

C/CAG

CITY/COUNTY ASSOCIATION OF GOVERNMENTS OF SAN MATEO COUNTY

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Millbrae • Pacifica • Portola Valley • Redwood City • San Bruno • San Carlos • San Mateo • San Mateo County • South San Francisco • Woodside*

AGENDA

Congestion Management & Environmental Quality (CMEQ)

Committee

Date: Monday, November 30, 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 September 28, 2015 meeting. | Action (Garbarino) | Pages 1 - 3 |
| 3. | Review and approval of the 2016 C/CAG CMEQ calendar. | Action (Wong) | Page 4 |
| 4. | Receive a presentation and update on the Alternative Fuel Readiness Plan for San Mateo County. | Information (Hoang) | Page 5 - 6 |
| 5. | Review and recommend approval of the Final 2015 Congestion Management Program (CMP) and Monitoring Report. | Action (Lacap) | Pages 7 – 24 |
| 6. | Review and recommend approval of the Call for Projects for the C/CAG and San Mateo County Transportation Authority Shuttle Program for Fiscal Year 2016/2017 & Fiscal Year 2017/2018. | Action (Madalena) | Pages 25 – 27 |
| 7. | Review and recommend approval of participating in the Highway 101 Pilot Ramp Metering Project. | Action (Yu) | Pages 28 - 45 |
| 8. | Executive Director Report. | Information (Wong) | Oral Report |
| 9. | Member comments and announcements. | Information (Garbarino) | |
| 10. | Adjournment and establishment of next meeting date:
January 25, 2016 | Action (Garbarino) | |

C/CAG

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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
MANAGEMENT AND ENVIRONMENTAL QUALITY (CMEQ)**

**MINUTES
MEETING OF September 28, 2015**

The meeting was called to order by Interim Chair Pierce in Conference Room C at City Hall of San Mateo at 3:04 p.m. Attendance sheet is attached.

1. Public comment on items not on the agenda.

None.

2. Approval of minutes of August 31, 2015 meeting.

Motion: To approve the Minutes of the August 31, 2015 meeting, O'Connell/Stone, members Dworetzky and Pierce abstained. Motion carried.

3. Receive an update from the MTC regarding Plan Bay Area 2040 Performance Measures and Targets (Information).

MTC staff Adam Noelting and Kristen Carnarius provided a detail presentation on the performance measures and targets to be used in the development of Plan Bay Area 2040. Final targets will be adopted by the MTC Commission in November. Those targets will be used to evaluate projects submitted by project sponsors. CMEQ members commented on the lack of east-west connectivity in San Mateo County. The question regarding Dumbarton Rail also came up.

4. Review and recommend approval of the Measure M Fiscal Year 2014-15 Annual Performance Report. (Action)

John Hoang provided a presentation on the Measure M fiscal year 2014-15 Annual Performance report. In FY 2014-15, 50% of Measure M revenues were distributed to the 21 local jurisdictions for local transportation and stormwater needs. The remaining 50% was expended in countywide programs including transit operation/senior mobility, Smart Corridor project, Safe Routes to School, and Stormwater pollution prevention. The percent share invested in each program was as directed by the C/CAG Board approved 5-year Implementation Plan. This item presents the accomplishments in fiscal year 2014-15.

Motion: To recommend approval of the Measure M Fiscal Year 2014-15 Annual Performance Report, Aguirre/O'Connell. Motion carried unanimously.

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

Jean Higaki provided a presentation on the draft 2016 State Transportation Improvement Program (STIP) for San Mateo County. STIP is a five-year program, adopted by the California Transportation Commission every two years, based on financial projections provided by the California Department of Transportation for the next five years. For the 2016 STIP, it is anticipated there will be no new

revenues for programming. However, funds programmed in the adopted 2014 STIP will stay in the STIP. C/CAG staff recommends making some adjustments to the funds programmed in the 2014 STIP to be consistent with the updated project schedules as well as current countywide priorities. CMEQ members discussed the option of recommending approval of the STIP list of projects with the exception of the Highway 1 Calera Parkway project.

Motion: To recommend approval of the Draft 2016 State Transportation Improvement Program (STIP) for San Mateo County, Aguirre/Lewis. Members Koelling, Keener, Roberts, and Dworzky opposed. Motion passes five to four.

6. Review and recommend approval of the Draft 2015 Congestion Management Program (CMP) and Monitoring Report. (Action)

John Hoang provided a presentation on the Draft 2015 CMP and monitoring report. As the Congestion Management Agency, C/CAG is responsible for the update of CMP every two years. The Draft 2015 CMP will be submitted to the C/CAG Board in October, and then released for public comments. Staff prepared the Draft based on input and guidelines issued by the MTC. The monitoring report provides performance measurements on traffic congestion and transit travel time. Final draft 2015 CMP will be brought back to CMEQ committee for review in November.

Motion: To recommend approval of the Draft 2015 Congestion Management Program (CMP) and Monitoring Report, Lewis/Roberts. Motion carried unanimously.

7. Executive Director Report (Information).

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

1. C/CAG Water Ad Hoc Committee met with Supervisor Pine and Supervisor Horsley. It was proposed to form an on-going committee to facilitate countywide discussion and to address the issue.
2. Assemblyman Kevin Mullin chaired a regional meeting on September 15th intended to improve congestion problem along the US 101 corridor. Participants included the Bay Area Council and a number of business representatives, SPUR, as well as executive staff from SamTrans, SMCTA, C/CAG, Caltrans, and MTC.

7. Member comments and announcements (Information).

None.

8. Adjournment and establishment of next meeting date.

The meeting adjourned at 4:30 pm.

The next regular meeting was scheduled for October 26, 2015.

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	X			
City of Redwood City	Barbara Pierce	X	X		X				x	X			
City of Belmont	Charles Stone	X	X						x	X			
Town of Atherton	Elizabeth Lewis	X	X		X					X			
City of San Bruno	Irene O'Connell	X					X		x	X			
Environmental Community	Lennie Roberts	X	X				X		x	X			
City of Pacifica	Mike O'Neill	X	X		X		X		x				
City of South San Francisco	Richard Garbarino	X	X		X		X		x				
Public	Steve Dworetzky	X	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	X			
Business Community	Adina Levin	NA	NA		NA		NA		NA				
Agencies with Transportation Interests	Linda Koelling	NA	NA		NA		NA		NA	X			

Staff and guests in attendance for September 28, 2015 meeting:

Sandy Wong, Jean Higaki, John Hoang - C/CAG Staff

Adam Noelting MTC

Kristen Carnarius MTC

C/CAG AGENDA REPORT

Date: November 30, 2015
To: C/CAG Congestion Management and Environmental Quality Committee (CMEQ)
From: Sandy Wong, Executive Director, and C/CAG
Subject: Review and approval of the 2016 CMEQ calendar.

(For further information or response to questions, contact Sandy Wong at 650 599-1409)

Recommendation:

Review and approve the 2016 schedule for the monthly CMEQ meetings.

Fiscal Impact:

None.

Background/Discussion:

The following schedule for the 2016 CMEQ meetings is proposed below. All meetings are scheduled for the last Monday of the month except for May 23rd. Also, following the CMEQ committee's decision for past years, meetings have not been scheduled for the months of July and December.

Meetings begin at 3:00 p.m. and are typically held in Conference Room C, San Mateo City Hall, with occasional alternative locations to be announced.

January 25
February 29
March 28
April 25
May 23 (May 30 is Memorial Day)
June 27
July – No Meeting
August 29
September 26
October 31
November 28
December - No Meeting

C/CAG AGENDA REPORT

Date: November 30, 2015
To: Congestion Management and Environmental Quality (CMEQ) Committee
From: John Hoang
Subject: Receive a presentation and update on the Alternative Fuel Readiness Plan for San Mateo County

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

RECOMMENDATION

That the CMEQ Committee receives a presentation and update on the Alternative Fuel Readiness Plan for San Mateo County.

