



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

Agenda item 3

TO: Operations Committee

DATE: October 3, 2014

FR: Executive Director

W. I. 1223 & 1237

RE: "Columbus Day" Strategies Update

As a follow-up to the Commission Workshop in March 2014, staff will report on efforts to explore and implement innovative transportation management projects in partnership with the California Department of Transportation (Caltrans).

Background

The March 26th Commission Workshop agenda item, "The Future of Freeways...is in Whose Hands?" reviewed MTC's current experience and role in freeway management, explored active traffic management strategies and introduced various system ownership options for further investigation or potential pursuit. A theme of this item was the desire to make traffic in the Bay Area like Columbus Day, every day, in which a slightly lower traffic demand results in a large reduction in delay. Staff's presentation was followed by: (1) a panel discussion, which provided local and regional organizational perspectives; and (2) a facilitated dialogue with commissioners on operational and ownership concepts.

Workshop panelists (Executive Directors from Sonoma County Transportation Authority and San Diego Association of Governments) acknowledged the relevance and timeliness of the workshop topic and emphasized the need for a nimble system management approach and strong state, regional, and local partnership.

The Commission's discussion focused on four questions:

1. Should MTC own and operate any parts of the freeway system?
2. What are the opportunities and risks that come with ownership?
3. Which "Columbus Day" strategies might work best for the Bay Area?
4. Where would the funding and political support come from?

Staff's presentation, the panel and Commissioners' discussion emphasized a need for a different partnership with the State. Given the constraints on available resources, Caltrans is limited in its ability to pursue many active traffic management opportunities and to adequately maintain traffic operations systems. Therefore, it is important for MTC's partnership with Caltrans to remain

nimble and flexible, innovate and experiment with new concepts, look for a sustainable way to operate and maintain existing investments, and implement a performance based system management program.

The Commissioners' discussion of the above questions can be summarized according to the following themes:

- **Concurrence to further study “Columbus Day” strategies.** There was general consensus on a desire to further evaluate the implementation feasibility of various active transportation management strategies, which were dubbed “Columbus Day” strategies.
- **Align lead for greater responsibility based on agency strengths and experience.** There is a need to identify various components of the system and to further align state, regional and local lead roles and responsibilities for a given element according to each agency's capabilities, strengths and experience.
- **Reservations about MTC assuming greater ownership.** There was considerable concern expressed about MTC over-extending itself.
- **San Diego's model is intriguing.** There was interest in learning more about San Diego's partnership with Caltrans District 11 as a model for ownership, operations, maintenance and tort liability for components of the system such as Express Lanes.

At the October meeting, staff will report on efforts to explore and implement innovative transportation management projects in partnership with Caltrans on the following “Columbus Day” strategies:

1. Create public-private partnerships for Regional Park-and-Ride system
2. Optimize performance of Transportation Management System (TMS) equipment
3. Upgrade the San Francisco-Oakland Bay Bridge Metering Lights System
4. Improve access on the Richmond-San Rafael Bridge
5. Prepare a Bay Area Managed Lanes Implementation Plan (MLIP)
6. Execute a Master Cooperative Agreement

At the October 10 Operations Committee meeting, Caltrans District 4 staff will also provide an update on the performance of Traffic Operations System, such as ramp meters and closed circuit television cameras.



