21):	**60,779**			25,458	22,111	13,210	**0**	**0**

C/CAG AGENDA REPORT

Date: September 28, 2015

To: C/CAG Congestion Management and Environmental Quality Committee (CMEQ)

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)

RECOMMENDATION

That the CMP CMEQ 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 conformances 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	**2015**	**10**	**0**

* *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 in 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[1]	39	23	35	35	43	27	31	31	38	24	34	34	38	23	35	35
SamTrans Route KX[2]	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	**33,928,774**	**47,504,723**	**170,201**	**155,795**

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)

Date	Activity
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-and-environmental-quality-committee/)*

Submitted to:

C/CAG
City/County Association of Governments of San Mateo County

Level of Service and Performance Measure Monitoring Report - 2015

September 2015

Submitted by:

JACOBS™
707 17th Street, Suite 2300
Denver, CO 80202

JACOBS

September 7, 2015

City/County Association of Governments of San Mateo County
County Office Building
555 County Center
Fifth Floor
Redwood City, California 94063
Attention: Jeffrey Lacap, Transportation Programs Specialist

Re: Level of Service and Performance Measure Monitoring Report - 2015

Dear Mr. Lacap:

Jacobs Engineering Group Inc. (Jacobs) is pleased to submit the report for the 2015 LOS and Performance Measure Monitoring to support of the 2015 Congestion Management Program for the City/County Association of Governments of San Mateo County (C/CAG).

Jacobs conducted the 2015 study for C/CAG utilizing the latest technology for performing CMP studies. Our extensive and unique experience provides a cost-effective and cutting edge process to obtain and analyze traffic data. Jacobs has developed a methodology including GPS and GIS over the past 15 years with exciting results. The addition of the GIS linear reference system has added a component that has never before been applied to network analyses. Over the last 3 update cycles, Jacobs has developed a comprehensive database for C/CAG that now is integrated in GIS for easy access and historic comparisons.

C/CAG has taken a major step forward in having the ability to take the GIS data, in addition to the historic tables, and integrate the digital data with your travel demand model. The speeds, roadway attributes, etc. can be conflated with the model to produce a very robust and comprehensive system. This was not available in the past because the methodology used with tables and charts did not produce the value added products of this 2015 study. Jacobs will continue to support C/CAG to produce the best value that not only meets the intended LOS monitoring requirements to allow historic comparisons of this project, but produces the results in a form that can be used by many other areas within the county and by its members.

Sincerely,
Jacobs Engineering Group Inc.

Stephen Pouliot
Project Manager

TABLE OF CONTENTS

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**.