FISCAL IMPACT

\$356,418 (\$275,810 - Grant; \$80,608 - In-kind match)

SOURCE OF FUNDS

California Energy Commission; C/CAG Congestion Relief Plan

BACKGROUND

C/CAG received a grant from the California Energy Commission in June 2014 to develop an Alternative Fuel Readiness Plan (AFRP) for San Mateo County and 20 cities therein to prepare for the commercialization of alternative transportation fuels including electric, hydrogen, biofuels, propane, and natural gas. A project Task Force was formed comprising of cities (Menlo Park, San Mateo, South San Francisco, Portola Valley) and industry representatives to help guide the development process.

The scope of work, as prescribed by the Energy Commission, includes the following tasks:

- Analyze existing and potential incentives for increased usage of alternative fuels;
- Identify challenges and opportunities for sharing best practices for planning, permitting, deployment, maintenance and inspection of Alternative Fuel Infrastructure (AFI);
- Develop, or revised as necessary, training materials or classes for fleet operators, planners, first responders, and decision-makers regarding AFI development;
- Develop strategies and best practices to increase procurement of alternative fuels;
- Develop marketing analyses, marketing materials, and outreach strategies that communicate the benefits of alternative fuel usage to targeted groups such as fleet owners/operators; and
- Develop strategies to assist alternative fuel wholesalers/retailers, with the intent of increasing the availability and/or reducing the cost of alternative fuels.

The draft AFRP Report and Summary Report is being finalized at this time. The purpose of this presentation is to provide highlights of the report with the anticipation that the Final Report will be brought to the CMEQ for approval recommendation at a future meeting.

ATTACHMENTS

None

C/CAG AGENDA REPORT

Date: November 30, 2015

To: Congestion Management and Environmental Quality (CMEQ) Committee

From: Tom Madalena

Subject: Review and recommend approval of the Call for Projects for the C/CAG and San Mateo County Transportation Authority Shuttle Program for Fiscal Year 2016/2017 & Fiscal Year 2017/2018

(For further information or questions contact Tom Madalena at 599-1460)

RECOMMENDATION

That the CMEQ review and recommend approval of the Call for Projects for the C/CAG and San Mateo County Transportation Authority Shuttle Program for Fiscal Year 2016/2017 & Fiscal Year 2017/2018.

FISCAL IMPACT

For the FY 16/17 & FY 17/18 funding cycle there will be approximately \$10,000,000 available.

SOURCE OF FUNDS

Funding to support the shuttle programs will be derived from the Congestion Relief Plan adopted by C/CAG and includes \$1,000,000 in funding (\$500,000 for FY 16/17 and \$500,000 for FY 17/18). The San Mateo County Transportation Authority (TA) Measure A Program will provide approximately \$9,000,000 for the two-year funding cycle. The C/CAG funding will be predicated on the C/CAG Board of Directors approving shuttle funding in the amount of \$500,000 for each fiscal year through the budget adoption process.

BACKGROUND/DISCUSSION

For the upcoming San Mateo County Shuttle Program, C/CAG will partner with the San Mateo County Transportation Authority to issue the third joint call for projects. Staff developed a “one call” funding program that enables applicants to apply to one program utilizing one application and scoring criteria for both C/CAG and TA funding sources. The combined program is designed to utilize one call for projects, one application, and one scoring committee. The funding cycle as developed is a two-year cycle and includes FY 16/17 and FY 17/18. Both agencies will be utilizing one methodology by which to score projects. Once proposed projects have been scored they will be brought to each respective Board of Directors for the funding allocation from the respective agency. Staff will work to try to issue only one source of funds (C/CAG or TA) for each shuttle program sponsor.

The result of this process will be one prioritized list of projects to be funded by each agency. After the funding allocations are made by each Board of Directors, staff from each agency will be responsible for administering their agency’s funding agreements with the shuttle program project sponsors. Once the funding allocations are made project sponsors will then be working with staff from the agency that provides the funding. There will be ongoing progress reports required from project sponsors that will be the same for both agencies.

There is one new policy being proposed to be included as part of this cycle.

- Sponsors of new shuttles as well as sponsors of existing shuttles that fall below the established operating cost per passenger or passenger per service hour benchmarks will be required to consult with SamTrans operations planning staff for shuttle technical assistance prior to the submittal of an application and are encouraged to continue to seek assistance as needed during the current shuttle funding cycle.

It is being proposed that the following funding cycle, FY 18/19 and FY 19/20, will include the following policy.

- Sponsors with existing shuttles that have been in operation prior to FY 16/17 and perform below the operating cost per passenger benchmark during FY 16/17 will be required to increase their share of required matching funds in subsequent shuttle funding cycles, up to a maximum of 50%, to help pay for the extra cost increment incurred that exceeds the benchmark.

The established shuttle performance benchmarks are as follows:

Benchmark	Commuter Shuttles	Community Shuttles	Door to Door Shuttles
Cost per passenger	\$7	\$9	\$16
Passengers per service hour	15	10	2

The minimum match is twenty five percent (25%) of the total project cost. Project applicants include local jurisdictions and/or public agencies. A governing board resolution that confirms that the jurisdiction/agency approves of the application submittal and commits to providing the matching funds must be submitted along with the application.

Proposed Timeline for the San Mateo County Shuttle Program for FY 16/17 & FY 17/18:

- November 19, 2015 – Technical Advisory Committee Call for Projects Review
- November 30, 2015 – Congestion Management and Environmental Quality Committee Call for Projects Review
- December 10, 2015 – C/CAG Board of Directors Call for Projects Review and Approval
- December 14, 2015 – Issue Call for Projects for FY 16/17 & FY 17/16 San Mateo County Shuttle Program
- December 15, 2015 – Application Workshop at SamTrans offices
- February 12, 2016 – Shuttle Program Applications Due
- March 14-18, 2016 – Convene Shuttle Program Evaluation Committee
- April 21, 2016 – CMP Technical Advisory Committee Recommended Project List Review
- April 25, 2016 – Congestion Management and Environmental Quality Committee

Recommended Project List Review

- May 5, 2016 – Transportation Authority Board of Directors Project List Final Review and Approval
- May 12, 2016 – C/CAG Board of Directors Project List Review and Approval

ATTACHMENTS

- San Mateo County Shuttle Program Call for Projects FY 2016/2017 & 2017/2018

C/CAG

CITY/COUNTY ASSOCIATION OF GOVERNMENTS
OF SAN MATEO COUNTY



TO: City/County Managers
Public Works Directors

FROM: Tom Madalena, C/CAG
Joel Slavitt, SMCTA

DATE: December 14, 2015

RE: **Call for Projects: San Mateo County Shuttle Program FY 2016/2017 & FY 2017/2018**

This memo transmits the guidelines and criteria for the San Mateo County Shuttle Program for FY 2016/2017 & FY 2017/2018, a combination of the C/CAG Local Transportation Services Program under the Countywide Congestion Relief Plan and the San Mateo County Transportation Authority (TA) Measure A Sales Tax Program. This combined funding program offers \$10,000,000 available on a competitive basis for a two-year funding cycle. Eligible applicants in San Mateo County can apply for funding to establish local shuttle services that are designed to assist residents and employees to travel within San Mateo County or to connect with a regional transportation service (major SamTrans routes, Caltrain, BART, ferries). Eligible applicants include local jurisdictions and/or public agencies within San Mateo County. Projects that are coordinated among multiple jurisdictions are encouraged. The funding for this Call for Projects is to start new local transportation services, augment existing services, or continue projects previously funded under the Congestion Relief Plan and/or the Measure A Sales Tax Local Shuttle Program. Shuttles funded through this program must be open to the general public. Shuttle projects must conform to all applicable federal, state and local laws and regulations.

In order to qualify for funding, the project sponsor must provide a minimum of 25% of the total cost of the program. The source of matching funds is at the discretion of the project sponsor, although matching funds must not be C/CAG funds or San Mateo County Transportation Authority Measure A Local Shuttle Program funds. Direct costs for operations, marketing and administration of shuttles are eligible.

Sponsors of new shuttles as well as sponsors of existing shuttles that fall below the established operating cost per passenger or passenger per service hour benchmarks will be required to consult with SamTrans operations planning staff for shuttle technical assistance prior to the submittal of an application and are encouraged to continue to seek assistance as needed during the FY 16/17 and FY 17/18 shuttle funding cycle.

