



METROPOLITAN
TRANSPORTATION
COMMISSION

Joseph P. Bort MetroCenter
101 Eighth Street
Oakland, CA 94607-4700
TEL 510.817.5700
TDD/TTY 510.817.5769
FAX 510.817.5848
E-MAIL info@mtc.ca.gov
WEB www.mtc.ca.gov

Memorandum

TO: Operations Committee

DATE: January 4, 2013

FR: Executive Director

W. I.: 6035

RE: Quarterly Update: Condition of the Regional Transportation Management System

At the September 14 Operations Committee meeting, staff reported on the condition of highway operations equipment, including roadway detectors, changeable message signs, cameras and ramp metering systems that are operated and maintained by Caltrans. Staff also identified possible next steps to address the serious deficiencies identified in that report. Members of the Committee expressed significant concerns about the state of the equipment and indicated that the status quo was not acceptable. Committee members requested the following actions:

- Create an ad hoc subcommittee of Committee members to address the issue;
- Focus by staff on alternative institutional options for managing the system; and
- Report quarterly on the status of highway operations equipment.

The ad hoc subcommittee of the Operations Committee (Commissioners Mackenzie and Halsted), together with MTC and Caltrans District 4 staff, has met to review proposed next steps, and focused on discussing institutional options for operating and maintaining what MTC and Caltrans will refer to as the regional "transportation management system (TMS)." The TMS encompasses (1) highway operations equipment; (2) critical freeway and incident management functions; and (3) Transportation Management Center (TMC) staff and resources needed to actively operate and maintain both equipment and all these critical freeway and incident management functions.

At the January 11 Operations Committee meeting, staff from MTC and Caltrans District 4 will jointly provide a status report on Caltrans' performance on the system. Staff will also further describe problems we experience with TMS and will review new shared-operations approaches (e.g., either joint operations with Caltrans/CHP or with MTC as the lead agency) for the management and operations of the region's highway system. (See attached PowerPoint).



Steve Heminger

SH:EVW

J:\COMMITTEE\Operations\2013 Operations Comm Packet\01_Ops_Jan2013\5_Condition of egional Transportation System.doc

Condition of the Regional Transportation Management System

January 11, 2013

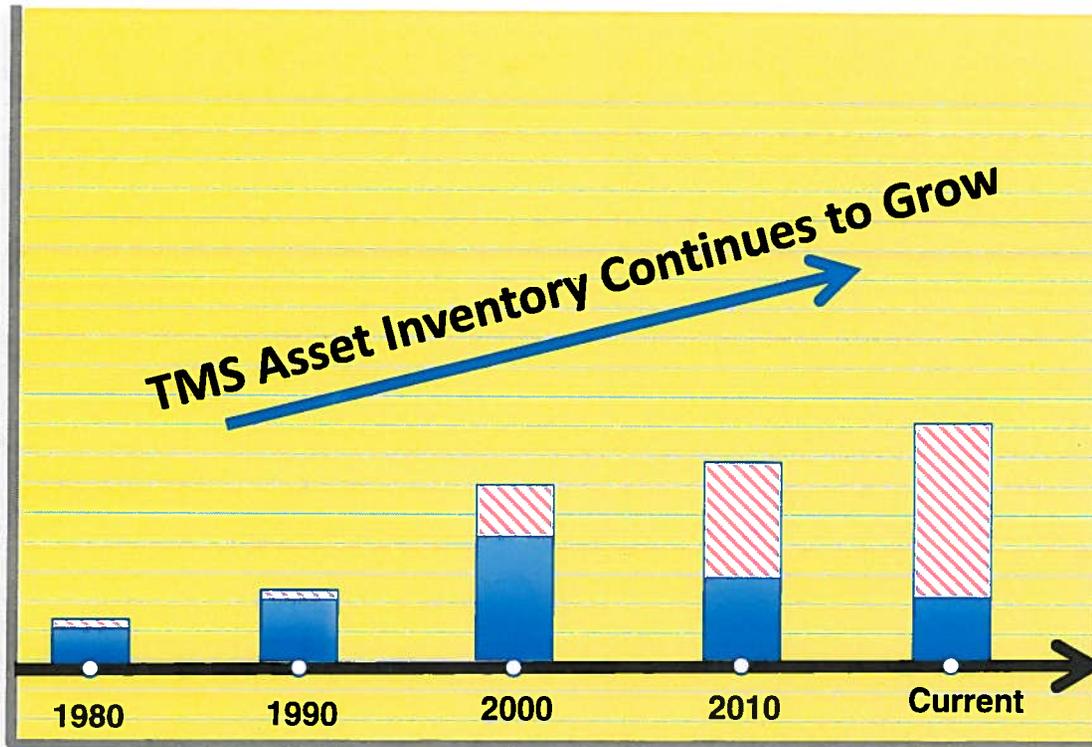
Management and Funding of Transportation Management Systems

