METROPOLITAN
TRANSPORTATION
COMMISSION

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Arterial Operations Committee (AOC)

10:15 A.M. - 12 P.M., Tuesday, January 12, 2016
(10:00 – 10:15 A.M. Networking Time)
Conference Room 171
Metropolitan Transportation Commission
101 Eighth Street, Oakland, CA 94607

Chair: Obaid Khan, City of Dublin
Vice Chair: David Huynh, Iteris
Staff Liaison: Linda Lee, MTC
Jay Stagi, MTC

For more information, please visit the Arterial Operations website at:
http://www.mtc.ca.gov/our-work/operate-coordinate/arterial-operations

Meeting Agenda

1. **Introductions (Obaid Khan)**
   a. *Meeting Notes from November 10, 2015**
   b. *Member Announcements, Reports, or Updates*
      - *New MTC Website*
      - *PASS FY15/16 Project Status**
2. **Focused Group Discussion**
   a. *AOP Work Plan for 2016 (Linda Lee, MTC)**
   b. *AOC Member Engagement Feedback (Obaid Khan)*
3. **New Technologies for Arterial Operations**
   a. *NextGen Arterial Operations Program Project Status (Linda Lee, MTC)**
   b. *Connected Vehicle Program Update (Virginia Lingham, MTC)**
4. **AOP Task Force (Saravana Suthanthira, ACTC)***
   - *Summary of AOP Task Force Meetings on November 18 and December 14, 2015*
5. **Adjournment (Obaid Khan)**
   - *Next Meeting: Tuesday, March 8, 2016 @ 10:15 A.M. at 375 Beale Street, SF*

*Attachment included

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Arterial Operations Committee

Notes from November 10, 2015 meeting

1. Introductions

Meeting called to order at 10:18 A.M. in Conference Room 171 of the Joseph P. Bort MetroCenter. All members introduced themselves.

a. Meeting notes from the September 8, 2015 meeting were approved without any changes.

b. Linda Lee (MTC) informed the AOC members that the location for the January 2016 meeting is unknown at this time, as it could be at MTC's new office location in San Francisco. The final meeting location will be determined later, based on MTC's move schedule. The address of MTC's new location is 375 Beale Street, San Francisco. It is about a 10- to 15-minute walk from the Montgomery Street BART stations.

Lin Zhang (MTC) provided updates on the PASS FY 15/16 cycle of projects. All eight projects are on schedule. The Draft Existing Conditions Report will be completed for all projects by the end of November.

David Kobayashi (VTA) asked whether MTC will support INRIX data next year. Linda explained that under MTC's new 511 contract, INRIX will no longer be the data source. Instead, Nokia HERE data will be used for the data feed for 511. In order to compare the two data sources, MTC staff will be meeting with representatives from HERE to obtain more information about their data. Staff findings will be presented and discussed at the next AOC meeting. David Huynh (Iteris) and Ganesh Karkee (MTC) mentioned another archived travel time data source, which is the National Performance Management Research Data Set (NPMRDS). In response to MAP-21 requirements, the Federal Highway Administration has acquired NPMRDS data for performance measurement purposes and has made it available for free to state DOTs and MPOs.

2. New Technologies for Arterial Operations

a. Lin provided an update on the Next Generation Arterial Operations Program (NextGen AOP). Below is a summary of the documents that have been completed by the consultant since September 2015.

- Final Concept of Operations and Draft System Requirements for the AC Transit project and LAVTA/Dublin projects
- Draft and Final Verification Plan for the LAVTA/Dublin project
- Final Verification Plan and Draft Procurement Document for the Fremont project

Lin also mentioned that the City of Fremont issued an RFP on November 5th to procure an adaptive signal control technology for the Fremont project. The proposal due date is December 3rd.

b. Virginia Lingham (MTC) provided updates on Connected Vehicles. Virginia reported that FHWA announced they had selected Connected Vehicle Pilot Deployment sites in New York City, Tampa, FL, and Wyoming. MTC plans on moving forward with deploying Connected Vehicle technology in the region, despite not being selected, and told the group to stay tuned for more information to be announced shortly.

As a follow-up to a question asked at the September AOC meeting regarding Federal Communications Commission (FCC) licensing requirements of roadside Dedicated Short Range Communications (DSRC) equipment, Virginia reported that each agency must hold licenses for the DSRC transmitters they deploy along their roadways. Agencies must first obtain a DSRC geographic area license and then work with FCC to keep the locations of the DSRC transmitters up-to-date. For example, Caltrans would be responsible for licensing equipment along the State Highway Network. More information about the FCC policy regarding DSRC transmitter licensing is available on the FCC website at https://apps.fcc.gov/edocs_public/attachmatch/DA-04-3165A1.pdf.

3. AOP Task Force

As the Chair of the AOP Task Force, Saravana Suthanthira (ACTC) provided updates from the September and October 2015 meetings. At both meetings, the Task Force discussed potential revisions to the PASS Eligibility Requirements. After lengthy discussions, the Task Force agreed to reducing the local cash match requirements for all three tiers. There was also discussion about replacing the jobs/housing requirement with a requirement that better tied to arterial operations. The group agreed to use Average Daily Traffic (ADT) and peak hour traffic as an eligibility requirement, with minimum thresholds set at 20,000 vehicles and 600 per hour per lane, respectively. Linda added that for State-operated signalized intersections, the local cash match requirement will be set at 10% and can be met by either Caltrans and/or the local agency. A question was asked about how recent the traffic data needed to be. Based on feedback from some of the AOC members, 3-year old data seems to be reasonable. Obaid Khan (Dublin) and Rene Baile (Menlo Park) said they collect ADT data every two years, and Massoud Saberian (Santa Rosa) said their agency collects data every year on major roads and every three years on other roads.

At the October Task Force meeting, there was a discussion about the future of the BASIS database, which is a central repository for traffic signals. If the data is not kept up-to-date, the database will not serve any purpose. To assess a local agency's willingness to keep the data up-to-date, a survey was sent out by MTC to the 101 local agencies in the Bay Area. As of November 10, only 16 responses had been received. The deadline to complete the survey is November 12. At the request of some AOC members, the deadline will be extended by a week. Saravana and David (VTA) will send a reminder to the local agencies within their county jurisdictions. As a former City of Fremont staff, David (Iteris) said it will be difficult to update annually. These data might come in different formats from each agency, e.g., electronic, hard copy, etc. Linda raised the issue about thresholds, i.e., what is the appropriate minimum agency participation level to justify keeping the database. For example, if 60% of the agencies agree to keep their data up-to-date, is this enough to make the database useful? Should there be a threshold, or is it an all-or-none condition? Don Shupp (WP Signal) said there might be objections from local agencies, because they need to do traffic signal data entry. They may not have the resources for that.

Arterial Operations Committee

Notes from November 10, 2015 meeting

4. Featured Presentation

Katherine Mertz (Sensys Networks) made a presentation titled, "Arterial Travel Time Using Wireless Vehicle Detection - Arterial Data Collection." In the presentation, she shared examples of their travel time system that has been deployed at various locations.

5. Other Business

a. Vice-chair Obaid Khan became the new AOC Chair for 2016.

b. Saravana nominated David Huynh (Iteris) to be the AOC Vice-chair for 2016. With no objections from the AOC, David accepted the nomination.

6. Adjournment

The meeting adjourned at 12:02 P.M. The next meeting will be held on Tuesday, January 12, 2016. The location of the meeting will be determined at a later date.

Arterial Operations Committee

Notes from November 10, 2015 meeting

Arterial Operations Committee

Attendees from meeting on Tuesday, November 10, 2015

#	Name	Agency	Phone No.	E-Mail
1	Allen Chen	St. Francis Elec.	510.695.0582	achen@sfe-inc.com
2	Amanuel Haile	Marin Co	415.499.7137	ahaile@marincounty.org
3	Brian Sowers	Kimley-Horn	925.398.4862	brian.sowers@kimley-horn.com
4	David Huynh	Iteris	510.423.0742	dxh@iteris.com
5	David Kobayashi	VTA	408.321.5892	david.kobayashi@vta.org
6	David Mahama	DKS	510.267.6613	dcm@dksassociates.com
7	Donald Shupp	WP Signal	510.276.6400	shupp@wpsignal.com
8	Dustin Hinds	Trafficware	415.215.7007	dustinhinds@trafficware.com
9	Dylan Grabowski	Caltrans	510.286.6304	dylan.grabowski@dot.ca.gov
10	Ganesh Karkee	MTC	510.817.5625	gkarkee@mtc.ca.gov
11	Katherine Mertz	Sensys	510.326.9796	kmertz@sensysnetworks.com
12	Lin Zhang	MTC	510.817.5616	lzhang@mtc.ca.gov
13	Linda Lee	MTC	510.817.5825	llee@mtc.ca.gov
14	Massoud Saberian	City of Santa Rosa	707.543.3818	msaberian@srcity.org
15	Obaid Khan	Dublin	925.833.6634	obaid.khan@dublin.ca.us
16	Octavio Duran	Menlo Park		oduran@menlopark.org
17	Patrick Armijo	VTA	562.441.1776	Patrick.Armijo@vta.org
18	Randolph Craig	Danville	925.314.3375	rcraig@danville.ca.gov
19	Rene Baile	Menlo Park	650.330.6770	rcbaile@menlopark.org
20	Rich Shinn	Iteris	925.872.0834	RJS@iteris.com
21	Ron Hernandez	Econolite	510.207.2281	rhernandez@econolite.com
22	Saravana Suthanthira	Alameda CTC	510.208.7426	ssuthanthira@alamedactc.org
23	Shirley Chan	Daly City	650.991.8231	schan@dalycity.org
24	Vamsi Tabjulu	TJKM	510.325.3462	vtabjulu@tjkm.com
25	Virginia Lingham	MTC	510.817.5826	vlingham@mtc.ca.gov
26	Wendy Tao	Siemens	415.246.2822	wendy.tao@siemens.com