Steve Heminger

Status of Transportation Management Systems Field Equipment



Dan McElhinney (Caltrans)
MTC Operations Committee
October 10, 2014

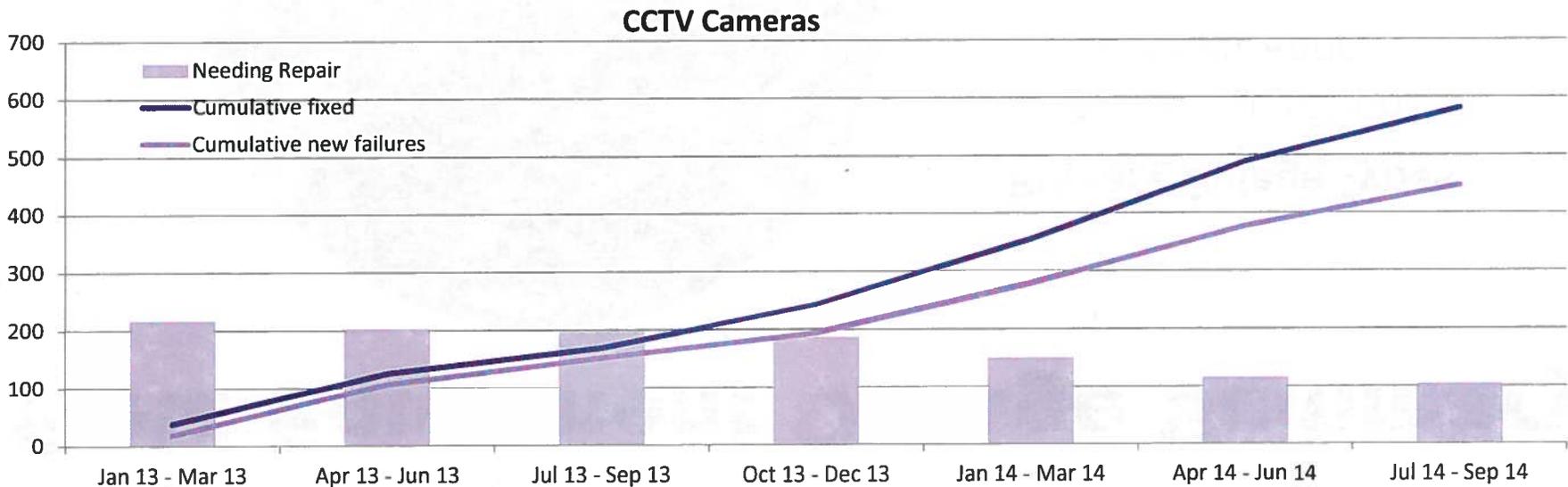
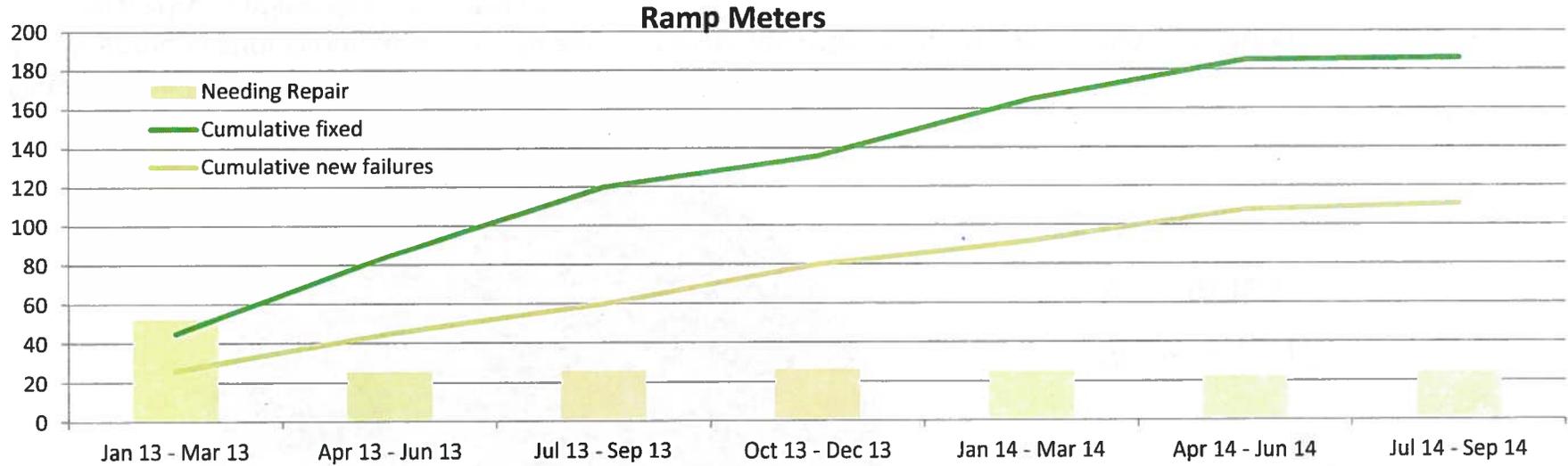
State of Transportation Management Systems (TMS) Field Equipment