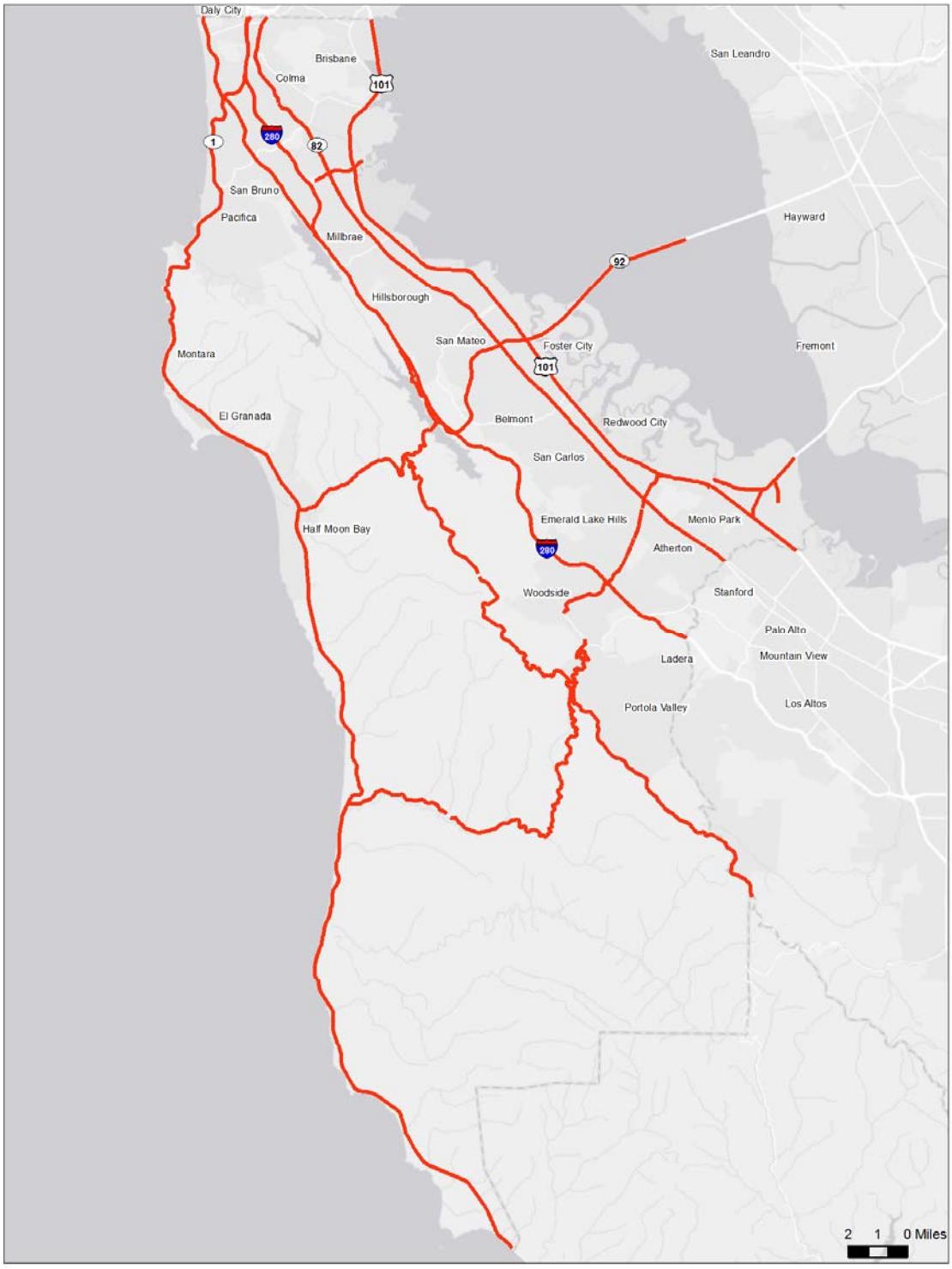

Figure 1 – Spring 2015 CMP Monitored Routes

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).