Program for Arterial System Synchronization (PASS) FY 15/16 Cycle - Project Status Update (As of 12/30/2015)

#	County	Project Sponsor	Project Corridor (# of signals)	# of Signals	GPS Clocks	Project Services and Plans	Consultant	Project Status*
1	Alameda	Fremont	Fremont Blvd (8), Mowry Ave (8), Stevenson Blvd (8)	24	0	Weekday (AM/MD/School/PM) (24); Weekend (One peak period) (24)	Iteris	3A
2	Alameda	Hayward	Tennyson Rd (13)	13	6	Weekday (AM/MD/PM) (13)	Iteris	3A
3	Alameda	Oakland	40th St (8), Harrison St (15), Jackson St (10), MacArthur Blvd (10)	43	40	Weekday (AM/MD/PM) (43); Weekend (two peak periods) (43)	KHA	2B
4	Alameda	San Leandro	San Leandro Blvd (7)	7	1	Weekday (AM/MD/PM) (7); Weekend (three peak periods) (7)	Iteris	3A
5	Napa	Napa	Hwy 121 (12), Redwood Rd/ Trancas St (9), Soscol Ave (5)	26	17	Weekday (AM/MD/PM) (14); Weekend (two peak periods) (14); Data Collection Only (12)	TJKM	1B
6	Contra Costa	Oakley	Main St (5)	5	5	Weekday (AM/MD/PM) (5); Weekday (Two school Peaks) (5)	TJKM	2B
7	Santa Clara	Sunnyvale	Java Dr (5), Mathilda Ave/ Sunnyvale Saratoga Rd (24), Maude Ave (4), Tasman Dr (4)	37	0	Weekday (AM/MD/PM) (37); Weekend (two peak periods) (17)	DKS	2A
8	San Mateo	South SF	Hickey Blvd (5), Gateway Blvd (5)	10	8	Weekday (AM/MD/PM) (10); Weekend (two peak periods) (10); Weekday (One school Peak) (5)	TJKM	2A
			Total	**165**	**77**			

** 1B = Final Scope, Schedule and Budget; 2A = Draft Existing Conditions Report; 2B = Final Existing Conditions Report; 3A = Draft Recommendations Report.*
(#) Indicates the number of signals.

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Memorandum

TO: Arterial Operations Committee (AOC) DATE: January 5, 2016

FR: Linda Lee, MTC

RE: Work Plan for 2016

The goals of MTC's Arterial Operations Program are:

- ✓ **Goal 1 (Regional/Multi-jurisdictional):** Promote regional benefits, support institutional coordination, and ensure consistency and operational efficiency along major corridors crossing multiple jurisdictions

- ✓ **Goal 2 (Technical Assistance Program):** Support local agencies in their efforts to improve multimodal mobility and safety along major corridors

- ✓ **Goal 3 (Arterial Operations Committee):** Provide a forum for sharing information, discussing and developing solutions to shared issues, and guiding the overall Program

- ✓ **Goal 4 (Technology):** Encourage integration of advanced technologies (e.g., connected vehicle and ITS-related equipment and infrastructure) aimed at improving arterial management and operations for all modes

- ✓ **Goal 5 (Funding):** Advocate for additional resources to support the goals of the Program

Table 1 presents a Work Plan of major work activities anticipated to be performed in 2016 to help achieve the Program goals.

Table 1: Anticipated AOP Work Plan for 2016

Approx. Timeline	NextGen AOP FY14/15	PASS FY15/16	PASS FY16/17	Seminar/ Workshop	Featured Presentation (possible topics*)
January	Fremont and County of Santa Clara Projects: Consultant Procurement for Project Evaluation				• TranSync (an innovative signal timing software) • MTC's Value Pricing Pilot (VPP) Project • VTA Connected Vehicle Projects • INRIX Arterial Data Demonstration • Transit Queue Jump Lanes • Vehicle-to-Infrastructure (V2I) Guidance Documents and Tools (for Connected Vehicle Deployments) • Regional ITS Architecture Update • Shared Mobility: Potential Impacts on Local Congestion • AC Transit BRT Line 51
March	Fremont and County of Santa Clara Projects: March MTC Operations Committee Approval, if needed Evaluation Plan Development		Call for Projects		
May	Fremont and County of Santa Clara Projects: "Before" Data Collection (Apr-May)	Project Implementation	June MTC Operations Committee Approval of Projects	NHI Signal Course	
July	LAVTA Project: Consultant Procurement for Project Evaluation	Draft Project Factsheets	Kick-off Meetings (Jul-Aug)		
September	LAVTA Project: Sept MTC Operations Committee Approval, if needed Evaluation Plan Development	Final Project Factsheets		NHI Signal Course?	
November	LAVTA Project: "Before" Data Collection (Oct-Nov)			Tech Transfer Seminar (Oct) (Topic: TBD)	

Note: *Featured presentation topics are subject to change, if other ideas are requested.

NextGen Arterial Operations Program Project Status

#	Key Deliverable	NextGen AOP Projects			
		AC Transit	**LAVTA/ Dublin**	**City of Fremont**	**County of Santa Clara**
1	1a. Draft SEMP	Completed	Completed	Completed	n/a
	1b. Final SEMP	Completed	Completed	Completed	n/a
2	2a. Draft User Needs Report	Completed	Completed	Completed	Completed
	2b. Final User Needs Report	Completed	Completed	Completed	Completed
3	3a. Draft ConOps	Completed	Completed	Completed	n/a
	3b. Final ConOps	Completed	Completed	Completed	n/a
4	4a. Draft System Requirements	Completed	Completed	Completed	Completed
	4b. Final System Requirements	**Completed****	Completed	Completed	Completed
5	5a. Draft Verification Plan	**Completed****	Completed	Completed	Completed
	5b. Final Verification Plan	***Ongoing****	**Completed****	Completed	Completed
6	6a. Draft Procurement Document	*	***Ongoing****	Completed	n/a
	6b. Final Procurement Document	*	*	**Completed****	n/a
7	7. Vendor Selection	*	*	***Ongoing****	n/a
8	8. System Deployment	*	*	*	***Ongoing****
9	9. System Acceptance	*	*	*	*
10	10. Project Evaluation	*	*	*	*

*Note: * Deliverables to be completed later.*

*** Deliverables completed in the last two months (between the last and current AOC meetings)*

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Memorandum

TO: Arterial Operations Committee (AOC) DATE: January 5, 2015

FR: Virginia Lingham, MTC

RE: Connected Vehicle Program Update

USDOT Releases CV Basics Toolbox and CV 101 Course

US Department of Transportation (USDOT) has released a new set of tools to help practitioners, as well as the public, understand the concepts and the promise of connected vehicle technologies. USDOT hopes that through this new site, everyone can understand the fundamentals of connected vehicles and learn why everyone at USDOT is so excited about this promising technology. The CV Basics Toolbox can be accessed at http://www.its.dot.gov/cv_basics/

Additionally, USDOT has teamed with the Consortium for ITS Training and Education (CITE) to make their Connected Vehicles 101 course available online for no charge. This is an introductory course that is aimed towards transportation planners, managers, and engineers at state and local agency levels, who are interested in learning more about the Connected Vehicle Program and its benefits and implications for public agencies. Additional courses covering more advanced connected vehicle topics are expected to be available in 2016. More information about the CV101 Course is available at http://www.citeconsortium.org/.

Vehicle to Infrastructure (V2I) Deployment Coalition

In early 2015, American Association of State Highway and Transportation Officials (AASHTO), Intelligent Transportation Society of America (ITSA), and Institute of Transportation Engineers (ITE) teamed together to coordinate each organization's efforts and bring together the knowledge base of their membership in order to help accelerate consistent and effective deployments of Connected Vehicle technologies.