Problem introduced at September Operations Committee. Direction from Committee members included:

- Form ad hoc subcommittee of committee members.
- Initiate regular reports on status of highway traffic monitoring equipment.
- Staff to explore institutional options to improve oversight and accountability.
- Provide recommendations on how to improve performance & stabilize funding.



There is no “O” in SHOPP



- CTC prioritizes funding for safety over mobility in SHOPP Program
- “...dealing with preservation shortfalls has an exponential fiscal impact (the less you do today, the more it will cost you tomorrow).” *Caltrans Program Review—July 2012.*

Transportation Management Systems Definitions

Current Responsibilities:



Incident Management



Traveler information



Call box



Emergency response



Incident management teams



Freeway service patrol & bridge tow

Field Equipment



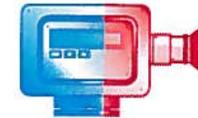
Traffic monitoring systems



Message signs



Ramp & bridge metering



Highway & security surveillance cameras

Freeway Management



Operators/performance monitoring



Construction/roadwork



Other TMCs



Transportation management teams



Hardware & software



CHP field units

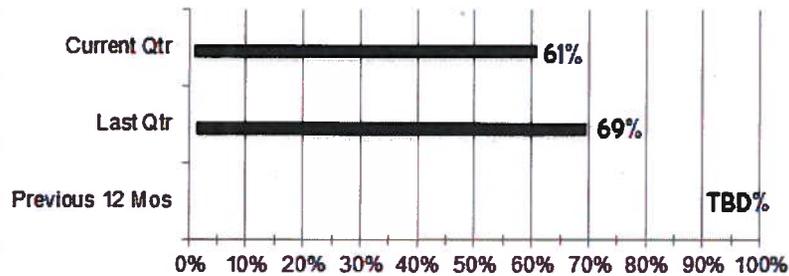
Future Needs

- **Would like to adopt a more "active" system management approach**
 - Adaptive ramp metering
 - Trail blazing on arterials
 - Lane Management Systems
 - Maintenance & operations of Express Lanes

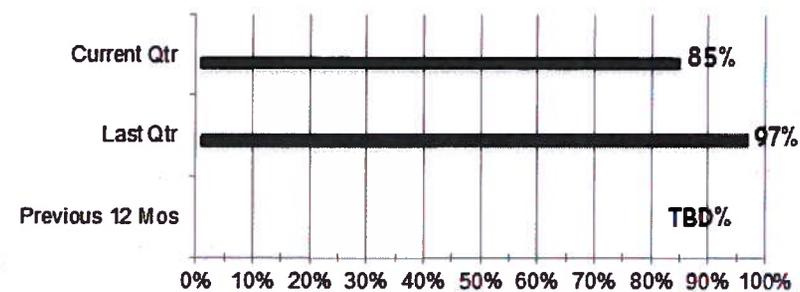
Snapshot of Field Equipment Operational Status