It is anticipated that sponsors with existing shuttles that have been in operation prior to FY 16/17 and that perform below the operating cost per passenger benchmark during FY 16/17 will be required to increase their share of required matching funds in subsequent shuttle funding cycles, up to a maximum of 50%, to help pay for the extra cost increment incurred that exceeds the benchmark.

Local jurisdictions and/or public agencies must be the applicant for the funds; however they may use other entities such as SamTrans, the Peninsula Traffic Congestion Relief Alliance (Alliance) or others to manage and/or operate the service. Employers and private entities are not eligible to apply directly, however they may partner with a local jurisdiction or public agency which would be the applicant. A letter of concurrence/sponsorship from SamTrans is required to confirm that the shuttle route(s) shall not duplicate SamTrans fixed-route service. Please contact Tracy Lin, Operations Planning [(650)-508-6457, lintr@samtrans.com], no later than **January 5, 2015** to request the letter of concurrence/sponsorship.

Submit one unbound original, seven hard copies and one electronic copy of the application. Applications may be emailed to rasmussenp@samtrans.com and mailed to:

Pete Rasmussen
SamTrans
1250 San Carlos Ave.
San Carlos, CA 94070

The application deadline is 4:00 p.m. Friday February 12, 2016. An application workshop will be held at 1:30 p.m. on Tuesday December 15, 2015 in the 2nd Floor Auditorium of the SamTrans office in San Carlos. The applications must include the information listed below and must be completed with the attached Microsoft Word application forms. Projects (both new and existing) may be considered for reduced funding in the event that there are insufficient funds to fully fund the requested amount. C/CAG and the TA intend to program funds such that each shuttle program funded through this funding cycle will only receive one funding source.

EVALUATION PROCESS (dates are subject to change)

An evaluation panel will review the applications and develop recommendations for publication by March 28, 2016. These recommendations will be presented to the TA Citizen Advisory Committee (CAC) on April 5, 2016 and to the TA Board on April 7, 2016. The recommendations will be presented to the C/CAG Congestion Management Program Technical Advisory Committee (TAC) on April 21, 2015. The TAC recommendation will go to the C/CAG Congestion Management and Environmental Quality Committee (CMEQ) on April 25, 2016. The recommendations will also go to the CAC on May 3, 2016. The TA Board of Directors and the C/CAG Board of Directors will each develop a program of projects after consideration of the recommendations provided by the TAC, CMEQ, and CAC on May 5, 2016 and May 12, 2016, respectively.

Attachments:

- San Mateo County Shuttle Program Application FY 16/17 & 17/18 for Existing Shuttles
- San Mateo County Shuttle Program Application FY 16/17 & 17/18 for New Shuttles
- San Mateo County Shuttle Program Criteria
- Non-supplantation of funds certification

San Mateo County Shuttle Program FY 2016/2017 & FY 2017/2018

Application Form for Existing Shuttles

Sponsoring agency:

Contact person:

Phone:

Email:

Shuttle Name	Amount of Funding Requested
	\$

Minimum Requirements:

Yes No

- Project is located within San Mateo County
- Project is a shuttle service that meets local mobility needs and/or provides access to regional transit
- Funding is for shuttle operations open to the general public
- Shuttles must be compliant with the Americans with Disabilities Act (ADA)
- A funding match of at least 25% will be provided
- A Non-Supplantation Certificate is attached
- A letter of concurrence/sponsorship from SamTrans is attached*
* Please contact Michael Eshleman, Operations Planning [(650)-508-6227, eshlemanm@samtrans.com], no later than January 5, 2015 to request the letter of concurrence/sponsorship.
- A governing board resolution in support of the proposed shuttle is attached
- Project met shuttle program benchmark standards for FY 14/15
- If project did not meet shuttle program benchmark standards for FY 14/15, project sponsor has met with SamTrans operations planning staff for technical assistance prior to the application deadline

If you have answered “no” to any of the above minimum requirements, please review the project guidelines and contact Tom Madalena [(650) 599-1460, tmadalena@smcgov.org] or Joel Slavit [(650) 508-6476, slavitj@samtrans.com] with any questions.

Attachments

List all attachments here:

- A letter of concurrence/sponsorship from SamTrans (*Minimum requirement*)
- A Non-Supplantation Certificate (*Minimum requirement*)
- Service Maps (*C1a*)
- Governing Board Endorsement (*E1*)
- Support letters (*E2*) Other specify here _____

APPLICATION FOR EXISTING PROJECTS

A. Need (up to 20 points)

Describe how the shuttle will:

1. Provide service in/to an area underserved by other public transit
2. Provide congestion relief in San Mateo County (Does it provide peak period commute service? Does it make connections to employment centers, activity centers or transit stations? Does it make first or last mile connections? Provide as much detail as you can to support your response.)
3. Provide transportation to low-income, transit dependent, seniors, disabled or other special-needs populations
4. Provides transportation to the services used by the special demographic groups from Item A.3 above.

Letters of support from co-sponsors, partners, stakeholders, etc. (*List agencies/organizations and attach letters*)

B. Readiness (Up to 20 points)

1. Service Plan - Describe how the service was delivered for the prior 12 months and any proposed changes for the new two year funding period, including:
 - a. Service area (route description, destinations served)
(*Attach maps*)
 - b. List specific rail stations, major SamTrans route or ferries served by the shuttle
 - c. Schedule (Days, times, frequency) Show coordination with scheduled transit service. Also describe whether the shuttle is a community shuttle, commuter shuttle or door-to-door shuttle as well as the size and number of vehicles to be used.
 - d. Marketing (outreach, advertising, signage, schedules, etc.)

- e. Service provider
- f. Administration and oversight plan/roles
- g. Co-sponsor/stakeholders (roles/responsibilities)
- h. Monitoring plan (service quality performance data, complaints/complements, surveys)
- i. Ridership characteristics (commuters, employees, seniors, students, etc.)
- j. Any differences/changes to existing service for the funding period, compared to the prior 12 months
- k. If the shuttle under-performed the benchmarks listed in Table 1 below, did the sponsor utilize the Technical Assistance Program (TAP) offered by SamTrans and the Alliance?

Table 1 - Benchmarks for existing shuttles

Shuttle service	Operating Cost/ passenger	Passengers/ Service Hour
Commuter	\$7	15
Community or Combination	\$9	10
Door to Door	\$16	2

2. Funding Plan with Budgeted Line Items (use Table 2 below):

Table 2

Budget Line Item	For Prior 12 Months	FY 16/17 Budget	FY 17/18 Budget	Total Budget FY 16/17 & 17/18
a. Contractor cost (e.g. operator/vendor)				
b. Fuel				
c. Insurance				
d. Administrative costs (e.g. staff oversight)				

e. Other direct costs (e.g. marketing)				
f. Total Operating Cost				

g. Notes/exceptions (e.g. if there are projected differences between the first and second years' costs)

C. Effectiveness (up to 25 points)

1. Service Performance

Operating cost per passenger and passengers per service hour for FY 14/15
(Use Table 3 below)

Table 3

Operating Data		For FY 14/15
Vehicle Hours of Service		
Service Vehicle Miles		
Total Passengers		
Performance Indicators		For FY 14/15
Operating Cost/Passenger ¹		
Passengers/Service Hour ²		

Footnotes

1. Total Operating Cost/Total Passengers
2. Total Passengers/Vehicle Hours of Service

2. What other transit services does this shuttle connect with (*if bus, identify the route*)?
3. Does the shuttle provide connections between transit oriented development and major activity centers?
4. Describe the extent that this shuttle reduces Single Occupancy Vehicle (SOV) trips and Vehicle Miles Traveled (VMT). *Provide justification/methodology for the reduction in the number of SOV trips and VMT.*

D. Funding Leverage (up to 20 points)

1. List amounts and sources of matching funds

Source of Funding	Amount	Percentage
Matching Funds <i>(list sources)</i>		
<i>Subtotal Matching Funds</i>		<i>\$0.00</i>
TA or C/CAG Funding request for FY16/17 & FY17/18		#DIV/0!
Total Funding		\$0.00

2. How much private sector funding will be contributed towards this shuttle? \$_____

E. Policy Consistency & Sustainability – (up to 15 points)

1. Proposed shuttle is included in adopted local, special area, county or regional plan *(list plans)*
2. Describe how the shuttle service supports job and housing growth/economic development.
3. Will clean-fuel vehicles be deployed for shuttle service? *(describe)*
4. Does the shuttle accommodate bicycles?
5. Are there any costs savings demonstrated through sharing of resources (e.g. shuttle operator provides reduced rates if used for both peak and off-peak service)