The V2I Deployment Coalition (V2I DC) has been slated to complete its activities within an 18-month schedule that will end July 2016; however, discussions and planning are underway to extend the V2I DC beyond the initial 18 months. The V2I DC activities are arranged around five technical working groups focused on specific topic areas: Deployment Initiatives; Deployment Research; Infrastructure Operator, OEM, and Supplier Partnerships; Deployment Guidance; and, Deployment Standards. More information is available at http://www.transportationops.org/V2I/V2I-overview.

SF Bay Area Regional Architecture Update

MTC currently has efforts underway to complete a comprehensive update to the SF Bay Area Regional ITS Architecture by summer 2016. Many local agency members of the AOC are listed as stakeholders that will be contacted by MTC's consultant over the next few months as part of the update. When contacted, it is important that local agencies mention their interest and plans for connected vehicle technologies in order to plan for proper integration and interoperability.

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Memorandum

TO: Arterial Operations Committee (AOC) DATE: January 5, 2016

FR: Linda Lee, MTC

CC: AOP Task Force

RE: AOP Task Force – November 18, 2015 Meeting Summary

The AOP Task Force held a meeting on November 18, 2015. This memo provides a summary of the key discussion items:

- Final revisions to the PASS eligibility requirements were discussed –
  - At the October meeting, the Task Force agreed to do more research before deciding on reasonable ADT and peak hour volume thresholds for project eligibility. That research has been conducted, and several members of the group presented data that had been collected within the last three years along major arterials in the Bay Area. Based on the findings (see attached), a majority of these arterials exceeded the proposed ADT threshold of 20,000 vehicles and proposed peak hour volume threshold of 600 vehicles per hour per lane. Therefore, the group agreed to set the final thresholds at these levels for project eligibility purposes (see attached).

- The future of BASIS (Bay Area Signalized Intersection System) was discussed –
  - At the October meeting, the group agreed to conduct an online survey among the local jurisdictions in the Bay Area to determine who currently has a database or other electronic tracking tool for signal inventory purposes, as well as to assess their willingness to keep the data in the regional database updated, should BASIS be retained.

  - The survey results were presented at the meeting (see attached). The survey was sent to all 101 local agencies on November 4, 2015. A total of 35 agencies (32%) responded to the survey. Highlights of the results are as follows:

    ✓ About 80% of the respondents have some type of electronic tracking tool they use for signal inventory purposes – mostly in the form of an Excel file.
    ✓ About 80% said they would be willing to make periodic updates to keep their data up-to-date, with most of them willing to update the data only annually.

- ✓ About 57% said the primary reason they would access the database would be to perform queries on signalized intersections within their jurisdiction, followed by 49% who would use it to generate reports.
- ✓ About 57% sees value in having a regional database, but another 31% are not sure.

- The group felt the survey results did not indicate an overwhelming need for a regional database. If most of the agencies were to use it to run queries on the signals within their own jurisdiction, a regional database is not needed to perform this function. If the database is to be used for cross-jurisdictional purposes, an agency would most likely call the other agency to get accurate signal information. Also, they may not be able to rely on the data in the database, as it may be outdated (i.e., most agencies would update the data only annually). In view of this, several suggestions/observations were made:
-
    - It was suggested that perhaps the database should just contain information such as, signal ownership, location, and contact information, rather than the current data attributes.
    - It was also suggested that, if the database were retained with its current attributes, perhaps only the signals along major arterials would be included, rather than all 10,000 signals in the Bay Area.

    - Some members suggested the current database be left as is, with no new updates, since there is no harm in keeping it. If, or when, there is a purpose, it can be revisited at that time.

- Before a final decision is made about the database, a Task Force member offered to seek feedback from the CMAs regarding the use of a regional signal database for countywide and corridor planning purposes.

- Research on funding opportunities was discussed –
    - Due to limited funding for the immediate future years of the arterial program (about $3 million/year of STP/CMAQ funds), other possible fund sources are needed to supplement the STP/CMAQ funds. To that end, MTC staff have been researching funding opportunities that could be available to fund arterial improvement projects. The results of this research are summarized in the attached matrix.

    - These other funds are external sources in addition to the MTC's $3 million/year of PASS funding, and therefore expands the funding opportunities available for local jurisdictions to implement operational improvements. The funding opportunities identified in the matrix are grant programs (similar to PASS) and have specific project eligibility requirements. Depending on the eligibility requirements, MTC, CMAs, and/or local agencies can collaboratively or individually apply for these funds for a specific improvement project they would like to implement. By doing so, this could potentially free-up some of the PASS funds

that would have gone to these other improvement projects, thus making more PASS funds available for projects that only qualify for PASS (i.e., time-of-day coordination projects).

- The primary purpose for the research is to help local agencies, as well as MTC, identify all available funding opportunities that could be used to implement different types of arterial improvement projects such as, adaptive signal control, TSP, connected vehicles, etc. If agencies decide to pursue some of these grants, MTC could provide assistance or even be a joint applicant, depending on the project and who can apply.

- Some suggested revisions to the list of grant opportunities include: 1) Add contact and funding cycle information; 2) Add information about who can apply for the funds; and 3) Under "Type of Funding", break down "local" into either "regional" or "county".

- A member of the Task Force made a suggestion to invite a representative from some of these funding agencies to an upcoming AOC meeting. They could provide more information about their grant program and talk about the types of projects that are eligible for funding.

- The next AOP Task Force meeting is December 14, 2015. The group agreed to extend the monthly meetings through February 2016 to complete the identified tasks.

Agency	Corridor	Count Location	Weekday ADT	Weekend ADT	Peak Hour Volume (Directional)				Date
					AM	PM	# of Lanes	Max Per Lane	
Walnut Creek	Ygnacio Valley Road	Btwn Oak Grove Road and Via Monte	38932	28308	2101	2337	3	779	11/1/2014
		Btwn Bancroft Road and San Carlos Drive	58453	41374	2776	2839	3	946	11/1/2014
		Btwn Civic Drive and Broadway	44153	31550	1933	1706	3	644	11/1/2014
	Treat Boulevard	Btwn Oak Road and Jones Road	46751	35770	2167	1820	4	542	11/1/2014
		Btwn Bancroft Road and Candelero Drive	49191	35147	2763	2359	3	921	11/1/2014
Union City and Hayward	Whipple Road	Btwn Hayman Street and Central Avenue	23994	17063	1063	974	2	532	10/10/2014
		Btwn Ahern Avenue and Dyer Street	25173	14467	1112	1168	2	584	10/10/2014
		Btwn Industrial Parkway and Wiegman Road	32952	21513	1303	1100	3	434	10/10/2014
	Dyer Street	Btwn Walmart Entrance and Whipple Road	33051	34752	885	1427	2	714	10/10/2014
		Btwn Ratekin Drive and Extended Stay America Entrance	23505	23309	842	1027	2	514	10/10/2014
Fremont	Auto Mall Parkway	Btwn Fremont Boulevard and Osgood Road	46230	33303	2108	2263	2	1132	1/30/2015
		Btwn Grimmer Boulevard and Southlake Commons	42207	34250	1673	1730	2	865	1/30/2015
Antioch	Auto Center Drive	Btwn Sycamore Drive and 18th Street	21635	17402	736	896	3	299	10/2/2015
		Btwn SR-4 Westbound Ramps and Century Boulevard	35014	29731	1164	1417	3	472	10/2/2015
	Somersville Road	Btwn Fairview Drive and Mall / Somersville Towne Center	15000	14023	461	594	2	297	10/2/2015
Santa Clara County	Oregon Expressway	Btwn Middlefield Road and Cowper Street	38542	25478	1562	1593	2	797	11/1/2013
		Btwn Louis Road and Ross Road	35188	24914	1531	1345	2	766	11/2/2013
San Anselmo	Red Hill Avenue	west of Ancho Vista Avenue	40735	34610	1829	1879	2	940	11/18/2013
	Central Boulevard	west of Redwood Road	10728	9010	526	568	1	568	11/18/2013
	Sir Francis Drake Boulevard	Btwn Mariposa Avenue and Bell Avenue	19365	15734	940	992	2	496	11/18/2013
		Btwn San Francisco Boulevard and Calumet Avenue	34826	28385	1813	1700	2	907	11/18/2013
		Btwn San Anselmo Avenue and Broadmoor Avenue	28244	25419	1358	1348	2	679	11/18/2013
Dublin	Tassajara Road	Btwn I-580 WB Ramps and Koll Center Drive	37345	35567	1377	1629	3	543	10/3/2013
		Btwn Central Parkway and Gleason Drive	18704	16303	1216	1009	2	608	10/3/2013
	Hacienda Drive	Btwn I-580 WB Ramps and Martinelli Way	30875	29074	882	1667	3	556	10/3/2013
		Btwn Dublin Boulevard and Haven Place	10871	5688	518	643	2.5	257	10/3/2013
Campbell and San Jose	Hamilton Avenue	Btwn 3rd Street and Central Avenue	48751	41495	1819	2036	3	679	10/12/2013
		Btwn Dover Avenue and Manchester Avenue	35048	25045	2095	2157	3	719	10/12/2013
	Meridian Avenue	Btwn Blackford Lane and Alta Glen Drive	30283	21815	1547	1645	2	823	10/12/2013
		Btwn Lenn Avenue and Hamilton Avenue	29653	20463	1844	1684	2	922	10/12/2013
Union City	Alvarado Niles Road	Btwn Medallion Drive and Hop Ranch Road	37730	28037	1406	1588	2	794	10/2/2012
		Btwn Meyers Drive and Decoto Road	25135	21135	975	1100	2	550	10/2/2012
		Btwn Western Avenue and Central Avenue	33953	25472	1663	1545	2	832	10/2/2012
San Jose	Keyes Street	Btwn 10th Street and 11th Street	22547	18903	867	1435	2.5	574	2/11/2014
	3rd Street	Btwn San Carlos Street and San Salvador Street	10491	76878	1294	627	2	647	2/5/2014
	4th Street	Btwn San Carlos Street and San Salvador Street	14539	10380	679	1502	2	751	2/5/2014
	Almaden Boulevard	Btwn Convention Center and Woz Way	13621	7983	1214	1241	2	621	2/11/2014
	11th Street	Btwn San Carlos Street and San Salvador Street	17093	11622	1621	1170	2	811	2/5/2014
	10th Street	Btwn San Carlos Street and San Salvador Street	18068	10350	838	1768	2	884	2/11/2014
	Hedding Street	Btwn Pedro Street and Guadalupe Parkway	13323	5828	622	770	1.5	513	2/11/2014
		Btwn Sakura Drive and 9th Street	12295	7565	653	717	1	717	2/11/2014
	Story Road	Btwn Leeward Drive and Galahad Avenue	25664	25167	792	1457	3	486	2/11/2014
		Btwn Capitol Expressway and McGinness Avenue	40704	40362	1363	1658	3	553	2/11/2014
	Monterey Road	Btwn Branham Lane and Valleyhaven Way	29587	23469	2086	1652	3	695	2/11/2014
		Btwn Branham Lane and Valleyhaven Way	37805	29199	2732	2423	3	911	2/11/2014
		Btwn Curtner Avenue and Tully Road	34112	24728	2532	1950	3	844	2/11/2014
	Oakland Road	Btwn Commercial Street and US-101 NB	38475	28325	1238	1535	2	768	2/11/2014
	Santa Teresa Blvd.	Btwn Kiowa Circle and Heathercreek Way	18555	15548	897	859	3	299	2/11/2014
	Saratoga Avenue	Btwn Colombo Drive and Payne Avenue	30086	29853	1020	1280	2	640	2/11/2014
	Campbell Avenue	Btwn Saratoga Avenue and El Paseo de Saratoga	27029	25104	1161	1404	2	702	2/11/2014
	Blossom Hill Road	Btwn Snell Avenue and Entrada Cedros	44620	41435	1501	1864	3	621	2/11/2014
		Btwn Calahan Avenue and Chesboro Avenue	23822	22226	836	1112	3	371	2/11/2014