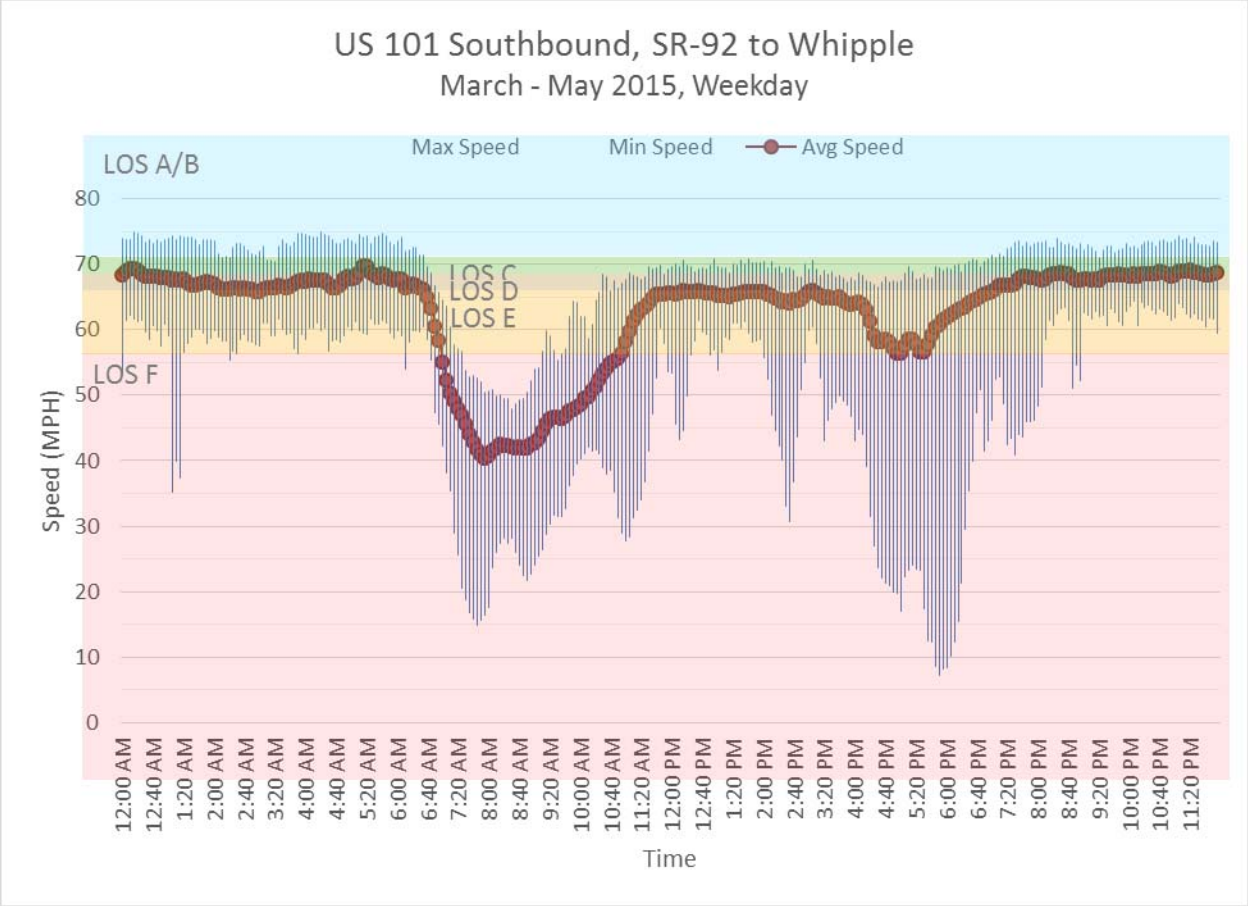

Figure 2 – Spring 2015 Duration of Congestion

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											
			2015 LOS								
Route	Roadway Segment	LOS Standard	AM Without Exemption[3]	PM Without Exemption[3]	AM With Exemption	PM With Exemption	2013 LOS[2]	2011 LOS[2]	2009 LOS[2]	2007 LOS[2]	2005 LOS[2]
1	San Francisco County Line to Linda Mar Blvd.	E	A	A			F[3]/ F[4]	F[3]/ B[4]	F[3]/ F[4]	F[3]/ F[4]	F[3]/ F[4]
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[3]/ B[4]	C[3]/ B[4]	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 3rd Avenue	E	A	A			A	B	A	A	A
82	3rd 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 42nd Avenue	E	A	C			B	B	B	B	B
82	42nd 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[3]/ D[4]	D[3]/ C[4]	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[3]/ B[4]	F[3]/ C[4]	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[3]/ E[4]	F[3]/ F[4]	E[3]/D[4]	F[3]/D[4]	F[3]/ E[4]
92	U.S. 101 to Alameda County Line	E	C	F		F	E	F[3]/ A[4]	A/B[3]	A/B[3]	A/B[3]

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

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

Notes:

[2] The first value represents LOS without exemptions, and the second value represents LOS with exemptions.

[3] Based on average speed from travel time surveys.

[4] 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)

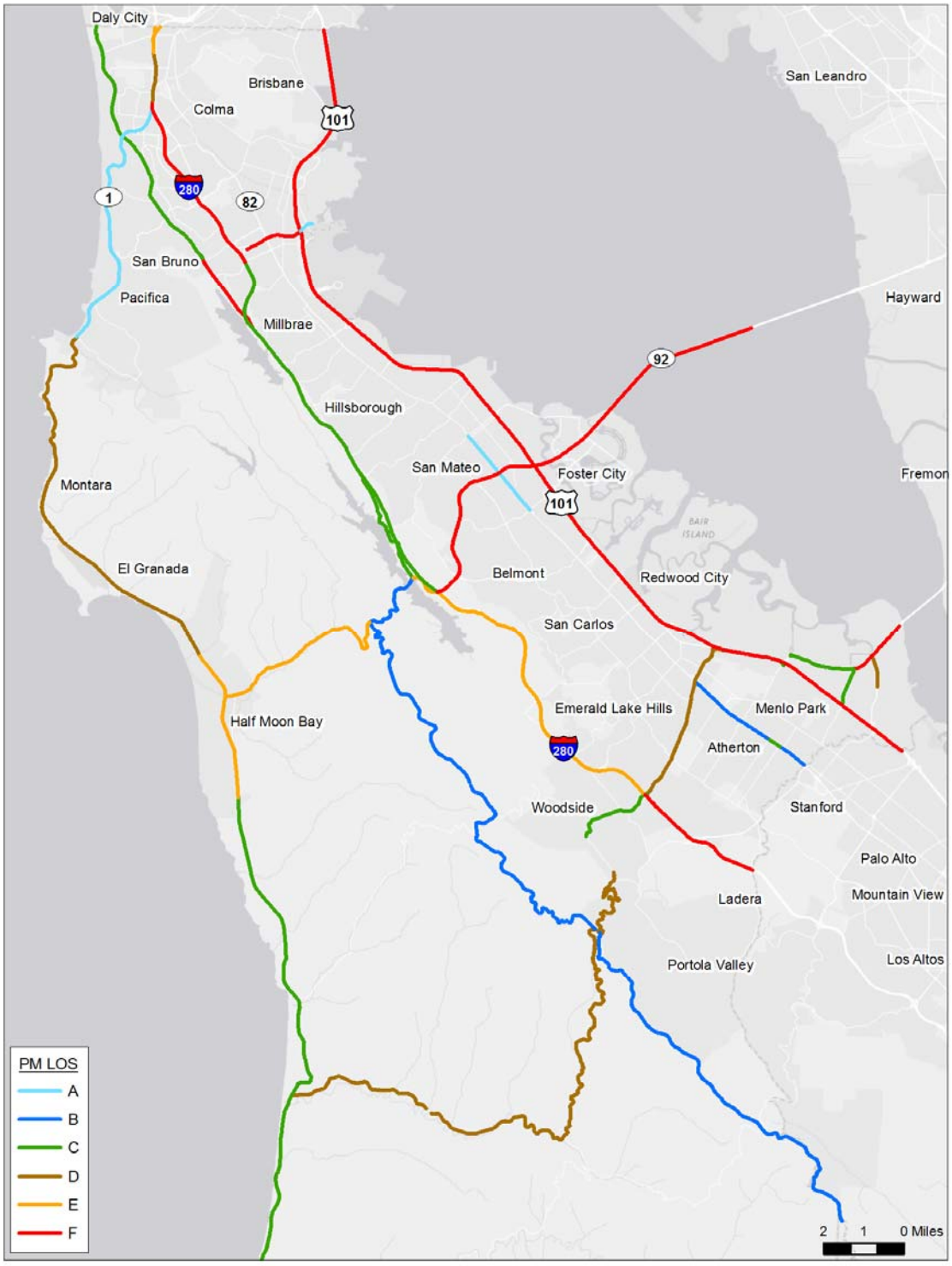

Figure 5 – PM LOS Results (before Exemptions)