Priority Order of Repair Work

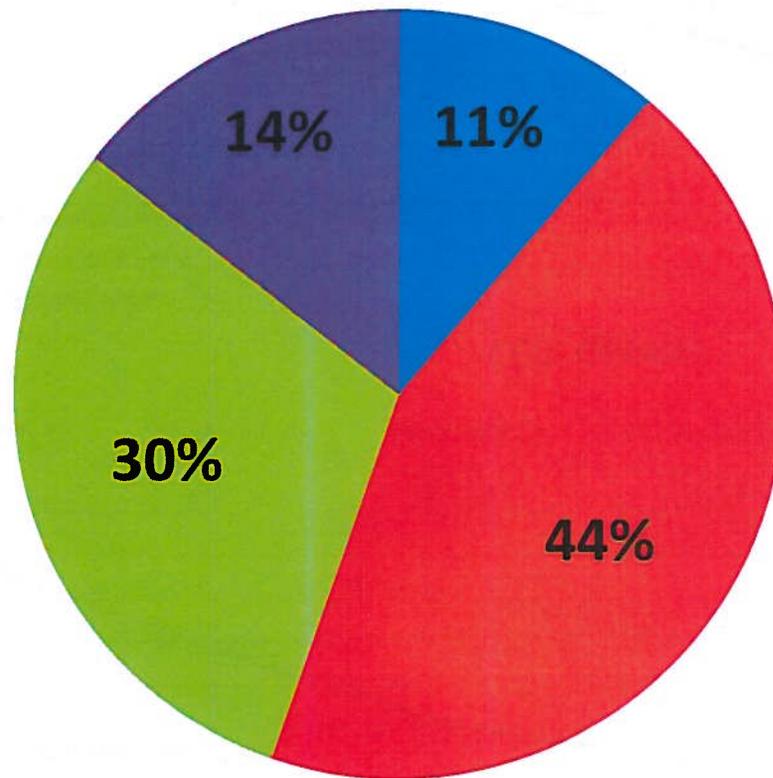
	Ramp Meters	Changeable Message Signs	Closed Circuit TV Cameras	Traffic Detection Stations
December 2012				
Number Operational	296	82	164	1,168
Inventory	347	128	377	2391
% Operational	85%	64%	44%	49%
September 2014				
Number Operational	380	148	332	1,531
Inventory	403	156	426	2747
% Operational	94%	95%	78%	56%

Field Equipment Condition

Repaired vs. New Outages



Field Equipment Outage Summary



Primary Outage Types

- Communication/ Configuration
- Hardware Failure
- Wire-theft/ Vandalism
- Others