Arterial ADTs from the past PASS projects (FY 2012-13 to 2014-15)

No.	Roadway	Agency	Location	Weekday ADT	Data Collection Date
1	Auto Mall Parkway	Fremont	Between Grimmer Boulevard and Osgood Road	44,200	January 2015
2	Somersville Road	Antioch	Between Fairview Drive and Mall/Somersville Towne Center	15,000	October 2014
3	Auto Center Drive	Antioch	Between SR-4 WB Ramps and 18th Street	28,300	October 2014
4	Ygnacio Valley Road	Walnut Creek	Between Oak Grove Road and Oak Road	47,200	November 2014
5	Treat Boulevard	Walnut Creek	Between Oak Road and Bancroft Road	48,000	November 2014
6	Whipple Road	Union City/Hayward	Between Ahern Avenue and Central Road	27,400	October 2014
7	Dyer Street	Union City/Hayward	Between Whipple Road and Ratekin Drive	28,300	October 2014
8	San Bruno Avenue	San Bruno	Between Crestmoor Drive to El Camino Real	12,600	October 2014
9	SR-12	Suisun City	East of Snow Drive	27,900	October 2014
10	Sunset Avenue	Suisun City	South of Pintail Drive	12,700	October 2014
11	Castro Valley Boulevard	Alameda County	West of Redwood Road	20,900	October 2014
12	Norbridge Avenue	Alameda County	South of Castro Valley Boulevard	12,500	October 2014
13	Strobridge Avenue	Alameda County	South of Castro Valley Boulevard	7,000	October 2014
14	Olympic Boulevard	Walnut Creek	West of S. California Boulevard	23,100	November 2014
15	S California Boulevard	Walnut Creek	South of Olympic Boulevard	21,000	November 2014
16	S Main Street	Walnut Creek	Between Newell Avenue and Olympic Boulevard	15,600	November 2014
17	N Main Street	Walnut Creek	Between Parkside Drive and Pringle Avenue	23,900	November 2014
18	Newell Avenue	Walnut Creek	South of Broadway	15,100	November 2014
19	Broadway	Walnut Creek	South of Civic Drive	20,500	November 2014
20	Mt Diablo Boulevard	Walnut Creek	Between Locust Street and Oakland Boulevard	22,100	November 2014
21	Civic Drive	Walnut Creek	West of N Main Street	10,800	November 2014
22	Kirker Pass Road	Concord	Between Kirkwood Drive and Old Kirker Pass Road	17,600	September 2014
23	Ygnacio Valley Road	Concord	Between Michigan Boulevard and Crystal Boulevard	26,500	September 2014
24	Port Chicago Highway	Concord	Between Sunset Avenue and Concord Boulevard	8,000	September 2014
25	Willow Pass Road	Concord	Between Mt Diablo Street and Grant Street	17,000	September 2014
26	Clayton Road	Concord	Between Grant Street and Bank of America Ped Xing	9,700	September 2014
27	Concord Boulevard	Concord	Between Colfax Street and Grant Street	11,600	September 2014
28	Alcosta Boulevard	San Ramon	Between I-680 and Iron Horse Trail	18,300	September 2014
29	Crow Canyon Road	San Ramon	Between Bollinger Canyon Road and Dougherty Road	22,100	September 2014
30	14th Street	Oakland	Between Castro Street and Lakeside Drive	9,500	October 2014
31	Oak Street	Oakland	Between 6th Street and 12th Street	9,700	October 2014
32	98th Avenue	Oakland	Between Maddux Drive and Golf Links Road	22,900	October 2014
33	East Grand Avenue	South San Francisco	Between Point Grande and Dubuque Avenue	17,500	October 2014
34	Airport Boulevard	South San Francisco	Between Grand Avenue and Baden Avenue	16,100	October 2014
35	South Airport Boulevard	South San Francisco	Between U.S. 101 NB ramps and N Access Road	19,300	October 2014
36	El Camino Real	South San Francisco	Between Hickey Boulevard and San Bruno Avenue	35,800	October 2014
37	Hamilton Avenue	Palo Alto	Between Ramona Street and Webster Street	9,200	April 2014
38	Lytton Avenue	Palo Alto	Between Ramona Street and Webster Street	11,600	April 2014
39	University Avenue	Palo Alto	Between El Camino Real and Webster Street	19,100	April 2014
40	Mt Diablo Boulevard	Lafayette	Between Lafayette Circle and First Street	17,000	September 2013
41	Moraga Road	Lafayette	South of Moraga Boulevard	19,500	September 2013
42	San Carlos Avenue	San Carlos	Between Prospect Street and Laurel Street	16,100	October 2013
43	Holly Street	San Carlos	Between Industrial Road and Old County Road	19,500	October 2013
44	Industrial Road	San Carlos	Between Brittan Avenue and Howard Avenue	16,600	October 2013
45	El Camino Real	San Carlos	Between Brittan Avenue and Howard Avenue	23,700	October 2013
46	Ralston Avenue	San Carlos	Between Pullman Avenue and Alameda De Las Pulgas	25,400	January 2014
47	Middlefield Road	Mountain View	Between Ferguson Drive and N Rengstorff Avenue	12,400	September 2013
48	Blithdale Avenue	Mill Valley	Between Lomita Drive and Tower Drive	30,100	November 2013
49	Camino Alto	Mill Valley	Between Blithedale Avenue and Sycamore Avenue	19,300	October 2013
50	El Camino Real	Caltrans	Between Accolti Way and Quarry Road	38,400	November 2013
51	Fruitvale Avenue	Oakland	Between Alameda and MacArthur Boulevard	16,300	September 2013
52	International Boulevard	Oakland	Between 29th Avenue and 38th Avenue	23,400	September 2013
53	Harder Road	Hayward	Between Jane Avenue and Underwood Avenue	25,000	September 2013
54	Industrial Parkway	Hayward	Between Hall Road and Stratford Road	20,400	September 2013
55	Stony Point Road	Santa Rosa	Between W Ninth Street and Glenbrook Drive	25,100	September 2013
56	Guerneville Road	Santa Rosa	Between Coffey Lane and Range Avenue	25,800	September 2013
57	Marlow Road	Santa Rosa	Between Jennings Avenue and College Avenue	20,600	September 2013
58	College Avenue	Santa Rosa	Between Humboldt Avenue and King Street	21,900	September 2013
59	Petaluma Hill Road	Santa Rosa	Between Colgan Avenue and Kawana Springs Road	14,900	September 2013
60	Veterans Boulevard	Redwood City	Between Whipple Avenue and Woodside Road	10,200	October 2013
61	Spruce Avenue	South San Francisco	Between Centennial Trail and Rail Road Avenue	17,500	October 2013
62	Concord Avenue	Concord	Between John Glenn Drive and Market Street	36,000	October 2013
63	Willow Pass Road	Concord	Between Diamond Boulevard and Gateway Boulevard	32,800	October 2013
64	Clayton Road	Concord	Between Pine Street and Ayers Road	31,600	October 2013
65	Concord Boulevard	Concord	Between West Street and Bailey Road	18,700	October 2013
66	Monument Boulevard	Concord	Between Nursery Lane and Walters Way	32,800	October 2013
67	Oak Grove Road	Concord	Between David Avenue and Ygnacio Valley HS Driveway	23,300	October 2013
68	Gilando Street	Concord	Between Salvio Street and Clayton Road	31,900	October 2013
69	Treat Boulevard	Concord	Between Bel Air Drive and Winton Drive	32,600	October 2013
70	Mission Boulevard	Fremont	Between Stanford Avenue and Anza Street	15,000	October 2013