December 2012

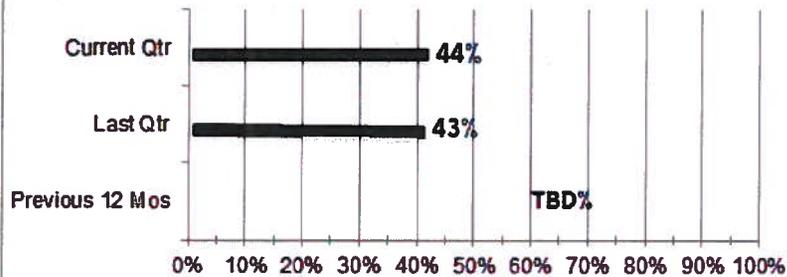
Changeable Message Signs (139)



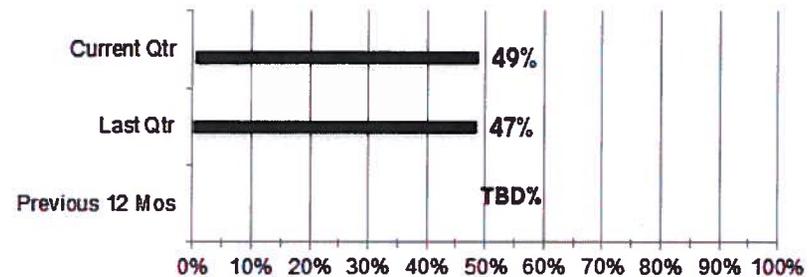
Ramp Meters (347)



CCTV Cameras (392)



Traffic Detector Stations (2,391)