San Mateo County Shuttle Program FY 2016/2017 & FY 2017/2018

Application Form for New Shuttles

Sponsoring agency:

Contact person:

Phone:

Email:

Shuttle Name	Amount of Funding Requested
	\$

Minimum Requirements:

Yes No

- Project is located within San Mateo County
- Project is a shuttle service that meets local mobility needs and/or provides access to regional transit
- Funding is for shuttle operations open to the general public
- Shuttles must be compliant with the Americans with Disabilities Act (ADA)
- A funding match of at least 25% will be provided
- A Non-Supplantation Certificate is attached
- A letter of concurrence/sponsorship from SamTrans is attached*
* Please contact Michael Eshleman, Operations Planning [(650)-508-6227, eshlemanm@samtrans.com], no later than January 31, 2014 to request the letter of concurrence/sponsorship.
- A governing board resolution in support of the proposed shuttle is attached
- Project sponsor has met with SamTrans operations planning staff for technical assistance prior to application deadline

If you have answered “no” to any of the above minimum requirements, please review the project guidelines and contact Tom Madalena [(650) 599-1460, tmadalena@smcgov.org] or Joel Slavit [(650) 508-6476, slavitj@samtrans.com] with any questions.

Attachments

List all attachments here:

- A letter of concurrence/sponsorship from SamTrans (*Minimum requirement*)
- A Non-Supplantation Certificate (*Minimum requirement*)
- Service Maps (*C1a*)
- Governing Board Endorsement (*E1*)
- Support letters (*E2*)
-
-
-

APPLICATIONS FOR NEW PROJECTS

A. Need (up to 25 points)

Describe how the shuttle will:

1. Provide service in/to an area underserved by other public transit
2. Provide congestion relief in San Mateo County (Does it provide peak period commute service? Does it make connections to employment centers, activity centers or transit stations? Does it make first or last mile connections? Provide as much detail as you can to support your response.)
3. Provide transportation to low-income, transit dependent, seniors, disabled or other special-needs populations
4. Provides transportation to the services used by the special demographic groups from Item A.3 above.

Letters of support from co-sponsors, partners, stakeholders, etc. (*List agencies/organizations and attach letters*)

B. Readiness (Up to 25 points)

1. Service Plan - Describe how the service will be delivered including:
 - a. Service area (route description, destinations served)
(*Attach maps*)
 - b. Describe your service plan development (planning process, public outreach, whether SamTrans/Alliance technical assistance was utilized, etc.)
 - c. List specific rail stations, major SamTrans route or ferries served by the shuttle
 - d. Schedule (Days, times, frequency) Show coordination with scheduled transit service. Also describe whether the shuttle is a community shuttle, commuter shuttle or door-to-door shuttle as well as the size and number of vehicles to be used.
 - e. Marketing (outreach, advertising, signage, schedules, etc.)

- f. Service provider
- g. Administration and oversight plan/roles
- h. Co-sponsor/stakeholders (roles/responsibilities)
- i. Monitoring plan (service quality performance data, complaints/complements, surveys)
- j. Ridership characteristics (commuters, employees, seniors, students, etc.)
- k. Any differences/changes to existing service for the funding period, compared to the prior 12 months
- l. Planning process for shuttles (extent of public planning process, use of SamTrans and Alliance Technical Assistance Program)

C. Effectiveness (up to 15 points)

- 1. Projected ridership and performance for each fiscal year. (*Use Table 1 to provide calculation information for questions 1, 2 and 3. State assumptions and document justifications where possible.*)

Table 1

Projected Operating Costs	FY16/17 Projection	FY17/18 Projection
Contractor Cost		
Fuel		
Insurance		
Administrative Costs (e.g. Personnel expenses)		
Other Direct Costs (e.g. Printing marketing materials, promotions, etc.)		
Total Operating Costs		\$0

Projected Operating Data	FY16/17 Projection	FY17/18 Projection
Vehicle Hours of Service		
Service Vehicle Miles		
Total Passengers		

Performance Indicators	FY16/17 Projected Average	FY17/18 Projected Average
Operating Cost/Passenger	#DIV/0!	#DIV/0!
Passengers/Service Hour	#DIV/0!	#DIV/0!

2. What other transit services does this shuttle connect with (*if bus, identify the route*)?
3. Does the shuttle provide connections between transit oriented development and major activity centers?
4. Describe the extent that this shuttle reduces Single Occupancy Vehicle (SOV) trips and Vehicle Miles Traveled (VMT). *Provide justification/methodology for the reduction in the number of SOV trips and VMT.*

D. Funding Leverage (up to 20 points)

1. List amounts and sources of matching funds

Source of Funding	Amount	Percentage
Matching Funds (<i>list sources</i>)		
<i>Subtotal Matching Funds</i>	\$0.00	#DIV/0!
TA or C/CAG Funding request for FY16/17 & FY17/18		#DIV/0!
Total Funding	\$0.00	#DIV/0!

2. How much private sector funding will be contributed towards this shuttle? \$ _____

E. Policy Consistency & Sustainability – (up to 15 points)

1. Proposed shuttle is included in adopted local, special area, county or regional plan (*list plans*)
2. Describe how the shuttle service supports job and housing growth/economic development.
3. Will clean-fuel vehicles be deployed for shuttle service? (*describe*)
4. Does the shuttle accommodate bicycles?
5. Are there any cost savings demonstrated through sharing of resources (e.g. shuttle operator provides reduced rates if used for both peak and off-peak service)