Arterial ADTs from the past PASS projects (FY 2012-13 to 2014-15)

No.	Roadway	Agency	Location	Weekday ADT	Data Collection Date
71	Decoto Road	Union City	Between 7th Street and Alvarado Niles Road	20,000	November 2013
72	Sir San Francis Drake Boulevard	San Anselmo	Between Broadmoor Avenue and Bell Avenue	23,500	November 2013
73	Center Boulevard	San Anselmo	West of Redwood Road	10,700	November 2013
74	Red Hill Avenue	San Anselmo	West of Ancho Vista Avenue	40,700	November 2013
75	Oregon Expressway	Santa Clara County	Between Louis Road and Cowper Road	36,800	November 2013
76	Hacienda Drive	Dublin	Between Haven Place and I-580 WB Ramps	20,900	October 2013
77	Tassajara Road	Dublin	Between Gleason Drive and I-580 WB Ramps	28,000	October 2013
78	Hamilton Avenue	Campbell	Between Central Avenue and Manchester Avenue	41,900	October 2013
79	Meridian Avenue	Campbell	Between Lenn Drive and Blackford Lane	30,000	October 2013
80	Dublin Boulevard	Dublin	Between Golden Gate Drive and Tassajara Road	24,200	September 2012
81	Grand Avenue	Oakland	Between Adeline Street and Perkins Street	15,400	September 2012
82	San Marin Drive	Novato	Between Spinosa Way and Redwood Boulevard	20,200	October 2012
83	Diablo/De Long Avenue	Novato	Between Center Road and U.S. 101	27,700	October 2012
84	Rowland Boulevard	Novato	Between South Novato Boulevard and Vintage Way	21,100	October 2012
85	Ignacio / Bel Marin Keys Boulevard	Novato	Between Alameda Del Prado and Digital Drive	19,200	October 2012
86	Novato Boulevard	Novato	Between Wilson Avenue and Sunset Parkway	17,200	October 2012
87	Redwood Boulevard	Novato	Between Landing Court and Grant Avenue	9,500	October 2012
88	Nave Drive	Novato	Between Rolling Circle and Bel Marin Keys Boulevard	14,200	October 2012
89	Los Gatos Boulevard	Los Gatos	Between Saratoga Road and Garden Lane	22,200	September 2012
90	Third Avenue	Foster City	Between Lakeside Drive and Marsh Drive	7,600	October 2012
91	Foster City Boulevard	Foster City	Between Triton Drive and Balclutha Drive	20,600	October 2012
92	E Hillsdale Boulevard	Foster City	Between Altair Avenue and Edgewater Boulevard	23,600	October 2012
93	Edgewater Boulevard	Foster City	Between Metro Center Boulevard and E Hillsdale Boulevard	17,000	October 2012
94	Metro Center Boulevard	Foster City	Between Shell Boulevard and SR-92 EB Ramps	13,000	October 2012
95	Washington Street	Petaluma	Between Webster Street and Sonoma Mountain Parkway	18,800	October 2012
96	Marsh Road	Menlo Park	Between Middlefield Road and U.S. 101	23,900	October 2012
97	Middlefield Road	Menlo Park	Between Marsh Road and Ringwood Avenue	16,400	October 2012
98	Sand Hill Road	Menlo Park	Between I-280 NB Off-ramp and Addison - Wesley	26,800	October 2012
99	Shoreline Boulevard	Mountain View	Between Church Street and Pear Avenue	23,900	September 2012

Note: If there are more than one ADT count locations on an arterial, the average ADT is reported.

Arterial with ADT ≥ 20,000 vpd	**53**	54%
Arterial with ADT < 20,000 vpd	**46**	46%
Total Arterials	**99**	100%

PASS Eligibility Requirements
Final
(November 2015)

Tier	Eligibility Requirements	
	Characteristics	**Local Match[1]**
Tier 1	Tier 1 projects must meet the following three requirements: 1) Arterial functions as a reliever route to nearby freeway(s)[2]; 2) Arterial serves transit lines with high ridership. Specifically, the total of all lines has at least an average of 1,000 weekday boardings; and 3) Arterial has a minimum Average Daily Traffic (ADT) volume of 20,000 vehicles, or a minimum peak hour traffic volume of 600 vehicles per hour per lane in the peak direction[3].	10% local cash match
Tier 2	Tier 2 projects must meet any two of the following three requirements: 1) Arterial functions as a reliever route to nearby freeway(s)[2] 2) Arterial serves transit lines with high ridership. Specifically, the total of all lines has at least an average of 1,000 weekday boardings. 3) Arterial has a minimum Average Daily Traffic (ADT) volume of 20,000 vehicles, or a minimum peak hour traffic volume of 600 vehicles per hour per lane in the peak direction[3].	15% local cash match
Tier 3	Tier 3 projects can meet any of the following three requirements: 1) Arterial functions as a reliever route to nearby freeway(s)[2]; 2) Arterial serves transit lines with high ridership. Specifically, the total of all lines has at least an average of 1,000 weekday boardings; or 3) Arterial has a minimum Average Daily Traffic (ADT) volume of 20,000 vehicles, or a minimum peak hour traffic volume of 600 vehicles per hour per lane in the peak direction[3].	20% local cash match

Other corridor characteristics for consideration, but not required for eligibility:

a) Arterials with significant changes in traffic patterns and volumes
b) Arterials include traffic signals from multiple jurisdictions
c) Signals along an arterial that is impacted by modifications to nearby freeway interchanges, implementation of ramp metering, road widening, intersection upgrades, or lane configuration changes
d) Project is in conjunction with other established regional programs, such as Transit Performance Initiative, Freeway Performance Initiative, Ramp Metering, Safe Routes to Schools, Safe Routes to Transit, Complete Streets, SMART corridors, Integrated Corridor Management, etc.

Notes:

[1] For State-operated signalized intersections only, a 10% local cash match is required for any tier and can be met by either Caltrans and/or the local agency. Any financial commitments between Caltrans and the local agency to meet this requirement must be demonstrated in the project application.

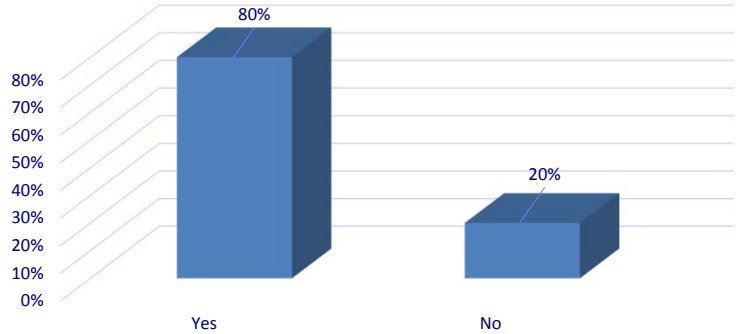
[2] Arterials that function as reliever routes are those that become de-facto diversion routes whenever incidents occur on nearby parallel freeways. Project applicants must provide some type of data to demonstrate the corridor functions in this capacity.

[3] Traffic volume data based on the most recent three years.