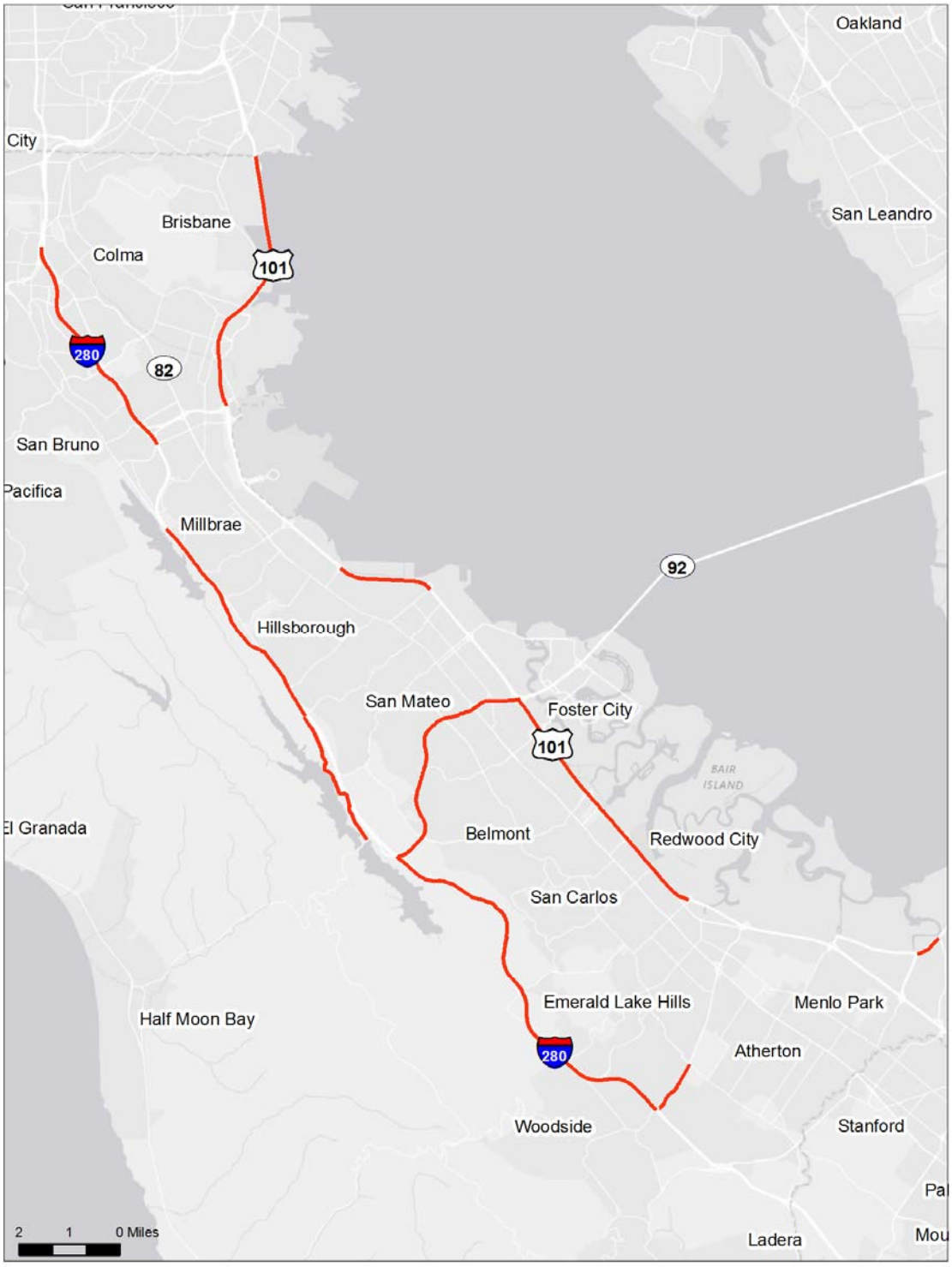

Figure 6 – AM CMP Segments with LOS Lower than Standard (before Exemptions)