Source: Caltrans District 4

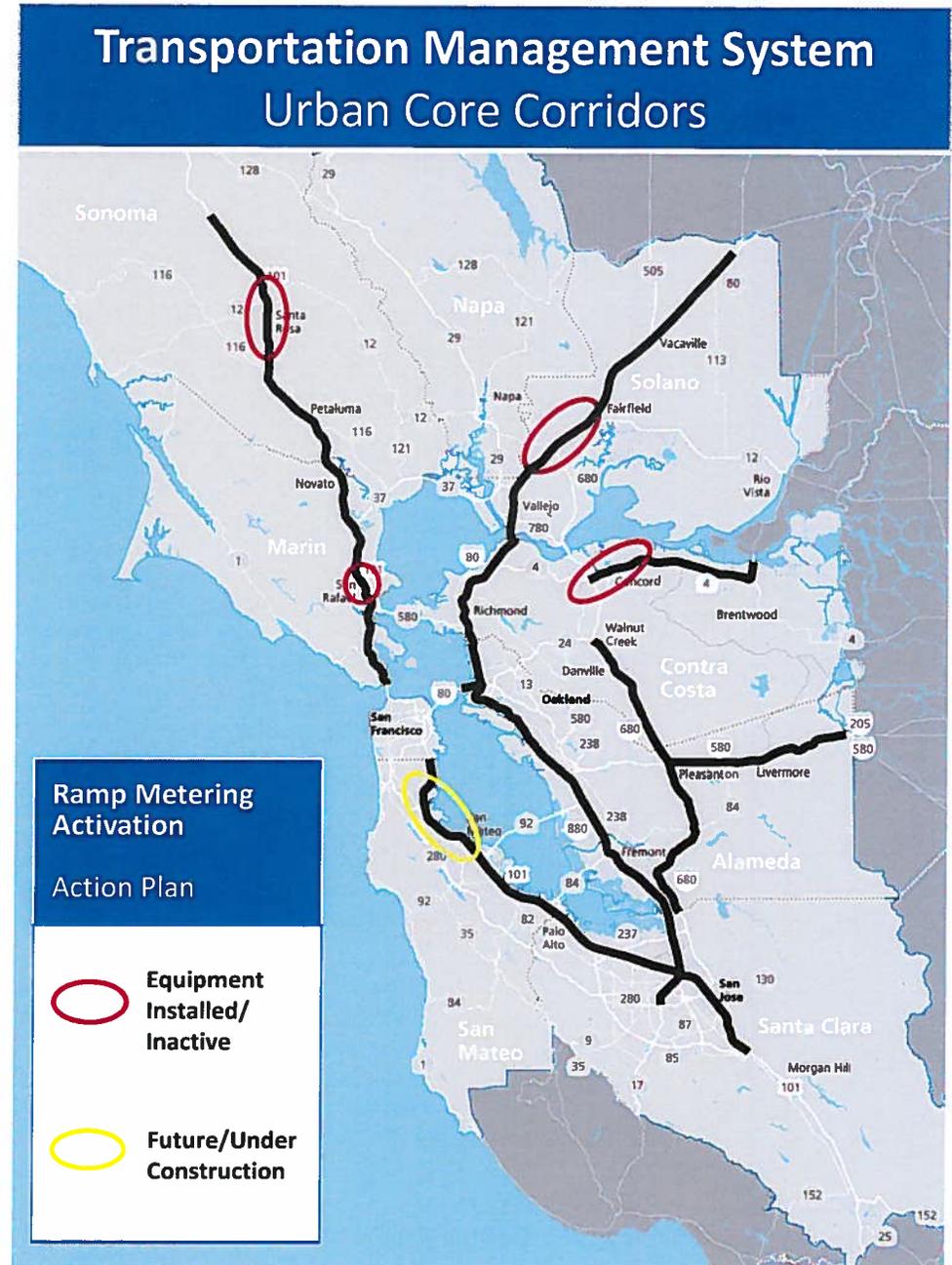
Ramp Metering Example

Current practice takes years to activate meters:

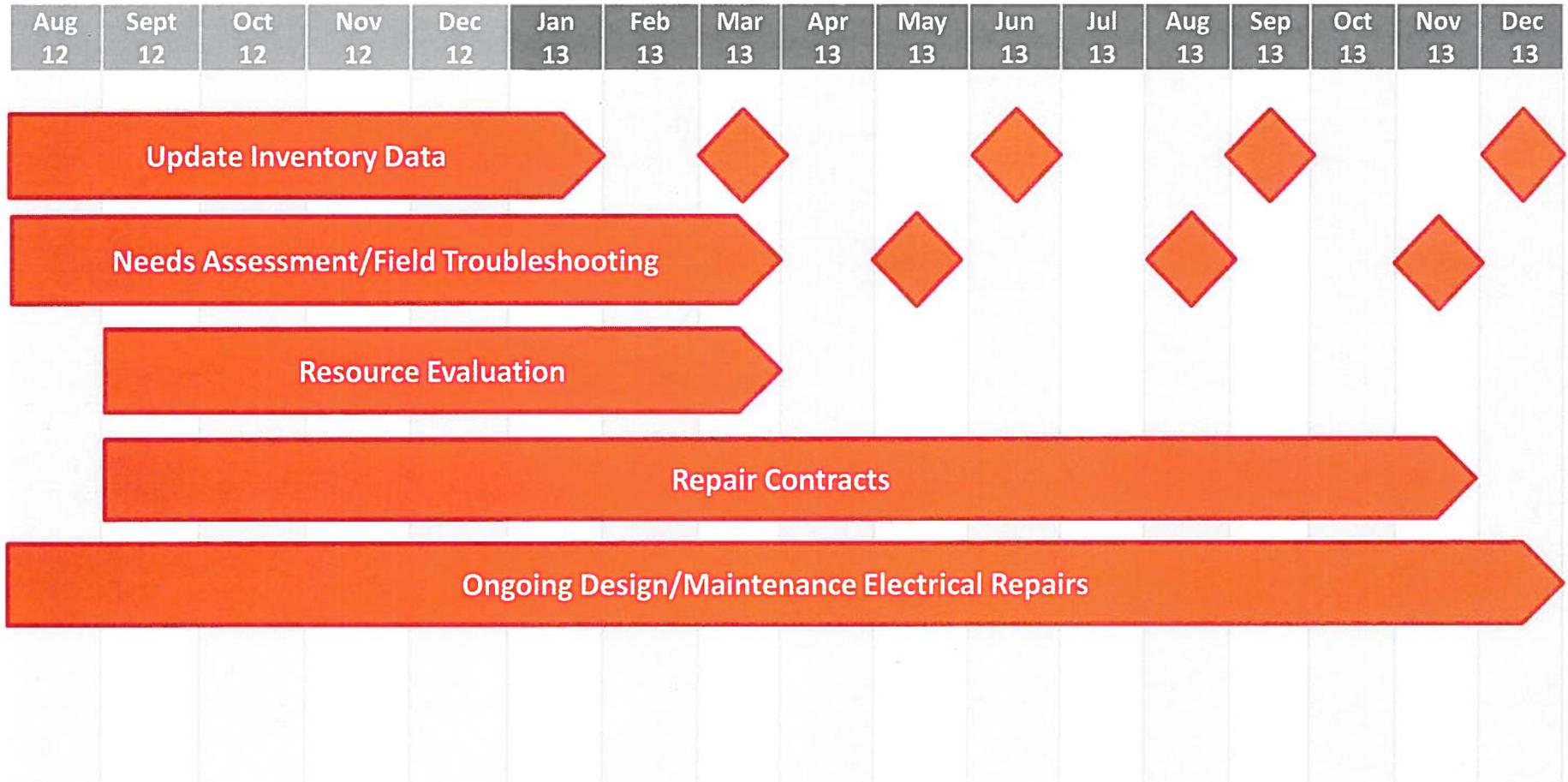
- Equipment installation is incremental due to funding/local agreements.
- Repetitive analysis and quantification of benefits, consensus building with locals.