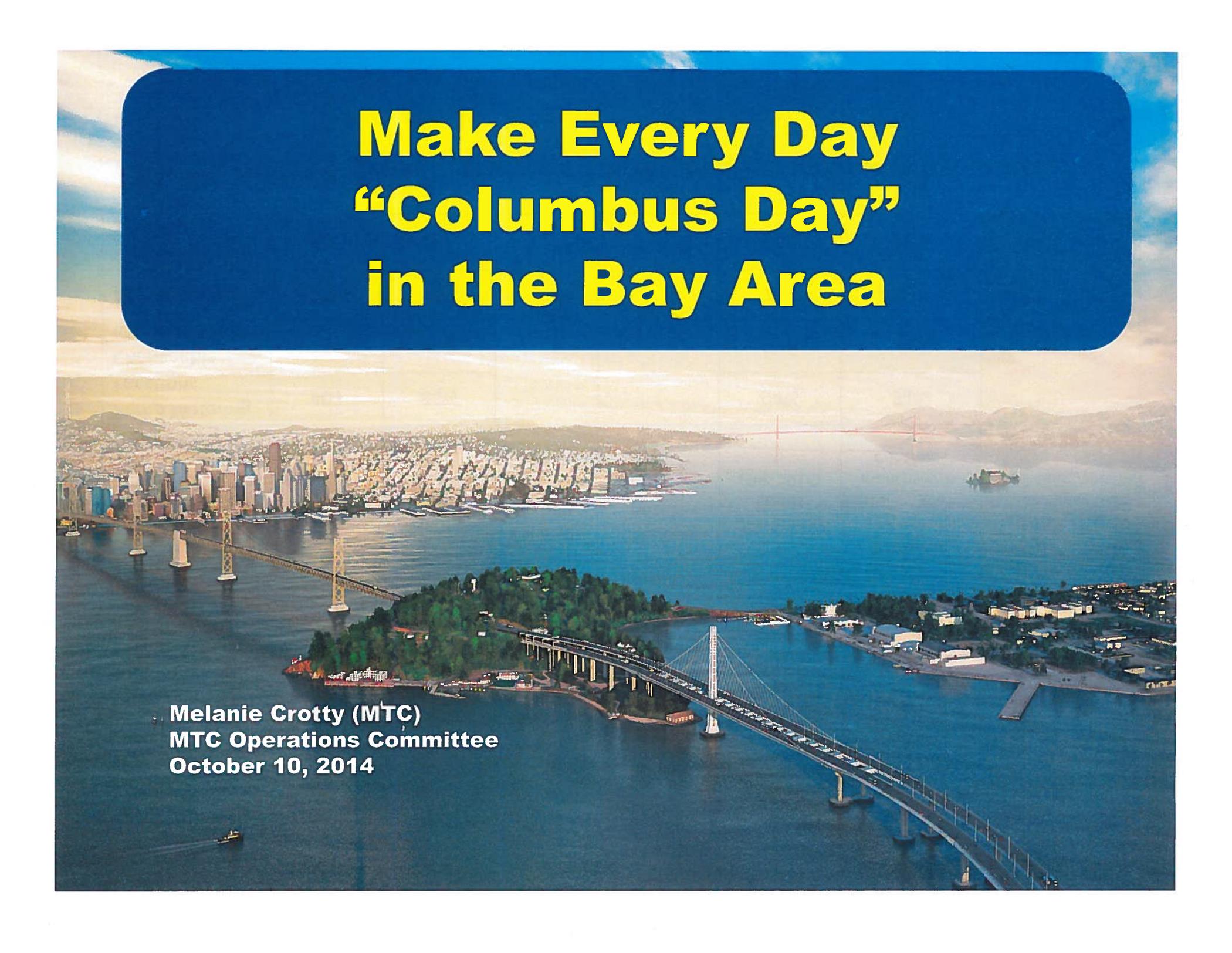
Outage Type Definitions:

1. Communication/Configuration - Outage due to issues with service provider communication networks, configuration, or software.
2. Hardware – Outage due to a failed controller, modem, cable, sign display or camera unit.
3. Wire-theft/Vandalism - Location had been vandalized or had copper wire stolen.
4. Others - Outage due to various factors, e.g., equipment knockdown by vehicles, utility service issues or on-going construction activities.

Field Equipment Performance Projection

TOS Asset Type	Asset Inventory (Aug 2014)	Operational Status (Jan 2013)	Contracts \$\$/mo Jan 13 – Aug 14	Contracts Total \$\$ Jan 13 – Aug 14	Operational Status (Sep 2014)	Projected Operational Performance in 6 months w/o. Contracts	90% - 95% Performance Goal \$\$ Need/mo
Ramp Metering Locations	403	86%	\$0.8M	\$16M	94%	91%	\$1.5M/mo \$18M/yr
Changeable Message Signs	156	65%			95%	76%	
CCTV Cameras	426	44%			78%	60%	
Vehicle Detection Stations	2747	48%			56%	49%	

Two key factors: Element Degradation (5%/mo) and System Growth (up to 10%/yr)