Eligibility Criteria		San Mateo County Shuttle Program Call for Projects FY 16/17 & FY 17/18	
Minimum Local Match	- 25%		
Local Match	<ul style="list-style-type: none"> - C/CAG or Measure A Shuttle funds cannot be used as the local match for either funding agency. - Measure A Local Streets/Transportation Funds may be used. 		
Program Purpose	- Provide local shuttle services for residents and employees to travel within or to connect with regional transportation/transit service within San Mateo County.		
Eligible Applicants	<ul style="list-style-type: none"> - Local jurisdictions and/or public agencies are eligible applicants for the funds, however they must obtain a letter of concurrence/sponsorship from SamTrans. They may partner with other public, non-profit or private entities to co-sponsor shuttles. - Grant applicants may also contract with other public, non-profit or private entities to manage and/or operate the shuttle service. 		
Eligible Costs	<ul style="list-style-type: none"> - Costs directly tied to the shuttle service, such as operations, marketing and outreach, and staff time directly associated with shuttle administration are eligible. - Leasing of vehicles is an eligible expense; vehicle purchase is not. - Overhead, indirect or other staff costs are not eligible. 		
Minimum Requirements	<ul style="list-style-type: none"> - Project is located in San Mateo County - Project is a shuttle service that meets local mobility needs and/or provides access to regional transit. - Funding is for operations open to the general public - Shuttles must be compliant with the Americans with Disabilities Act(ADA). 		
Other Requirements	- Any change to the proposed service prior to implementation or during the funding period must be approved by the funding agency (TA or C/CAG) with the concurrence of SamTrans.		
Screening Criteria		Existing Shuttles	New Shuttles
Non-Supplantation Certification	Funding request does not substitute for existing funds.		NA
Letter of Concurrence/Sponsorship	Evidence of coordination with SamTrans, through a letter of concurrence from SamTrans, that shuttle routes do not duplicate SamTrans fixed-route or other public shuttle service, is required. If there are proposed route and/or schedule changes to existing shuttle service, applicant shall provide a letter of concurrence from SamTrans regarding the proposed changes.		Evidence of coordination with SamTrans, through a letter of concurrence from SamTrans, that proposed shuttle routes does not duplicate SamTrans fixed route or other public shuttle service, is required.
Governing Board Resolution	A governing board resolution in support of the project is required.		
Technical Assistance	Sponsors of new as well as existing shuttles that have not met the established cost/passenger and passengers/service hour benchmarks, from FY 14/15, are required to consultant with SamTrans operations planning staff prior to the submission of a funding application for guidance on how to best provide cost effective service to meet the identified need.		
Scoring Criteria		Existing Shuttles	New Shuttles
Need & Readiness	<p>Need – 20 points</p> <ul style="list-style-type: none"> -Provides service to an area underserved by other public transit -Provides congestion relief in San Mateo County -Provides services to special populations (e.g. low income/transit dependent, seniors, disabled, other) -Provides transportation to the services used by special populations -Letters of support from stakeholders <p>Readiness – 20 points</p> <p>Solid service plan in place describing how the shuttle service will be delivered for the 2-year funding period including:</p> <ol style="list-style-type: none"> Service area (routes/maps, destinations served) Specific rail stations, ferry or major SamTrans transit centers served Schedule (days, times, frequency) - show coordination with scheduled transit service Marketing plan/activities (advertising, outreach, signage, etc.) Service Provider Administration and oversight (whom?) Monitoring/evaluation plan/activities (performance data, complaints/compliments, surveys) Co-sponsors/stakeholders (roles?) Ridership characteristics: e.g. commuter/ employees, seniors, students, etc Any significant changes to existing service Did applicant use the Technical Assistance Program offered by SamTrans & the Alliance to improve underperforming routes? <p>Solid funding plan with budgeted line items for:</p> <ol style="list-style-type: none"> Contractor (operator/vendor) cost Fuel Insurance Administrative (Staff oversight) Other direct costs (e.g. marketing) Total operating cost Notes/exceptions (e.g. if there are projected differences between the 1st and 2nd year costs) 		<p>Need – 25 points</p> <ul style="list-style-type: none"> -Provides service to an area underserved by other public transit -Provides congestion relief in San Mateo County -Provides services to special populations (e.g. low income/transit dependent, seniors, disabled, other) -Provides transportation to the services used by special populations -Letters of support from stakeholders <p>Readiness – 25 points</p> <p>Solid service plan in place describing how the shuttle service will be delivered for the 2-year funding period including:</p> <ol style="list-style-type: none"> Service area (routes/maps, destinations served) Service plan development Specific rail stations, ferry or major SamTrans transit centers served Schedule (days, times, frequency) - show coordination with scheduled transit service Marketing plan/activities (advertising, outreach, signage, etc.) Service Provider Administration and oversight (whom?) Monitoring/evaluation plan/activities (performance data, complaints/compliments, surveys) Co-sponsors/stakeholders (roles?) Ridership characteristics: e.g. commuter/ employees, seniors, students, etc Any significant changes to existing service Planning process for shuttles (extent of public planning process, use of SamTrans & Alliance Technical Assistance Program) <p>Solid funding plan with budgeted line items for:</p> <ol style="list-style-type: none"> Contractor (operator/vendor) cost Administrative (Staff oversight) Other direct costs (e.g. marketing) Total operating cost Notes/exceptions (e.g. if there are projected differences between the 1st and 2nd year costs)
Effectiveness	<p>Effectiveness – 25 points</p> <ul style="list-style-type: none"> - Annual average operating cost per passenger for the prior 12 months - Annual average passengers per revenue vehicle hour of service for the prior 12 months - Service links with other fixed route transit (more points for higher ridership routes) - Improves access from transit oriented development to major activity nodes - Reduces single occupant vehicle (SOV) trips and vehicle miles traveled (VMT) 		<p>Effectiveness - 15 points</p> <ul style="list-style-type: none"> - Projected ridership, operating costs, and revenue vehicle hours of shuttle service to be provided in the first and second years of shuttle service. - State assumptions and document justification where possible - Proposed service links with other fixed route transit (more points for higher ridership routes) - Proposed service improves access from transit oriented development to major activity nodes - Proposed service reduces single occupant vehicle (SOV) trips and vehicle miles traveled (VMT)
Funding Leverage – 20 points	<p>Percentage of matching funds contribution:</p> <p>25 to < 50% - up to 10 points</p> <p>50 to < 75% - up to 15 points</p> <p>75 to < 99% - up to 18 points</p> <p>Private sector funding proposed (supports less public subsidy) – 2 points</p>		<p>Percentage of matching funds contribution:</p> <p>25 to < 50% - up to 10 points</p> <p>50 to < 75% - up to 15 points</p> <p>75 to < 99% - up to 18 points</p> <p>Private sector funding proposed (supports less public subsidy) – 2 points</p>
Policy Consistency & Sustainability – 15 points	<ul style="list-style-type: none"> - Proposed shuttle is included in an adopted local, special area, county or regional plan (e.g. community-based transportation plan, general plan, Grand Blvd. Initiative, MTC Priority Development Area, etc.) - Supports jobs and housing growth/economic development - Use of clean fuel vehicle(s) for service - Shuttle accommodates bicycles - Cost savings demonstrated through sharing of resources (shuttle operator provides reduced rates if service used for peak and off-peak service) 		<ul style="list-style-type: none"> - Proposed shuttle is included in an adopted local, special area, county or regional plan (e.g. community-based transportation plan, general plan, Grand Blvd. Initiative, MTC Priority Development Area, etc.) - Supports jobs and housing growth/economic development - Use of clean fuel vehicle(s) for service - Shuttle accommodates bicycles - Cost savings demonstrated through sharing of resources (shuttle operator provides reduced rates if service used for peak and off-peak service)
	Maximum Point Total - 100		Maximum Point Total - 100

**San Mateo County Shuttle Program
Fiscal Years 2016/2017 and/or 2017/2018**

Non-Supplantation of Funds Certification

This certification, which is a required component of the project initiator's grant application, affirms that San Mateo County Transportation Authority (TA) Measure A Local Shuttle Program and/or City/County Association of Governments of San Mateo County (C/CAG) Local Transportation Services Program funds will be used to **supplement** (add to) existing funds, and will not **supplant** (replace) existing funds that have been appropriated for the same purpose. Potential supplantation will be examined in the application review as well as in the pre-award review and post award monitoring.

Funding may be suspended or terminated for filing a false certification in this application or other reports or documents as part of this program.

Certification Statement:

I certify that any funds awarded under the FY 2016/2017 and/or FY 2017/2018 TA Measure A Local Shuttle Program and/or C/CAG Local Transportation Services Program will be used to supplement existing funds for program activities, and will not replace (supplant) existing funds or resources.

Project Name: _____

Project Applicant: _____

PRINT NAME

TITLE*

SIGNATURE

DATE

* This certification shall be signed by the Executive Director, Chief Executive Officer, President or other such top-ranking official of the Project Applicant's organization.

C/CAG AGENDA REPORT

Date: November 30, 2015

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

From: Jeff Lacap

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

(For further information or response to questions, contact Jeff Lacap at 650-599-1455)

RECOMMENDATION

That the CMEQ review and recommend approval of the Final 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

Overview

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

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

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

2015 Final CMP Update

The C/CAG Board approved the Draft 2015 CMP on October 8, 2015 and authorized its release for review and comments. The Draft 2015 CMP and the notices of its availability for review were issued on October 16, 2015 to all interested parties including local and regional transportation agencies and local jurisdictions. Comments were due by November 16, 2015. Staff received comments from San Mateo County Office of Sustainability, C/CAG Bicycle and Pedestrian Advisory Committee, and San Mateo County Health System. All pertinent comments have been incorporated in the proposed 2015 Final CMP. Comments received between now and the due date will be provided to CMEQ at the meeting.

Since the draft version was presented to the CMEQ in September, minor grammatical and editorial changes were made to the 2015 Final CMP and appendices in addition to the following items:

- Updated Table 6: Average Travel Time in US 101 Corridor (Appendix F – 2015 Monitoring Report):

The travel times reported in the 2015 Draft CMP for single occupancy vehicles were based on an average of three months of INRIX data. Because the travel times reported for high occupancy vehicles were based on five (5) HOV floating car travel time runs with specific dates and time intervals, the new travel times reported for the single occupancy vehicles now coincide with the HOV floating car travel date and time intervals. Table 6 has been modified as shown 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. ³	37	28	29	30	37	41	34	28	44	30	32	33	38	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 Park and Approximate north county line near Bayshore Station

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

3 2015 Results based on INRIX average for time period coincident with HOV floating car runs (not 3 month average)

- Updated description of SamTrans Route KX line (Appendix F – 2015 Monitoring Report):

The published schedule for SamTrans Route KX indicates a new route as previously shown in 2013 for all directions and time. The KX route begins in Redwood City and requires a transfer onto Route 398 to continue south to the County line. Route KX now only makes northbound trips to San Francisco in the a.m. peak period and only makes southbound trips to Redwood City in the p.m. peak period. This revised route became effective in August 2015 therefore southbound a.m. and northbound p.m. travel times are not reported in Table 6 above. The travel times shown reflect the duration of the trip between San Francisco and Santa Clara County lines.