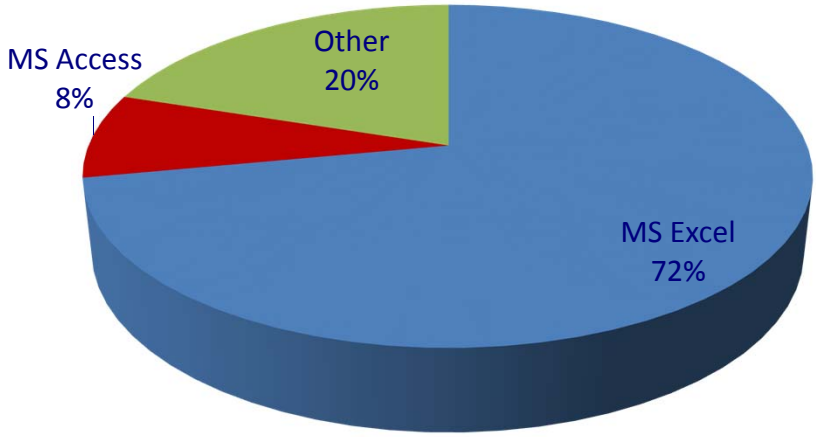
BASIS Survey

- Survey: Five Questions + Contact Info
- First email out: 11/4/2015
- Email reminder: 11/10/2015
- Closed: 11/17/2015
- Responses: 35 (~32% response rate)

Q1: Does your agency currently have an electronic database, spreadsheet, or other tracking tool that contains information related to the assets at signalized intersections in your jurisdiction?

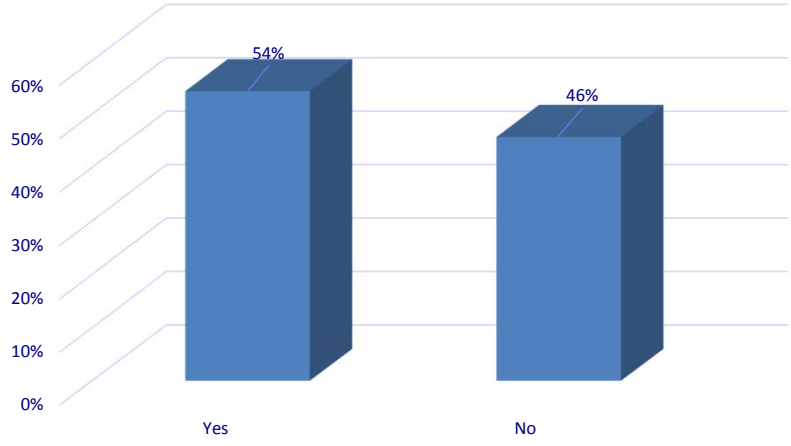


Q1: Type of Database or Tool Currently Used



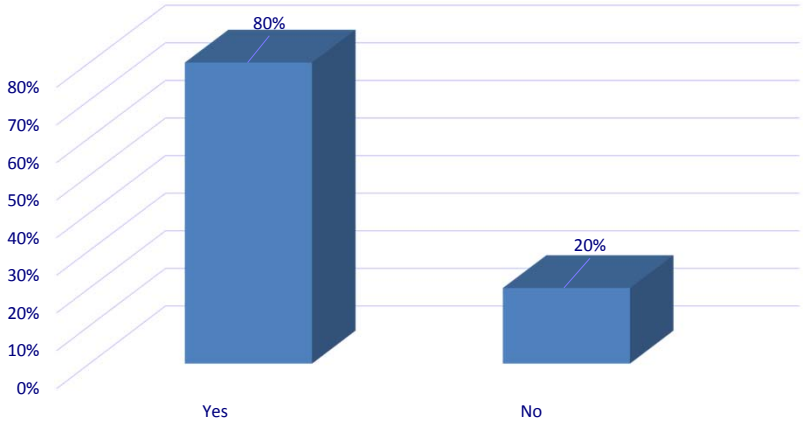
METROPOLITAN TRANSPORTATION COMMISSION 3

Q2: Does your agency currently have a GIS map layer that contains information related to the signalized intersections in your jurisdiction?

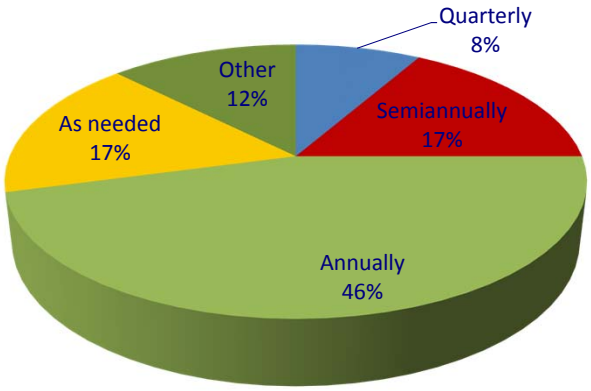


METROPOLITAN TRANSPORTATION COMMISSION 4

Q3: If a central database for signalized intersections in the region was developed, are you or any other appropriate agency staff willing to make periodic updates to keep your data up-to-date?



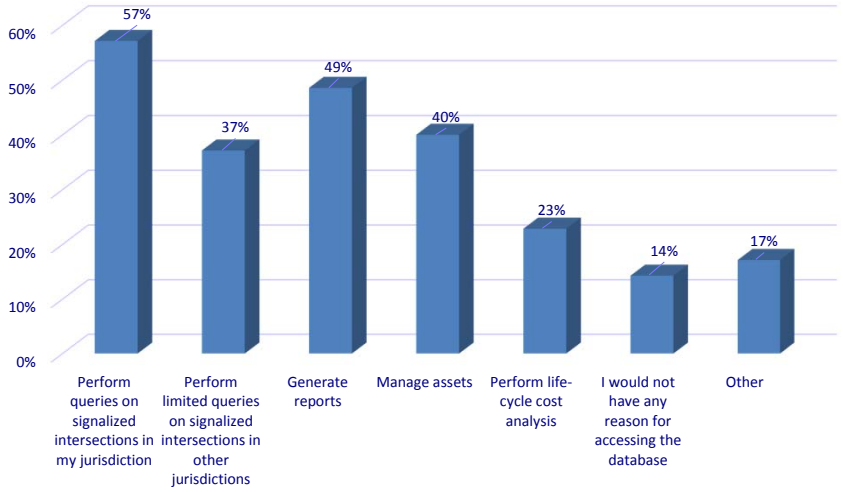
Q3: How often would you be willing to make updates?



Other:

1. "Our intersection are maintained by an outside contractor. This would need to be approved by contractor and Town before implementation.
2. "As long as the system can read from one system to the other. If it requires manual entry then answer is NO."
3. "Have not been able to keep it up to date"

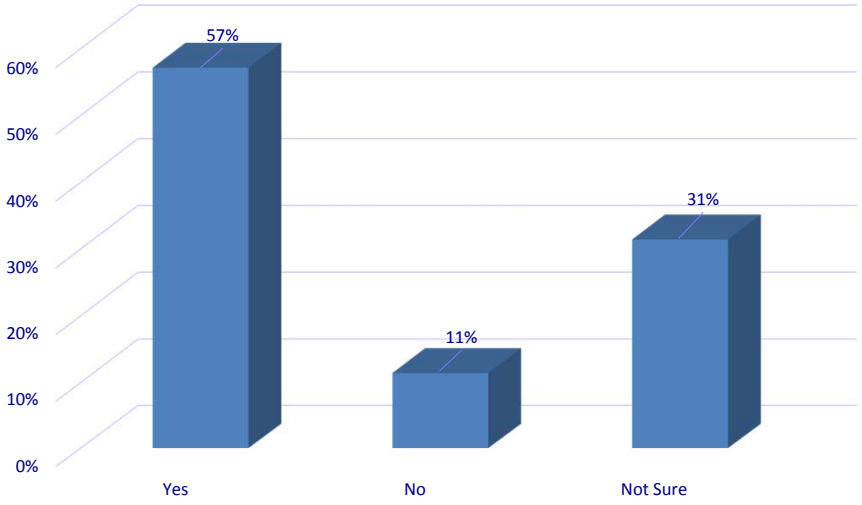
Q4: If a central database for signalized intersections was developed, what would be your top reason(s) for accessing it?



Q4 – Other

Make **information available to the public**.
Since we currently maintain our own database that has more information than the one currently maintained by the MTC, the only information that would be beneficial would be **accessing data on other jurisdictions**. I'm not clear on the use of that data to the City at this point but it could prove useful in the future.
Will assist staff to **schedule upgrade/replace of existing components of traffic signals** when due and when funding is available.
Improve **agency coordination** on traffic operations.
Not certain what use it would be.
It may help when it comes to **cross coordinating** with city streets. But can't depend on the info in the database if there is no definite mechanism for agency to update. Best would be to work with controller manufacturers directly and have them develop an export module where **the system automatically updates** once a day or once a week to the central system. This also ensures that future upgrades on agency system will not break this connection.