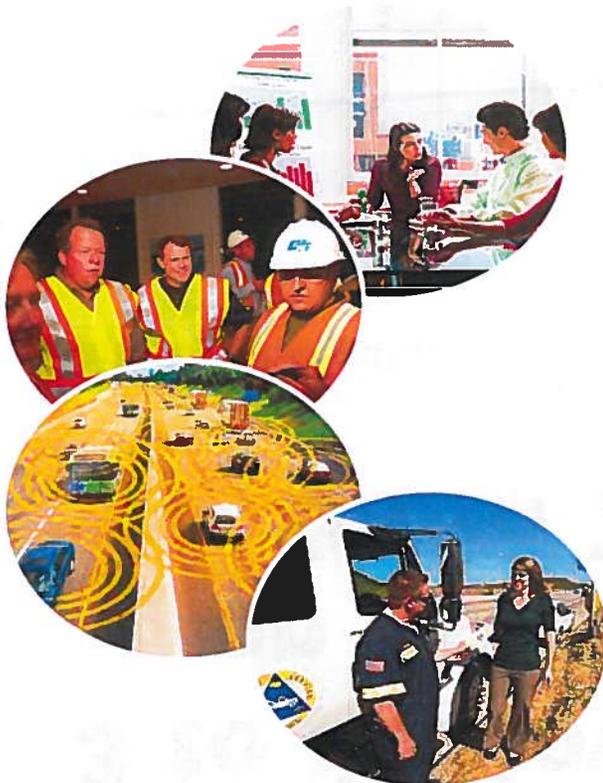
An aerial photograph of the San Francisco Bay Area, showing the city skyline, the Golden Gate Bridge, and the Bay Bridge. A large blue rounded rectangle is overlaid on the top half of the image, containing the title text in yellow. The background shows the city of San Francisco on the left, the Golden Gate Bridge in the distance, and the Bay Bridge in the foreground. The water is a deep blue, and the sky is a mix of blue and white clouds.

Make Every Day “Columbus Day” in the Bay Area

**Melanie Crotty (MTC)
MTC Operations Committee
October 10, 2014**

March Commission Workshop

1. Should MTC own & operate any parts of the freeway system?
2. What are the opportunities & risks that come with ownership?
3. Which “Columbus Day” strategies work best for the Bay Area?
4. Where would the funding & political support come from?