This practice is broken:

- CC-4: Caltrans has not activated equipment installed in 1990s.
- MRN 101: TAM did not install all equipment required per MTC & Caltrans policies.
- SOL 80 & SON 101: usable segments lack local consensus for activation.



Caltrans' Near Term Actions (2012-2013)



Status Quo Is Not Acceptable

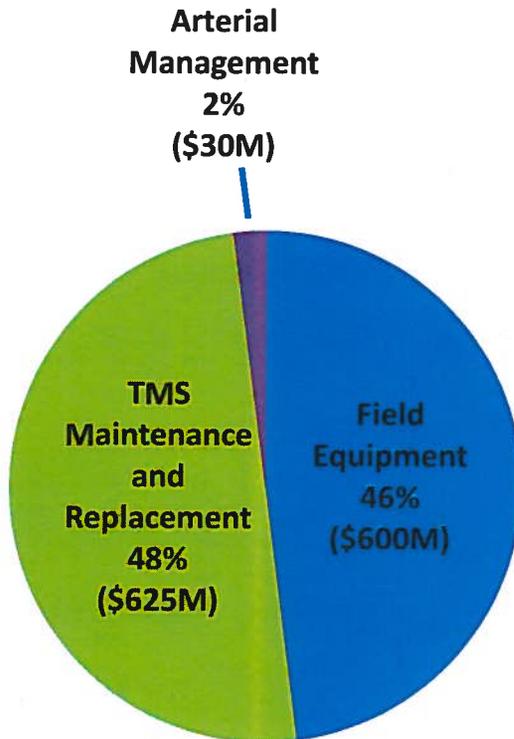
- System inventory continues to grow
- Multiple single-focused agreements are too fragmented
- There is no “O” in SHOPP