Q5: Do you see value or benefit in having a central database for signalized intersections in the Bay Area?



Agencies Completed Survey

Alameda County DPW	City of Hayward	City of South S.F.
City of Alameda	City of Menlo Park	City of St Helena
City of Belmont	City of Mountain View	City of Sunnyvale
City of Benicia	City of Novato	City of Union City
City of Brentwood	City of Oakland	County of Marin DPW
City of Brisbane	City of Pacifica	Santa Clara County Roads & Airports Dept.
City of Cupertino	City of Petaluma	Suisun City
City of Daly City	City of Pleasanton	Town of Moraga
City of Dublin	City of Sausalito	*Not identified (9)*

PFO Funding Opportunity Tracking Matrix

11/12/2015

Funding Opportunity Name	Relevance	Type of Funding	Funding Agency/Lead	Project Type (S/M/E/O)
Accelerated Innovation Deployment (AID)	Med	Federal	FHWA	S/M/E/O
USDOT - Transportation Investment Generating Economic Recovery (TIGER)	Med	Federal	USDOT	S/M/E/O
FTA/FHWA - Accessible Transportation Technologies	Med	Federal	USDOT	S/M/O
Department of Energy		Federal	DOE	E/M
Transportation Alternatives Program (TAP)		Federal	FHWA	S/M/E/O
Federal Rail Assoc. (FRA)		Federal	FRA	S/M/E/O
FTA - Expedite		Federal	FTA	S/M/E/O
FTA / NCHRP - Innovations Deserving Exploratory Analysis (IDEA)		Federal	FTA	S/M/E/O
Air Resource Board - Discretionary Funds	High	State	ARB	E/M
Air Resource Board - Sustainable Freight Action Plan	Med	State	ARB	E/M
Active Transportation Program (ATP)	Med	State	Caltrans / MTC	M/E/O
Traffic Light Synchronization Program (TLSP)		State	Caltrans	M
Surface Transportation Program (STP) funds		State	Caltrans	S/M/E/O
Alameda Co. Self Help Sales Tax	Med	Local	ACTC	S/M/E/O
San Mateo Co. Self Help Sales Tax	Med	Local	C/CAG	S/M/E/O
Contra Costa Co. Self Help Sales Tax	Med	Local	CCTA	S/M/E/O
Arterial Operations Program	Med	Local	MTC	S/M/E/O
Santa Clara Co. Self Help Sales Tax	Med	Local	VTA	S/M/E/O
MTC Climate Change	High	Local	MTC	M/E/O
BAAQMD / TFCA Grants	High	Local	BAAQMD	M/E/O
MTC Core Capacity / Cap and Trade Program	High	Local	MTC	M/E/O
MTC SAFE	High	Local	MTC	S/M/E/O
BAAQMD / County Program Manager Fund	High	Local	CMA	S/M/E/O
MTC - One Bay Area Grant (OBAG) 2		Local	MTC	S/M/E/O
Local Streets and Roads Program		Local	MTC	S/M/E/O
Napa Co. Self Help Sales Tax		Local	NVTA	S/M/E/O
Sonoma Co. Self Help Sales Tax		Local	SCTA	S/M/E/O
SF Co. Self Help Sales Tax		Local	SFCTA	S/M/E/O
Marin Co. Self Help Sales Tax		Local	TAM	S/M/E/O
Public Private Partnerships		Private	TBD	S/M/E/O
Value Capture	-		Local	S/M/E/O
Public Health Institute		TBD	TBD	S/M/E/O

Relevance: Near-term funding opprotunities are likely and regional projects have a high chance of meeting funding requirements.

Project Types: Anticipated benefits in the areas of safety (S), mobility (M), environmental (E), or Other (O).

METROPOLITAN
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Memorandum

TO: Arterial Operations Committee (AOC) DATE: January 5, 2016

FR: Linda Lee, MTC

CC: AOP Task Force

RE: AOP Task Force – December 14, 2015 Meeting Summary

The AOP Task Force held a meeting on December 14, 2015. This memo provides a summary of the key discussion items:

- Future of BASIS (Bay Area Signalized Intersection System) –
  - As a follow-up from the November AOP Task Force meeting, feedback was solicited from the CMAs about whether they see usefulness in maintaining a regional traffic signal database. Responses were received from the Napa, Marin, Sonoma, and Contra Costa CMAs. ACTC and SCVTA already stated that the database is important for them and that they will coordinate with their jurisdictions to get it updated annually. In general, while the CMAs see usefulness of the database, they did not express any immediate or definitive need at the moment, and a few offered to check with some of their respective local agencies. Similar to ACTC and VTA, some CMAs indicated their willingness to coordinate with their local agencies to update the data on a regular basis (e.g., annually).

  - There was a discussion about how the Chicago Metropolitan Agency for Planning (CMAP) prepared a report titled, Highway Traffic Signal Inventory, Draft Proposal" (October 29, 2015), which proposes to develop a traffic signal inventory/geodatabase that would contain about 50 attributes. The report identifies a few intended purposes of the database, including influencing regional plan and project development, informing policy decisions, or addressing policy issues.

  - See link below for report:
    http://www.cmap.illinois.gov/documents/10180/481346/RegionnalSignals_Proposal_20151029_forRTOC.pdf/3aef6a03-a792-44ed-9515-11496c9c25f8

  - As a final recommendation, to make the database useful and the effort to maintain it more manageable, the group discussed reducing the number of attributes (e.g., only those relevant to new technologies related to Connected Vehicles, ITS infrastructure, ICM projects, etc.);

only including primary arterials (major collectors and above) identified in the California Road System (CRS); updating the database only once a year; and having the CMAs coordinate the updates with their respective cities.

- Funding Opportunities Next Steps –
  - The group closed out the discussion about the comprehensive list of funding opportunities by going over some of the revisions made based on the feedback from the November Task Force meeting. The group agreed that it would be helpful to make the full spreadsheet, which contains more information, available online. As such, the full spreadsheet is attached to this memo.

  - A Task Force member commented that it can be difficult to find out about the different fund sources, and that local agencies may not have a full time staff person dedicated to writing grant applications. This list could be helpful in identifying funding opportunities that could be pursued as a group. If appropriate, MTC could possibly partner with agencies to submit joint applications.

  - Additional funding sources not already included in the spreadsheet will be solicited from AOC members. The spreadsheet will be updated periodically on an on-going basis.

- Educational Seminars, Workshops, Courses –
  - A Task Force member proposed the idea of holding seminars or half-day workshops that would be led by various manufacturers/ vendors to discuss new technologies, such as Connected Vehicles, different types of detection systems, etc. The purpose of these types of seminars would be to help agencies become aware of the different technologies or systems available to them, as they make decisions about future capital investments.

  - There were concerns expressed about ensuring, to the extent possible, that these types of seminars do not become focused opportunities for vendors to promote their products. Otherwise, it could open the floodgates for other vendors to request the same opportunity, or could be perceived as unfairly selecting one vendor over another.

  - The group will continue discussing possible seminar topic ideas at the next Task Force meeting.

  - The group discussed the possibility of MTC hosting one or two traffic signal-related courses offered by the National Highway Institute (NHI) (see attached). The discounted course fee for local agency staff is $75 per person and $200 per person for State DOTs. (The regular fee is $500 per person). The minimum class size is 20 people. MTC would like to first gauge the interest of the AOC.

- The next AOP Task Force meeting is January 13, 2016.