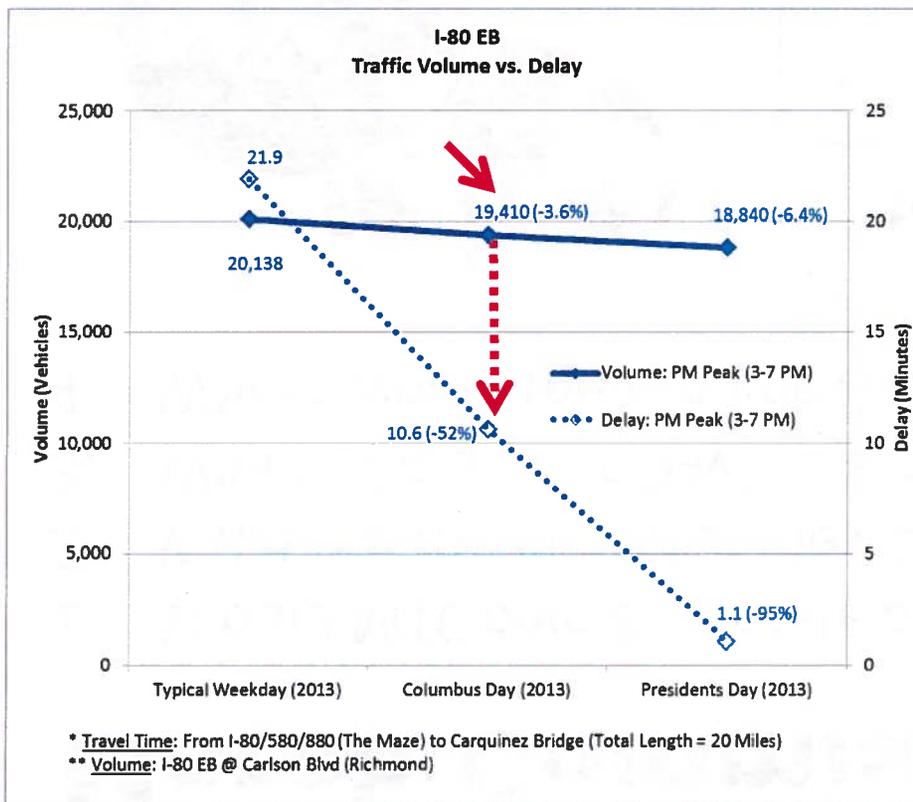


Themes: Commissioners' Direction

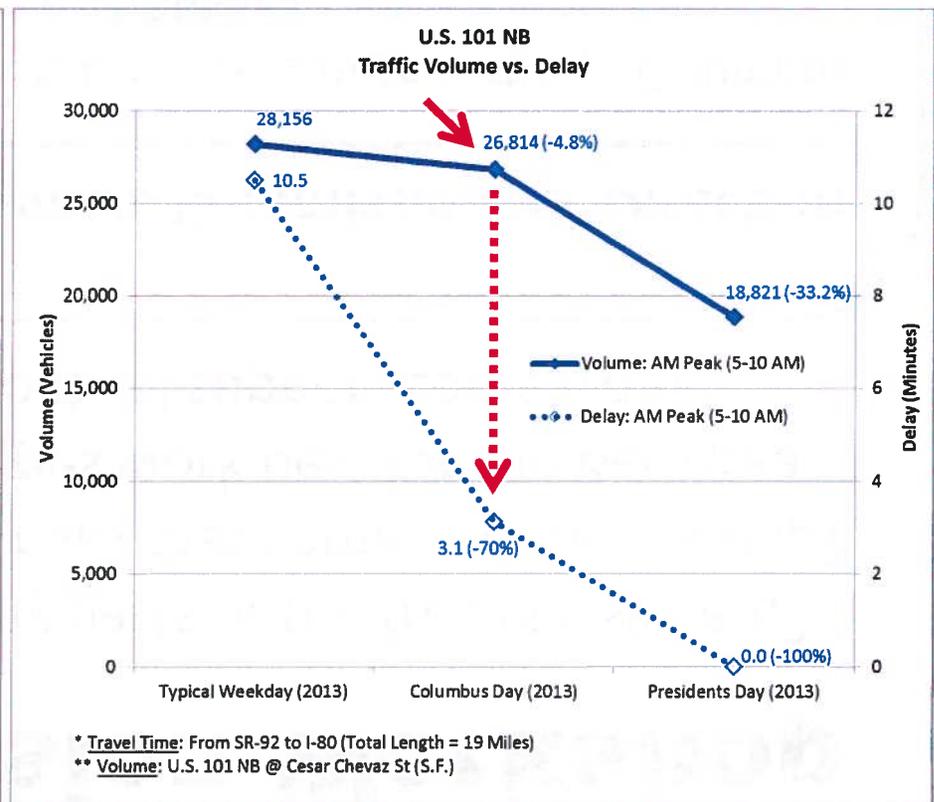
- Concurrence to further study “Columbus Day” strategies.
- Align lead for greater responsibility based on agency strengths and experience
- Reservations about MTC assuming greater ownership
- San Diego’s model is intriguing

3 to 5% lower traffic demand on Columbus Day yields 50 to 70% less delay

Alameda I-80 Eastbound



San Mateo US-101 Northbound



“Columbus Day” Freeway Management Strategies

	Strategy	Proposed Near-Term Efforts	Schedule
1	Create public-private partnerships for Park-and-Ride System	Prepare engineering assessment of two candidate Caltrans properties	Oct 2014
2	Optimize Freeway System Performance	Implement performance-based O&M contract & quality control contract staff	Mar 2015
3	Upgrade the SFOBB metering light system	<ul style="list-style-type: none"> • Issue RFP for short term improvements • Complete short term fixes 	Fall 2014 Winter 2015
4	Improve access across Richmond San Rafael Bridge	Complete initial study/environmental assessment	May 2016
5	Prepare a Managed Lanes Implementation Plan	Kick-off implementation plan effort	Dec 2014 Kick-off
6	Align partner agency strengths with roles & responsibilities	Execute TMS Master Cooperative Agreement	Spring 2015