- Updated List of Tables of 2015 Final CMP:
 - Table 1 - Level of Service Description
 - Table 2 - Level of Service Standards for CMP Roadway Segments
 - Table 3 - Intersection Level of Service Standards
 - Table 4 - San Mateo County Employed Residents (Mode of Transportation to Work)
 - Table 5 - San Mateo County's Employment and Employed Residents
 - Table 6 - Origins and Destinations of Home-to-Work Trips
 - Table 7 - 2015 CMP Roadway Segment LOS**
 - Table 8 - 2015 CMP Intersection LOS**
 - Table 9 – Proposed 2016 State Transportation Improvement Program**
- Updated Appendix N: *MTC Guidance for Consistency of Congestion Management Programs with the Regional Transportation Plan - 2015*

2015 CMP Approval Schedule (Tentative)

<u>Date</u>	<u>Activity</u>
November 19	Final CMP to TAC
November 30	Final CMP to CMEQ
December 10	Final CMP to Board
December 16	MTC performs Consistency Findings

Staff request that CMEQ recommend adoption of the Final 2015 CMP and allow staff to incorporate any additional comments received prior to presenting to the Board for adoption in December.

Since the majority of the CMP document remains unchanged, only electronic versions of the documents are being provided to CMEQ. The Final 2015 CMP and Appendix are provided electronically only and can also be downloaded from the following webpage:
<http://ccag.ca.gov/committees/congestion-management-and-environmental-quality-committee/>

ATTACHMENT

- Final 2015 San Mateo County CMP & Appendix (Available for download at: <http://ccag.ca.gov/committees/congestion-management-and-environmental-quality-committee/>)

C/CAG AGENDA REPORT

Date: November 30, 2015

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

From: Eliza Yu, Transportation Programs Specialist

Subject: Review and recommend approval of participating in the Highway 101 Pilot Ramp Metering Project

(For further information, contact Eliza Yu at 650-599-1453 or eyu@smcgov.org)

RECOMMENDATION

That the CMEQ Committee review and recommend approval of participating in the Highway 101 Pilot Ramp Metering Project from Whipple Avenue to Anza Boulevard Northbound to be administered by Caltrans and UC Berkeley's PATH.

FISCAL IMPACT

None

SOURCE OF FUNDS

Caltrans will fully fund this project.

BACKGROUND

In November of 2013, northbound ramp meters were turned on along Highway 101 from SR 92 to the San Francisco County Line. In May of 2014, southbound ramp meters were turned on from SR 92 to the San Francisco County Line. Currently, the ramp meters are operated during peak hours:

- Northbound Monday through Friday from 6:00am-10:00am and 3:00pm-8:00pm.
- Southbound Monday through Friday from 6:00am-10:00am and 2:30pm-8:00pm.

On September 30, 2015, UC Berkeley's PATH (Partners for Advanced Transportation Technology) and Caltrans Headquarters contacted C/CAG staff with a desire to perform a temporary pilot project and study of the US 101 corridors.

Pilot Project Procedures and Duration

The proposed pilot project would be located along Highway 101 starting from Whipple Avenue in Redwood City to Anza Boulevard in Burlingame, in the northbound direction only. The pilot project would extend the duration of the ramp meter operations to non-peak hours and weekends. Existing ramp meter operations would be maintained during peak hours.

Control plans for the non-peak and weekend hours would be developed by creating congestion detection criteria (based on volume thresholds) and performing system modeling and microscopic traffic simulation. Ramp metering rates would be based on the severity of congestion.

During the weekend and non-peak hours, traffic volumes would be measured by loop detectors upstream of each onramp. New metering plans would be implemented to control the entry of vehicles onto the freeway when congestion thresholds are met. If no congestion is detected, the meters will revert to green or black (off). Otherwise, the meters will cycle.

The implementation of off-peak metering is estimated to last for two to three months, from April to June 2016.

Pilot Project Objectives

After the implementation of this pilot project, UC PATH and Caltrans aim to (1) Evaluate the effectiveness of off peak freeway on-ramp metering in response to recurrent and non-recurrent freeway congestion; and (2) Develop guidelines for the establishment of statewide ramp metering standards. At this time, C/CAG is only being asked to participate in the study by allowing the temporary implementation of ramp metering in San Mateo County beyond the peak period.

On October 16, 2015, the C/CAG's Ramp Metering Technical Committee (RMTC), met to discuss this pilot project. The RMTC is comprised of city staff from every jurisdiction affected by this project in San Mateo County. The RMTC heard a presentation from PATH and all but one jurisdiction recommended participating in the pilot study, on the condition that Caltrans provide adequate levels of outreach to agency staff, elected officials, and the public. Caltrans has informed C/CAG that the outreach they will provide for this pilot project will be similar to previous outreach done on past ramp metering activations in San Mateo County, unless local jurisdictions request otherwise.

On November 19, 2015, the Congestion Management Program Technical Advisory Committee (CMP TAC) received a presentation from PATH. Concerns about public outreach and driver response during non-peak hours were raised, however there was general support as this pilot project is temporary. The CMP TAC was interested about the potential to alleviate congestion on the US 101 using existing infrastructure and also interested to see what impacts it would have on local arterials. The CMP TAC unanimously recommended that C/CAG participate in this pilot project.

Tentative Timeline

October - November 2015 – Bring the Pilot Project to RMTC, CMP TAC, and CMEQ for Approval

December 2015 – Bring the Pilot Project to C/CAG Board for Approval

January - March 2016 – Conduct a field test in preparation for the Pilot Project

April – June 2016 – Implement the Pilot Project

July – August 2016 – Analyze and Share the Results of the Pilot Project

ATTACHMENTS

1. UC PATH's Highway 101 Ramp Metering Pilot Project PowerPoint Presentation Slides



Congestion-Responsive Ramp Metering - What Exactly Proposed to Do

Project Team, California PATH, UC Berkeley

11/19/2015





Outlines

- **Project Objectives & Expected Results**
- **Project Phases**
- **Site Selection (US 101 NB)**
- **What We Have Now in the Field**
- **Proposed Strategy for Ramp Metering (RM) Time Extension**
- **Differences to the Driver**
- **Discussion**





Project Objective

- Evaluate the validity of enacting freeway on-ramp metering in direct response to the varied start and end times of recurrent and some non-recurrent freeway congestions.
- Recommended guidelines for the establishment of state-wide ramp-metering standards.





Phase 1: Task 1. Site Selection (US 101 NB)

- **Meets the study's geometry & traffic criteria**
 - **Operational ramp metering along corridor**
 - **Active bottleneck(s) with multiple ramps upstream**
 - **Time-of-day variations in traffic congestion**
 - **Day-of-week variations in traffic congestion**
- **Caltrans PeMS – good detection along corridor**
 - **Freeway mainline traffic volumes/speeds**
 - **On-ramp & off-ramp traffic volumes**
- **MTC's INRIX Analytics – travel-time & speed data**
 - **Freeway & most arterial streets in San Mateo County**
 - **Monitor impacts to traffic speeds on main parallel arterials**