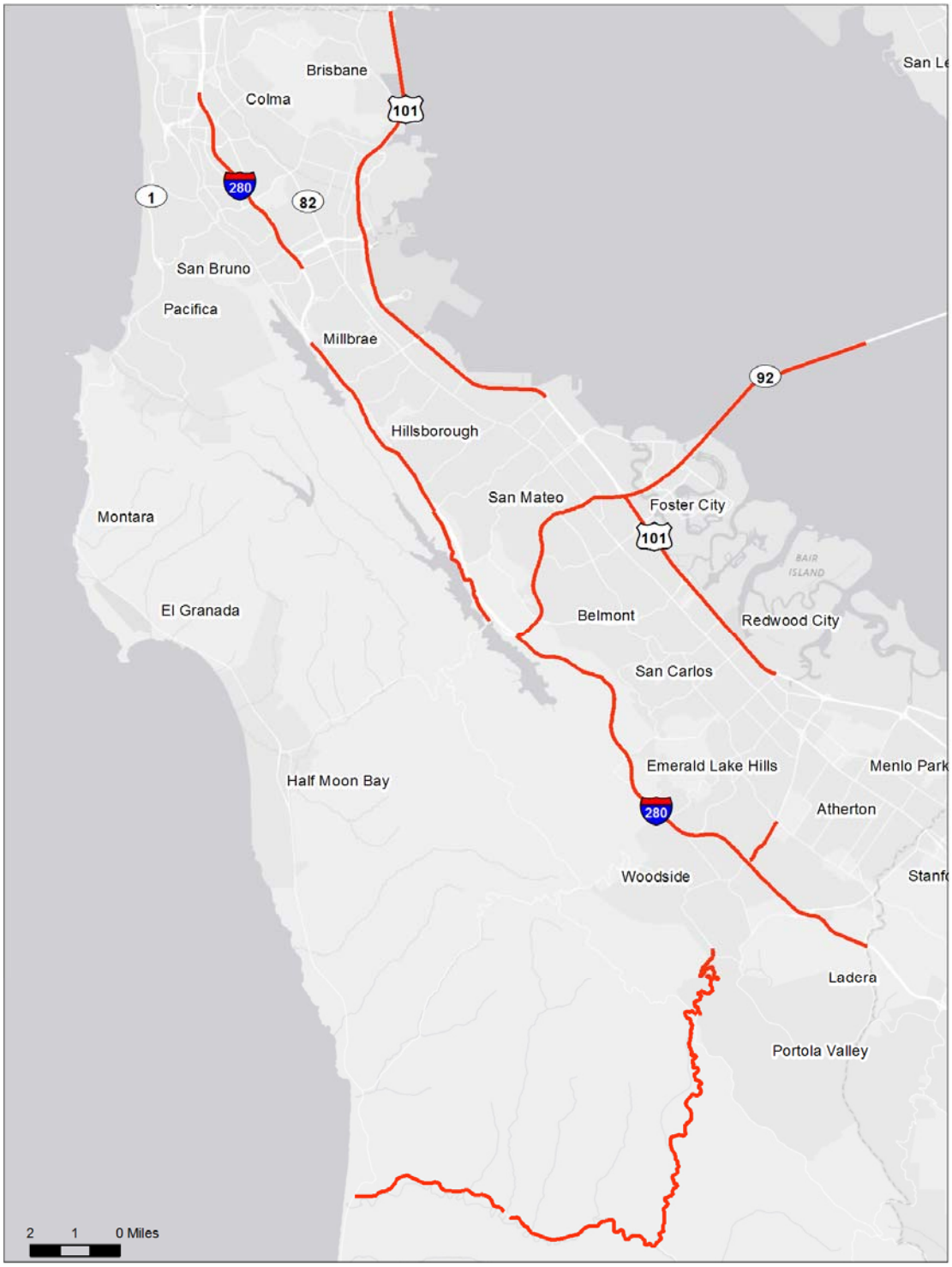

Figure 7 – PM CMP Segments with LOS Lower than Standard (before Exemptions)

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	SB / EB
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.