We need a new model to finance, govern and operate the transportation system

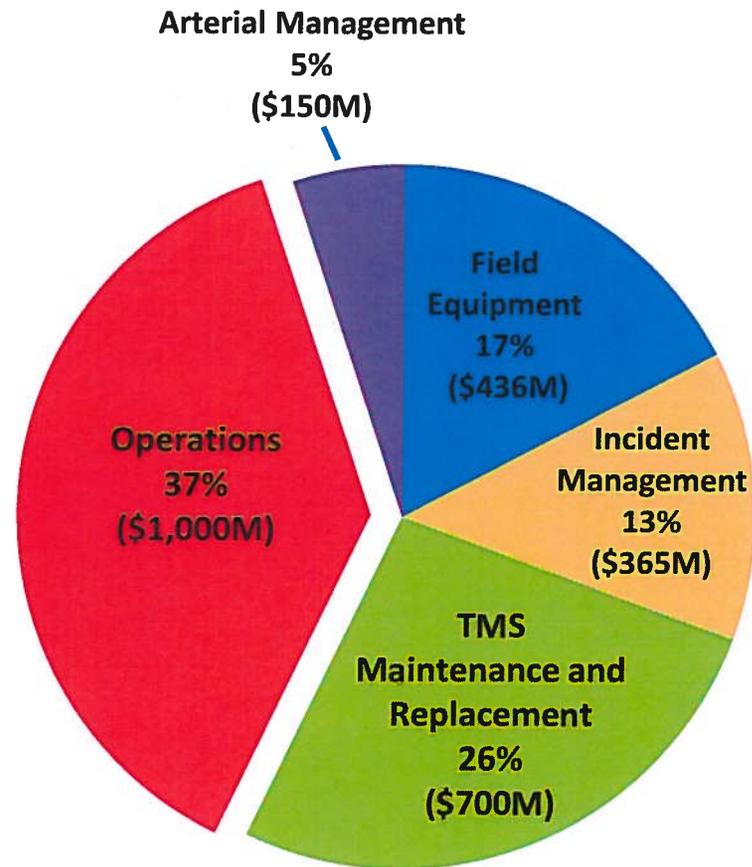
“Move from a passive investor to a managing partner.”

Potential Funding Sources

Transportation 2035 (\$1.3B)



Plan Bay Area (\$2.7B)



- BATA, SAFE, SHOPP, Other
- Additional funding required to maintain existing systems and meet future needs

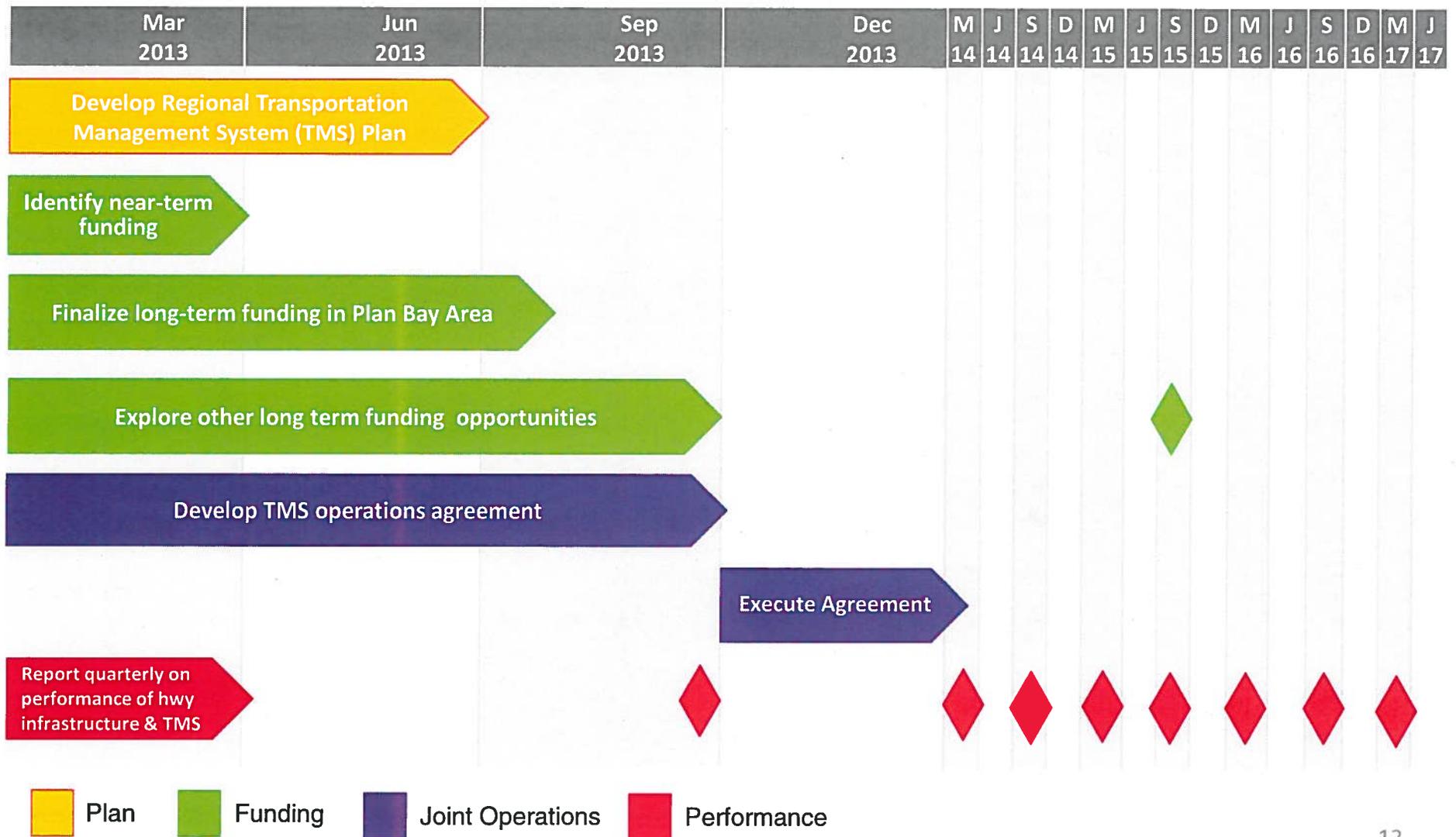
Models for Shared Responsibilities of Freeway Operations