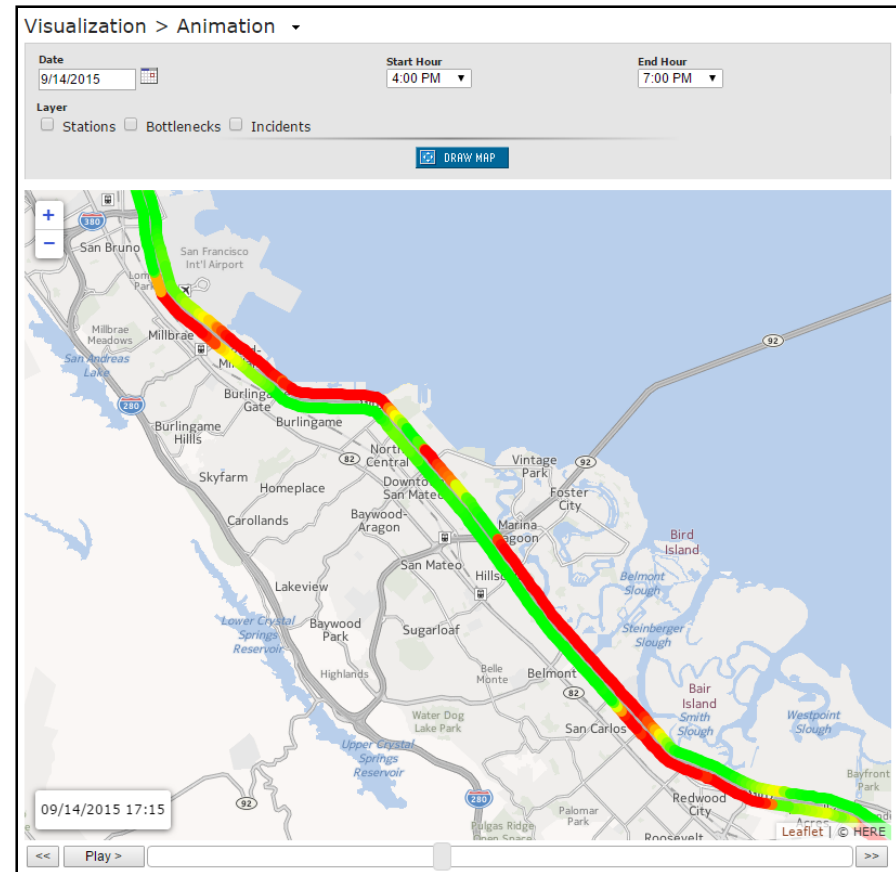
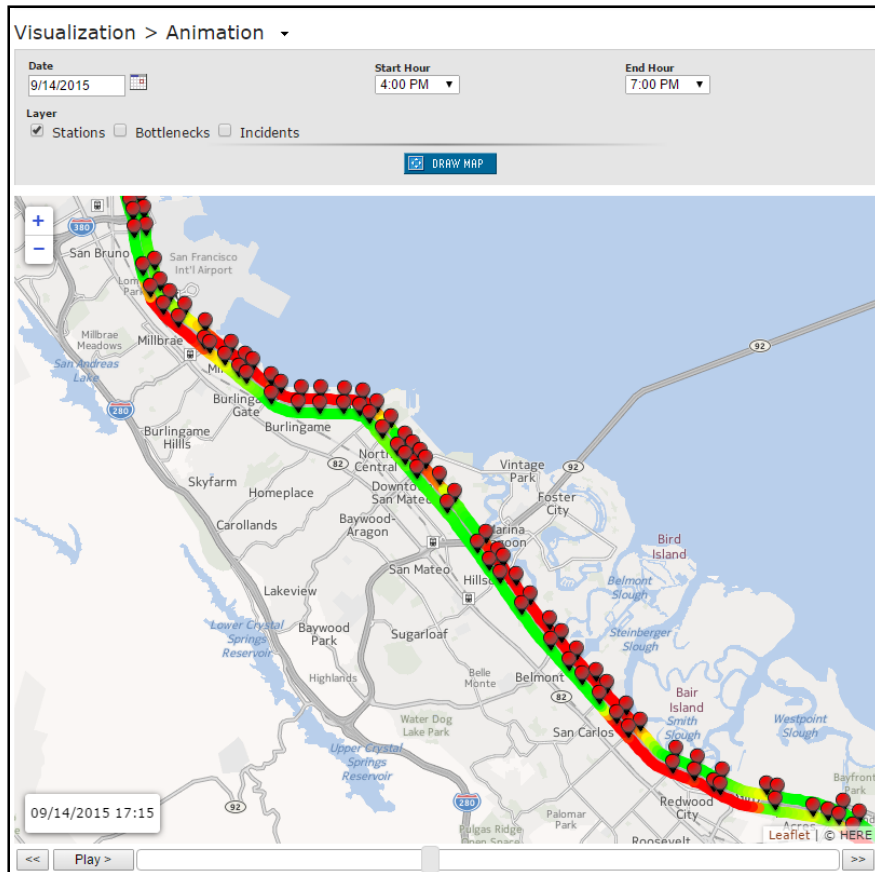
Project Phases

- **Phase 1:**
 - **Site Selection**
 - **Simulation**
 - **Design feasible RM Strategies**
- **Phase 2: Field Test**





Phase 1: Task 1. Site Selection (US 101 NB)





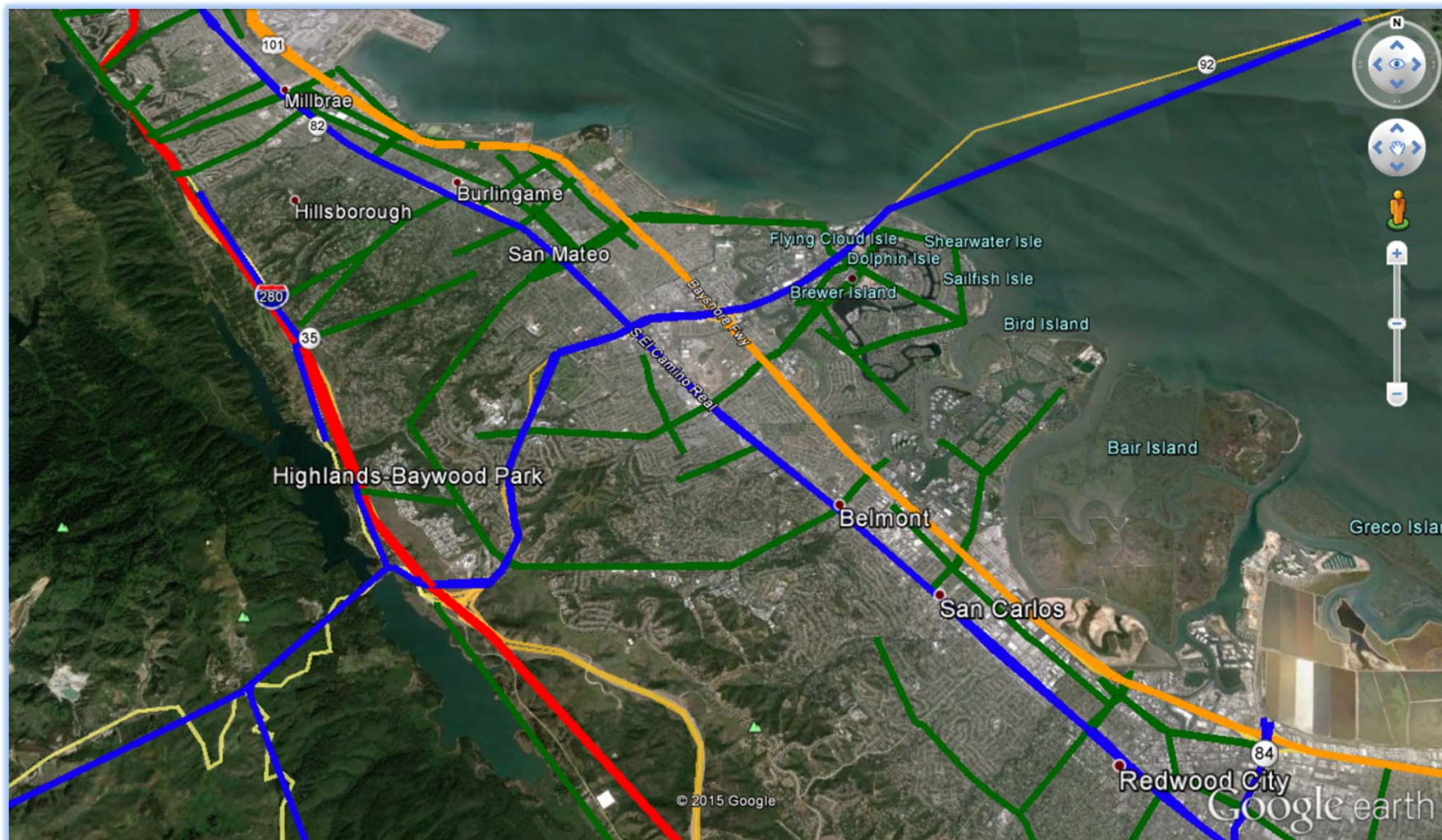
US 101 Corridor has good Caltrans PeMS detection & multiple bottlenecks along corridor