Potential Funding Opportunities for Bay Area Operational Improvement Projects

Prepared for Jan 2016 Arterial Operations Committee Meeting

LINE ID #	Funding Opportunity Name	Type of Funding (Federal/ State/ Local/ Other)	Funding Agency	Eligible Applicant [a]	Project Type (S/M/E/O) [b]	Website
1	Air Resource Board - "Sustainable Freight Action Plan"	State	CARB	MTC / CMA	M/E/O	http://www.arb.ca.gov/gmp/sfti/sfti.htm
2	Alameda County Self Help Sales Tax	County	ACTC	ACTC / Locals	S/M/E/O	http://www.alamedactc.org/
4	Alameda County Vehicle Registration Fees	County	ACTC	ACTC / Locals	S/M/E/O	http://www.alamedactc.org/app_pages/view/8089
5	BAAQMD / County Program Manager Fund	Regional	BAAQMD	CMA	S/M/E/O	http://www.baaqmd.gov/grant-funding/public-agencies/county-program-manager-fund
6	BAAQMD / Transportation Fund for Clean Air (TFCA) Grant Program	Regional	BAAQMD	Varies	M/E/O	http://www.baaqmd.gov/grant-funding/public-agencies
7	Caltrans Active Transportation Program (ATP)	State	Caltrans / MT	Varies	M/E/O	http://www.dot.ca.gov/hq/LocalPrograms/atp/
8	Caltrans Highway Safety Improvement Program (HSIP)	State	Caltrans	MTC	S	http://dot.ca.gov/hq/LocalPrograms/hsip.html
9	Caltrans State Highway Operation and Protection Program (SHOPP)	State	Caltrans	MTC	S	http://www.dot.ca.gov/hq/transprog/shopp.htm
10	Caltrans Sustainable Transportation Planning Grant Program	State	Caltrans	MTC / CMA	S/M/E/O	http://www.dot.ca.gov/hq/tpp/grants.html
11	Contra Costa County Self Help Sales Tax	County	CCTA	CCTA / Locals	S/M/E/O	http://www.selfhelpcounties.org/focus/counties/ContraCosta.pdf
12	Department of Energy	Federal	DOE	Varies	E/M	http://energy.gov/eere/vehicles/vehicle-technologies-office-financial-opportunities
13	Federal Rail Adminstration (FRA) - Competitive Discretionary Programs	Federal	FRA	Varies	S/M/E/O	https://www.fra.dot.gov/Page/P0021
14	FHWA Accelerated Innovation Deployment (AID)	Federal	FHWA	MTC / CMA	S/M/E/O	http://www.fhwa.dot.gov/innovation/grants/
16	FTA - Expedited Public Transportation Improvement (XPEDITE) Initiative	Federal	FTA	Varies	S/M/E/O	http://www.fta.dot.gov/grants/grants_16556.html
17	FTA / NCHRP - Innovations Deserving Exploratory Analysis (IDEA)	Federal	FTA	Varies	S/M/E/O	http://www.trb.org/IDEAProgram/IDEAProgram.aspx
18	Marin County Self Help Sales Tax	County	TAM	TAM / Locals	S/M/E/O	http://www.selfhelpcounties.org/focus/counties/Marin.pdf
19	MTC Arterial Operations Program	Regional	MTC	CMA / Locals	S/M/E/O	http://www.mtc.ca.gov/our-work/operate-coordinate/arterial-operations
20	MTC Cap and Trade Program	Regional	MTC	Varies	M/E/O	http://mtc.ca.gov/our-work/invest-protect/cap-and-trade-funding
21	MTC Climate Change Program	Local	MTC	Varies	M/E/O	http://mtc.ca.gov/our-work/invest-protect/investment-strategies-commitments/protect-our-climate/climate-initiatives
23	MTC One Bay Area Grant (OBAG) Program	Regional	MTC	Varies	S/M/E/O	http://www.mtc.ca.gov/funding/obag2/
24	MTC State Transit Assistance (STA)	Regional	MTC	Varies	S/M/E/O	http://mtc.ca.gov/our-work/invest-protect/investment-strategies-commitments/transit-21st-century/transit-operating-0
25	MTC Transportation Development Act (TDA)	Regional	MTC	Varies	S/M/E/O	http://mtc.ca.gov/our-work/invest-protect/investment-strategies-commitments/transit-21st-century/transit-operating-0
26	Napa County Self Help Sales Tax	County	NVTA	NVTA / Locals	S/M/E/O	http://www.selfhelpcounties.org/focus/counties/Napa.pdf
28	Public Private Partnerships	Private	Varies	Varies	S/M/E/O	http://www.ncppp.org/
29	San Francisco County Self Help Sales Tax	County	SFCTA	SFCTA / SFMTA	S/M/E/O	http://www.selfhelpcounties.org/focus/counties/SanFrancisco.pdf
30	San Mateo County Self Help Sales Tax	County	C/CAG	C/CAG / Locals	S/M/E/O	http://ccag.ca.gov/funding/measure-m/
31	Santa Clara County Self Help Sales Tax	County	VTA	VTA / Locals	S/M/E/O	http://www.selfhelpcounties.org/focus/counties/SantaClara.pdf
32	Sonoma County Self Help Sales Tax	County	SCTA	SCTA / Locals	S/M/E/O	http://www.selfhelpcounties.org/focus/counties/Sonoma.pdf
34	USDOT - Accessible Transportation Technologies Research Initiative (ATTRI)	Federal	USDOT	Varies	S/M/O	http://www.its.dot.gov/attri/
35	USDOT - Connected Vehicle Pilot Deployment (Wave 2)	Federal	USDOT	Varies	S/M/E/O	http://www.its.dot.gov/pilots/
36	USDOT - Smart Cities Challenge	Federal	USDOT	Locals	S/M/E/O	https://www.transportation.gov/smartcity
37	USDOT - Transportation Investment Generating Economic Recovery (TIGER)	Federal	USDOT	MTC / CMA	S/M/E/O	http://www.transportation.gov/tiger
38	Value Capture	Varies	CMA / Local	Varies	S/M/E/O	https://www.fhwa.dot.gov/ipd/revenue/non_pricing/sources_tools/value_capture_revenue.aspx
39	Various Other Grant Opportunities	Varies	Varies	Varies	Varies	http://www.grants.gov/

Notes:
[a] Eligible Applicant indicates who can apply for the funds.
[b] Project Types: Anticipated benefits in the areas of: Safety (S), Mobility (M), Environmental (E), or Other (O).

Course Number

FHWA-NHI-133124

Course Title

Performance Management of Traffic Signal Systems

Note: This course will offer special pricing to the following groups: Local Agencies - $75.00 per person; State DOT's - $200.00 per person. The reduced prices are being provided by the FHWA Office of Operations.

Performance Management of Traffic Signal Systems is a two-day course that provides a systematic approach for selecting, developing and reporting meaningful performance measures that are integral to an objectives and performance based approach to traffic signal system management, operation and maintenance. This course explores stakeholder expectations to support development of linkages between measures of effectiveness and agency objectives. Current methods for data collection, data management, development and reporting of performance measures will be discussed and explored through interactive exercises.

Many agencies perform project-level performance assessments intended to quantify: 1) the degree to which an operational problem might exist, and/or 2) the user benefits associated with deploying a new traffic signal timing plan or implementing a new treatment at an intersection or in a corridor. Generally, these assessments consist of analytical studies and/or field studies. While important, these assessments are often limited in scope and provide only cursory insight into the overall effectiveness of traffic signal program activities in the context of agency mission, goals, and objectives.

The goal of this course is to assist agencies in the development and implementation of a process for measuring and communicating the performance and effectiveness of traffic signal systems, both at the project and program level.

Outcomes

Upon completion of the course, participants will be able to:

- Engage stakeholders
- Document stakeholder objectives and resources
- Select measures of effectiveness (MOEs)
- Develop a strategy for performance measurements
- Incorporate performance measure into day-to-day operations
- Track performance
- Report outcomes

Target Audience

Professionals involved in the design, management, operation or maintenance of traffic signal systems. This includes design engineers, operations engineers and technicians (advanced) of state/local agencies, consultants, and FHWA Operations staff.

Training Level: Basic

Fee: 2015: $500 Per Person; 2016: $500 Per Person

Length: 2 DAYS (CEU: 1.2 UNITS)

Class Size: MINIMUM: 20; MAXIMUM: 30

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Course Number

FHWA-NHI-133125

Course Title

Successful Traffic Signal Management: The Basic Service Approach

Note: This course will offer special pricing to the following groups: Local Agencies - $75.00 per person; State DOT's - $200.00 per person. The reduced prices are being provided by the FHWA Office of Operations.

Successful Traffic Signal Management: The Basic Service Approach is a two-day course aimed at helping agencies ensure that their limited resources are directed towards meeting the needs of the agencies most important stakeholders. A Traffic Signal Management Plan (TSMP) is a tool that documents and aligns an agencies traffic signal design, operation and maintenance strategies to achieve basic service objectives. The application of systematic business processes is integral to maintaining the resources and workforce capability that is necessary to sustain the operation and maintenance of traffic signal systems over long periods of time. Agencies that clearly articulate their operational objectives and meaningfully measure performance tend to operate and maintain traffic signal systems more effectively than agencies that fail to document this information.

The purpose of this course will be to describe and expand on the Basic Service Concept for use in developing an agency's Traffic Signal Management Plan. Emphasis will be placed on an agency developing a simply stated goal and then developing objectives, strategies and tactics enabling them to accomplish their stated goal. Each element of the traffic signal management plan will be thoroughly covered, resulting in a guideline that agencies can follow to develop their own TSMP.

Outcomes

Upon completion of the course, participants will be able to:

- Formulate clear objectives
- Select appropriate standards of performance
- Identify performance measures
- Relate organizational capabilities and resource allocation to objectives
- Assess infrastructure reliability
- Identify signal timing strategies
- Document communication policies
- Apply effective design strategies
- Develop a traffic signal management plan

Target Audience

Professionals involved in the design, management, operation or maintenance of traffic signal systems. This includes design engineers, operations engineers and technicians (advanced) of state/local agencies, consultants, and FHWA Operations staff.

Training Level: Basic

Fee: 2015: $500 Per Person; 2016: $500 Per Person

Length: 2 DAYS (CEU: 1.2 UNITS)

Class Size: MINIMUM: 20; MAXIMUM: 30

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