	Joint Operations Option 1	Lead Operations Option 2	Blended Team Option 3
Definitions	Provide joint TMC	Provide freeway operations with each party delivering its specified set of duties	Corridor Directors from Caltrans report to Commission on performance
Agreements	Joint Powers Agreement	Master agreement defines roles and responsibilities	Memorandum of understanding
Funding	Shared	Shared	Shared
Existing Examples	JPA created new organization "TranStar"	Newly created integrated organization- FAST	Caltrans & SANDAG <i>(For Project Delivery not Ops)</i>

Roles and Responsibilities

Transportation Management System Function	Current	Joint Operations Agency Option 1	Agency-Led Operation Option 2
Incident Management			
Traveler Information	MTC	Joint Operations	MTC
Freeway Service Patrol & Bridge Tow	Joint Operations	Joint Operations	MTC
Call Box	Joint Operations	Joint Operations	MTC
Incident Management Teams	Joint Operations	Joint Operations	Joint Operations
Emergency Response	Joint Operations	Joint Operations	Joint Operations
Freeway Management			
Operators/Performance Monitoring	Caltrans	Joint Operations	MTC
Construction/Roadwork	Caltrans	Joint Operations	Caltrans
Hardware & Software	Joint Operations	Joint Operations	MTC
Transportation Management Teams	Caltrans	Joint Operations	MTC
Other TMCs	Caltrans	Joint Operations	Caltrans
Field Equipment			
Traffic Monitoring Systems	Joint Operations	Joint Operations	MTC
Message Signs	Caltrans	Joint Operations	MTC
Ramp & Bridge Metering	Joint Operations	Joint Operations	MTC
Highway & Security Cameras	Joint Operations	Joint Operations	MTC
Future Needs (Active Traffic Management)			
Express Lane Maintenance & Operations	MTC	Joint Operations	MTC
Adaptive Ramp Metering	Joint Operations	Joint Operations	MTC

Work Plan



Next Quarterly Report

- Updates
 - Performance of field equipment
 - Status of repair work
 - Needs assessment findings
- Recommendations
 - Near-term funding strategy
 - Key principles for governance agreement