Caltrans PeMS VDS	6:00 AM	6:15 AM	6:30 AM	6:45 AM	7:00 AM	7:15 AM	7:30 AM	7:45 AM	8:00 AM	8:15 PM	8:30 PM	8:45 PM	Location Name
401336	68	63	71	72	67	64	62	62	61	60	60	58	500' N of Millbrae Ave OC
403258	66	66	67	68	61	58	55	56	58	55	53	51	N of Malcolm Rd
400441	67	60	53	50	48	46	47	52	58	54	53	52	S of Hinkley Rd
400860	62	30	25	27	23	24	34	47	55	47	47	50	1500' N of Broadway
400381	62	42	45	48	37	37	44	52	57	52	52	54	Broadway rm-n-fly/diag
400797	64	41	27	25	23	31	33	47	55	58	55	56	oppo Broadway rm-s-loop/diag
400420	67	33	15	9	14	13	30	42	51	57	52	53	Anza Blvd rm-n-diag
400817	55	32	13	10	14	19	30	39	45	51	43	51	S of Anza Blvd
400007	64	45	15	10	14	19	30	37	42	42	44	42	2000' N of Peninsula Ave
400527	64	48	15	8	11	16	23	30	35	30	36	33	peninsula ave rm-n-diag
400935	60	60	43	38	36	36	41	50	54	50	52	53	PENINSULA AVE OC
401199	65	62	52	48	43	50	54	58	60	58	59	59	oppo E Poplar ave rm-s-diag
400720	50	44	40	41	37	36	33	30	35	36	36	40	Dore Ave off-n-diag
400753	59	56	38	28	27	28	29	34	42	45	38	37	Bet Poplar & 3rd Ave - Cypress
403261	62	57	26	11	8	11	13	20	34	36	26	26	3rd Ave rm-n-diag
405848	61	56	31	17	14	16	19	26	37	44	36	31	oppo 3rd Ave off-n-coll/diag
402389	64	62	32	15	11	13	14	20	36	43	38	28	4A5324 loc 85
404516	63	62	43	31	28	29	30	35	47	57	50	40	0.92 mi N of SR-92
405827	67	64	41	25	21	22	23	29	45	58	51	35	Kehoe Ave rm-n-diag
402387	64	63	32	12	8	9	10	16	37	54	44	25	4A5324 loc 84
402385	63	61	48	34	30	30	30	36	43	57	54	43	4A5324 loc 83
405859	63	63	62	33	27	26	27	35	59	62	65	61	WB 92/Fashion Island Blvd
400645	65	66	60	35	28	28	28	38	59	61	64	62	oppo Fashion Island Blvd
400107	62	61	61	43	37	31	26	27	33	48	51	48	oppo EB 92 rm-s-diag
400291	65	64	62	39	20	12	9	14	25	43	43	46	Hillsdale Blvd off-s-diag
401914	62	61	59	39	16	10	3	13	27	39	44	43	HILLSDALE BLVD
400661	64	62	61	40	19	12	10	13	22	39	43	42	E HILLSDALE BLVD
402383	61	60	60	54	43	45	32	27	30	39	43	51	4A5324 loc 81
401443	65	64	63	63	54	23	12	13	17	31	50	60	MARINE PARKWAY
401910	62	63	62	62	63	59	28	13	13	16	23	50	RALSTON AVE
401859	62	61	61	61	62	60	43	22	16	19	31	53	Ralston Ave/Harbor Blvd
401869	69	68	67	67	66	61	30	19	23	32	56	63	N OF HOLLY ST
401832	64	64	63	63	63	62	61	45	19	17	25	50	HOLLY ST/DIAG
401882	59	60	60	61	60	61	59	52	22	18	23	47	Holly St on-s-coll
401652	63	65	62	64	68	66	65	56	37	34	52	59	oppo Holly St rm-s-coll
401929	68	68	66	67	67	66	65	65	35	35	41	54	Brittan Ave RM-S-Diag
401833	68	68	67	68	68	67	67	66	65	61	58	62	WHIPPLE AVE
401834	65	64	62	63	62	62	61	61	60	59	55	52	WHIPPLE AVE
404532	62	62	61	61	61	60	60	60	59	57	54	58	N of Redwood Creek
404531	67	66	65	65	65	64	63	61	61	61	61	61	S of Maple st OC
401835	68	67	65	66	65	65	63	61	60	59	60	62	Seaport Blvd rm-n-diag
405679	67	66	64	65	65	63	62	61	59	58	58	59	Woodside Rd rm-n-loop





INRIX Analytics (TMC network)





What We Have Now in the Field

- **Occupancy Based Local Responsive Ramp Metering**
 - **Time-of-Day Local Responsive; Only operated in peak hours (e.g. 6:00 – 9:00am)**
 - **Occupancy measurement by loop detector immediately upstream of the onramp**
 - **Lookup Table for RM rate**
 - **Slightly different from hour-to-hour**
 - **Slightly different from onramp-to-onramp**
 - **Queue Override to avoid severe spills back to relevant arterial intersections**
 - **Based on occupancy measure at the Queue Detector at upstream of the onramp**
 - **Flush the queue (max rate) for certain period of time**
 - **Reactivate after the onramp queue has been reduced**



What We Have Now in the Field

- **Essentially controls demand into the freeway**
- **About 3~8% overall system performance (based on national & international study) in peak hours on some of the following aspects**
 - **Total Travel Time**
 - **Total Travel Distance**
 - **Flow at recurrent bottlenecks**
 - **Average speed**
- **Performance depending on**
 - **Sensor measurement**
 - **Ramp Metering strategy adopted**
 - **Road geometry**
 - **Local arterial traffic pattern and signal controls**
- **This is the main reason to extend it to non-peak hours since the equipment is there**
- **Needs field test to see if there is any observable benefit**





Proposed Strategy for RM Time Extension

- Extending RM currently operated in the field to
 - Non-peak hours
 - Weekends
- Keeping all the ramp meter strategy and plan for peak hour
 - Occupancy based local responsive
 - Ramp Meter Plan (lookup table)
 - Queue Override
- May adding new control plans for non-peak hours & weekends
 - Possible occupancy thresholds modifications to peak-hour control plans to adapt to
 - non-peak hours pattern and congestion characteristics
 - Congestion in the weekend
 - Congestion caused by events and/or incidents/accidents



Proposed Strategy for RM Time Extension

- **Congestion Detection criteria: still based on occupancy threshold (to be determined through simulation and D4 RM engineers)**
- **Mainline loop detection for congestion:**
 - **Occupancy: same as what is used now for operation**
 - **Speed: PeMS 30s real-time could be used**
 - **Flow: PeMS 30s real-time could be used**
- **New control plans to be determined through system modeling and microscopic traffic simulation, and with D4 RM Engineers**
- **Keeping and strengthening *Queue Override* functionality to avoid traffic spillback to arterials/surface street**





Proposed Strategy for RM Time Extension

- **RM signals:**
 - **If there is no detected congestion: use All Time Green or Black**
 - **Otherwise: use Green/Red**
- **Test Period: about 2~3 months**
- **After Test: going back to current RM operation**
- **If it has positive effect: beneficial to the *Smart Corridor* Project**
- **Regular reporting the project progress to Caltrans D4 and Local Cities/Counties through C/CAG**
- **Progressively switching on and refining based on feedback from Caltrans D4 and Local Cities/Counties through C/CAG**





Differences to the Driver

- All the equipment will keep to be as it is now
- If there is a detected congestion:
 - Similar to peak hour metering
- If we adopt “Black Signal” when there is no congestion:
 - there is no difference to “Meter Off” - the driver will not notice it



Discussion

- **Concerns?**
- **Suggestions?**
- **Any planned construction that could significantly affect the traffic pattern?**