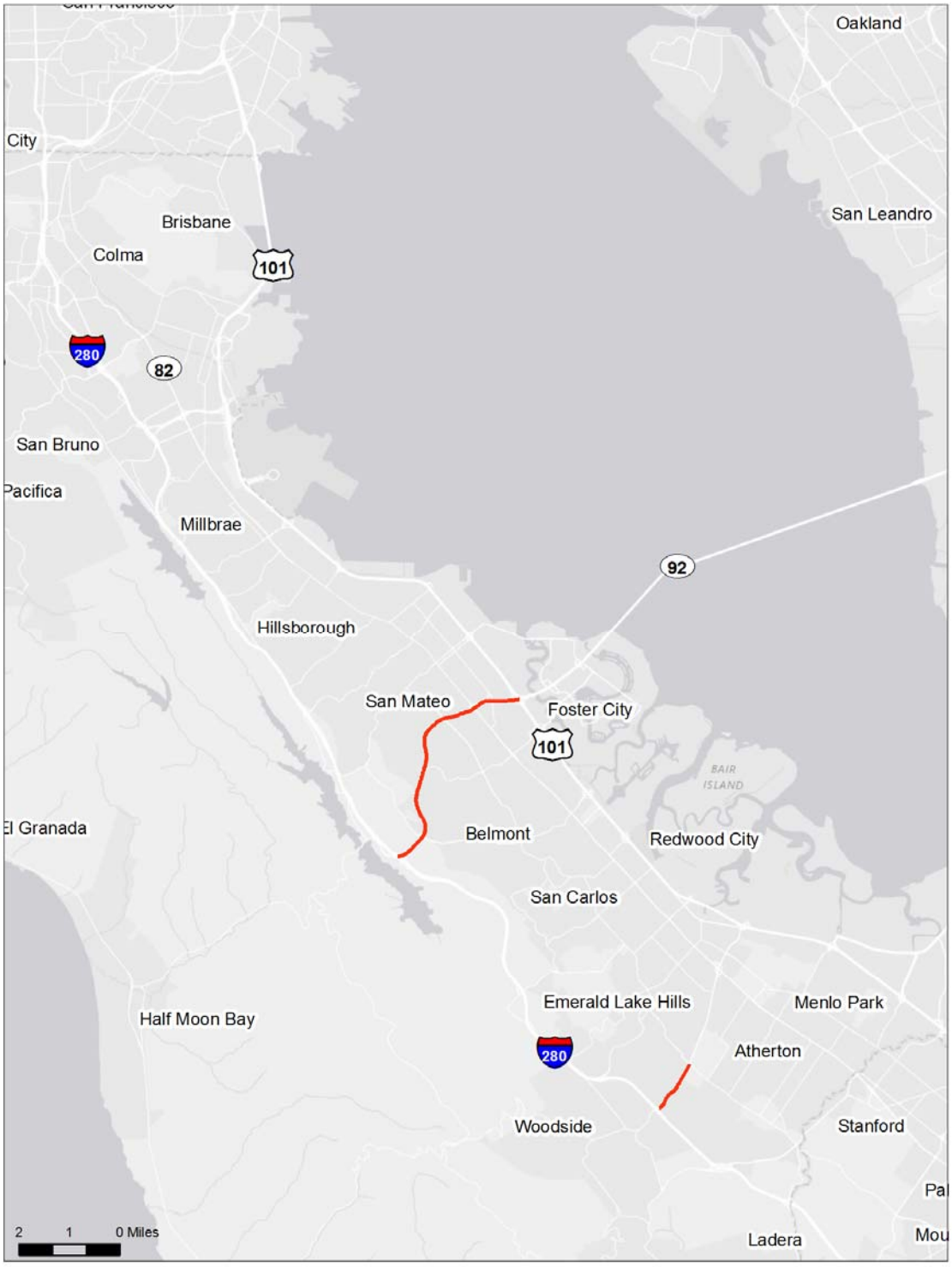

Figure 8 – AM Deficient Segments after Exemption

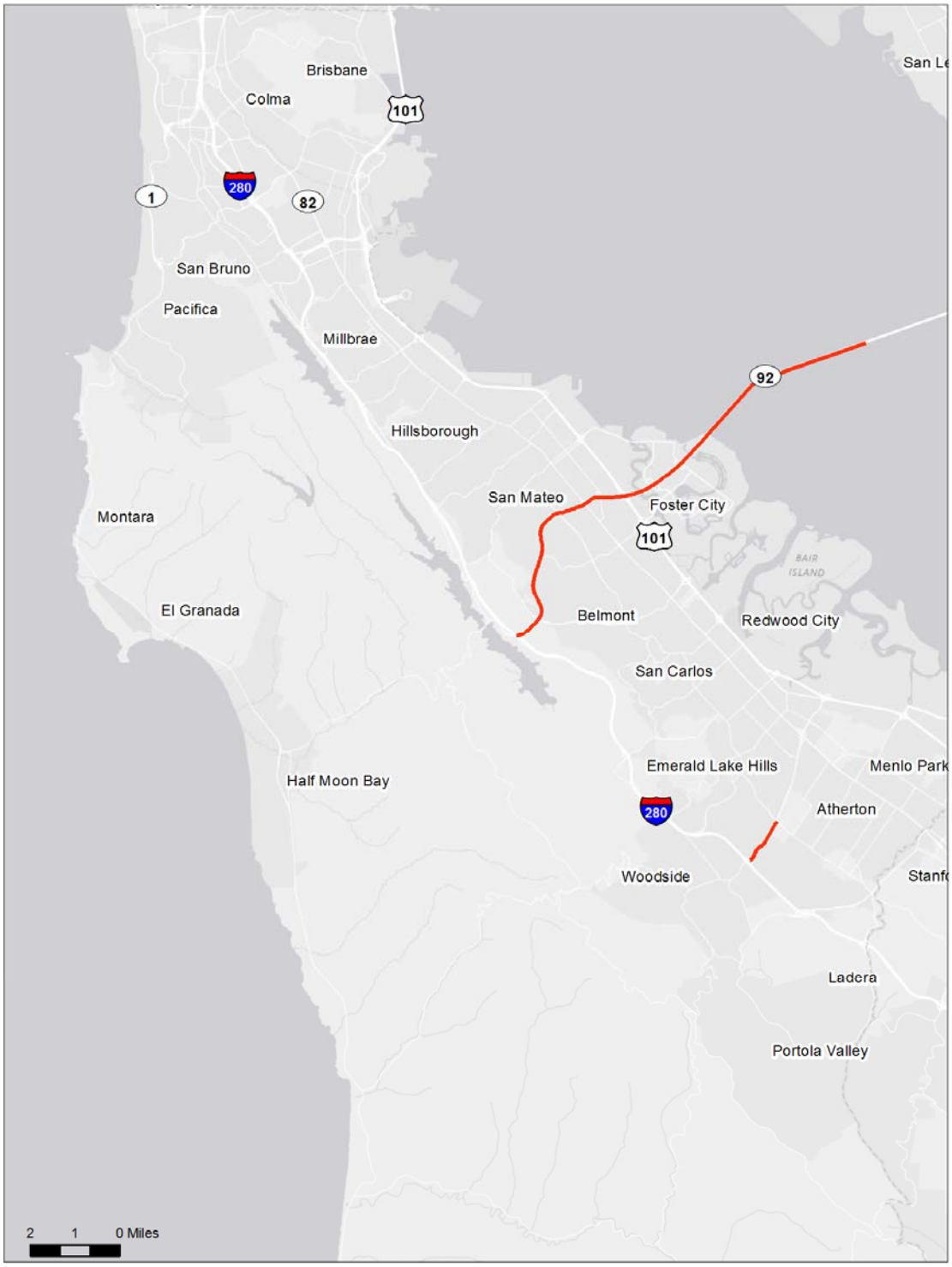

Figure 9 – PM Deficient Segment after Exemption

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

				2000 HCM Method						
Int #	Intersection	LOS Standard	Peak Hour	2015 LOS	2013 LOS	2011 LOS	2009 LOS	2007 LOS	2005 LOS	2015 Standard Exceeded
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.

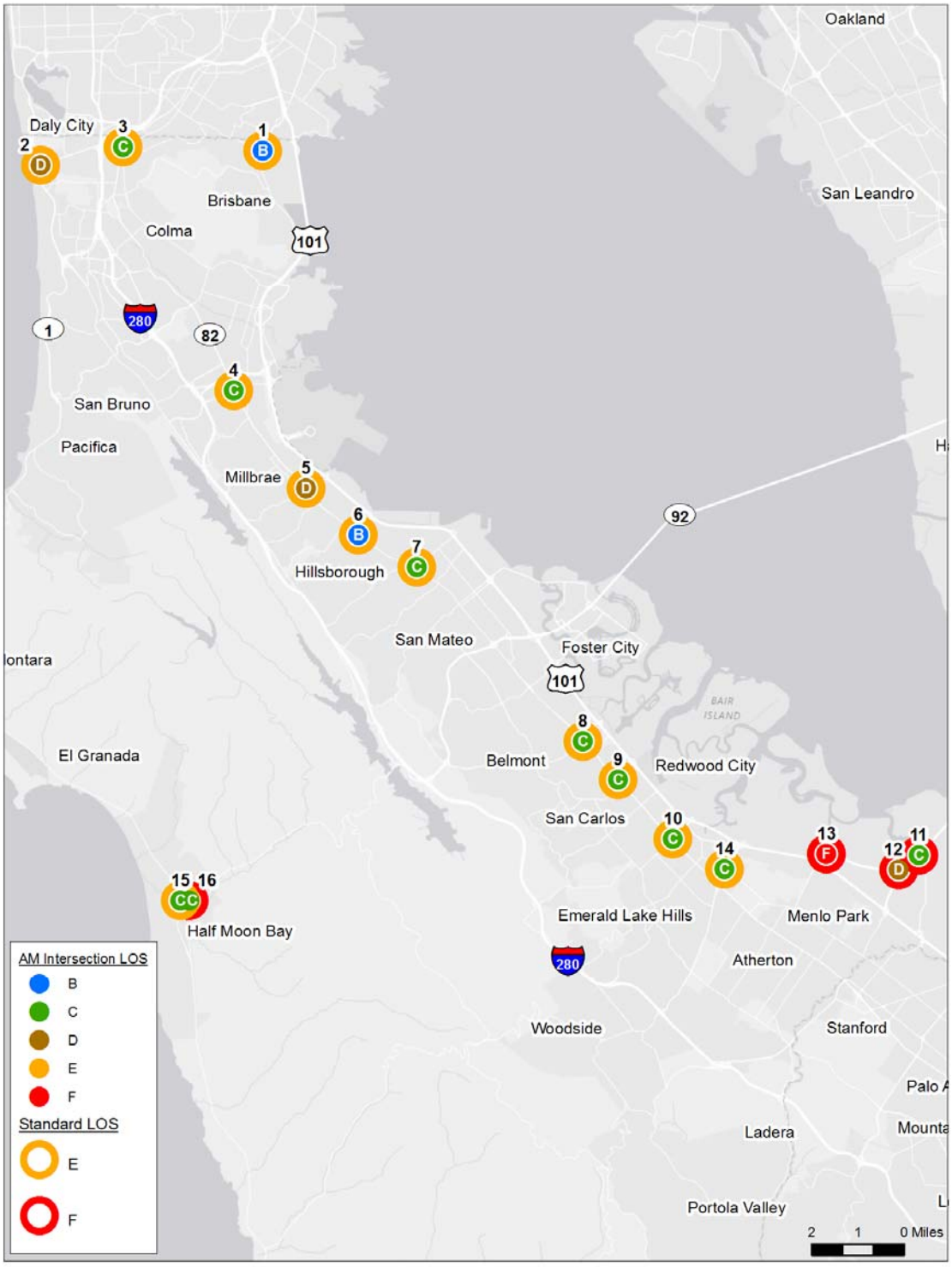

Figure 10 – AM Intersection LOS (Underlying Color is LOS Standard)

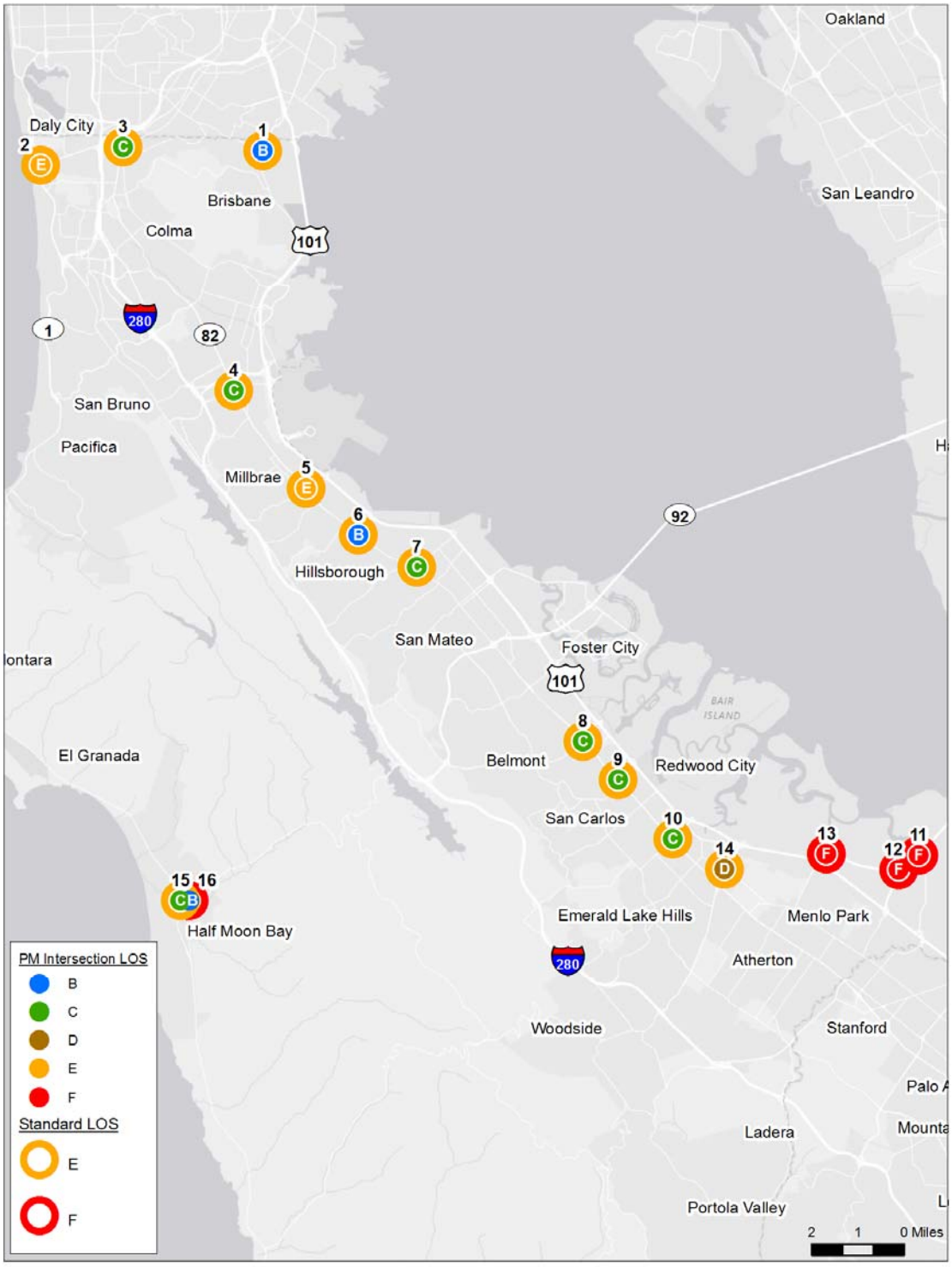

Figure 11 – PM Intersection LOS (Underlying Color is LOS Standard)

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[1]	39	23	35	35	43	27	31	31	38	24	34	34	38	23	35	35
SamTrans Route KX[2]	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).

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
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	**33,928,774**	**47,504,723**	**170,201**	**155,795**

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 42nd 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 42nd St - northbound
- SR 82 between 42nd 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.

APPENDIX

AM and PM Roadway LOS Tabular Results

TECHNICAL APPENDIX

- The technical details, database and support documents are included in a separate geographic information system (GIS) deliverable

DRAFT
SAN MATEO COUNTY
CONGESTION MANAGEMENT PROGRAM
2015
(EXECUTIVE SUMMARY ONLY)

City/County Association of Governments of San Mateo County

C/CAG
City/County Association of Governments
of San Mateo County

September 2015

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2015 Congestion Management Program for San Mateo County
Executive Summary

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 in 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)