1 Create Private-Public Partnership for Regional Park & Ride System

Regional Park & Ride Initiative

- Establish a partnership between MTC, Caltrans, and Bay Area Council to advance park-ride opportunities
- Identify ways to improve or create new park-ride lots that are advantageous to public transit, carpoolers, and employee shuttles
- Assess and deliver up to two potential park-ride opportunities in near-term
- Create public-private financing model to fund capital and O&M costs

2

Optimize Freeway System Equipment Performance

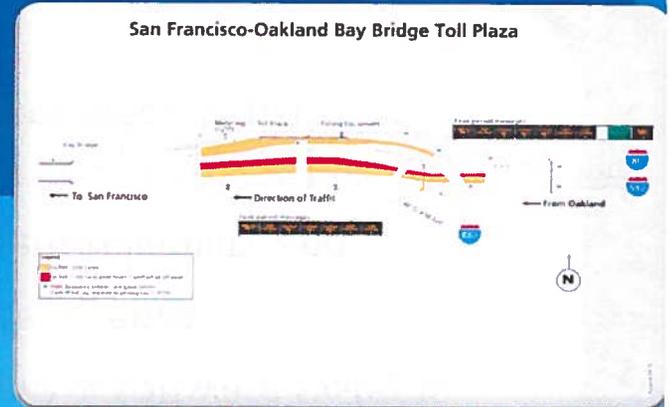
Concord 10
Martinez 15
Oakland 32

Pilot on I-880

- Rehab TOS field equipment, infrastructure and TMC hardware & software systems
- Maintain accurate inventory
- Improve equipment reliability and sustainability
- Support equipment lifecycle planning

3

Upgrade the SFOBB Metering Light System



SFOBB Metering Light System Upgrade

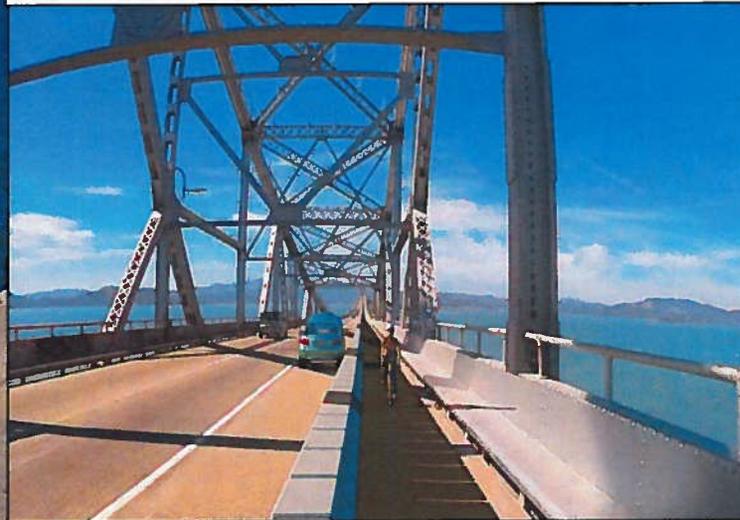
- Implement new metering technology to optimize operations and make more efficient and effective use of available bridge capacity
- Upgrade metering light hardware and software to improve reliability

4

Improve Access Across Richmond-San Rafael Bridge



Proposed overhead signage for EB shoulder running lane.



Proposed bi-directional bike lane on upper deck.



Richmond-San Rafael Bridge Access Improvements

- Implement a peak period running shoulder to ease congestion during peak commute period
- Construct bi-directional bike lane to connect the Contra Costa and Marin counties
- Use ITS technologies to manage incidents and congestion

5 Prepare a Bay Area Managed Lanes Implementation Plan

Managed Lanes Implementation Plan

- Define and evaluate the performance of existing, planned and full system expansion of managed lanes in region
- Assess managed lanes policies (such as vehicle occupancy, hours of operations, access, etc.)
- Evaluate system enhancements (freeway management, express bus, park-ride lots)
- Engage partner agencies & interested organizations/persons (ongoing)

6 Align Partner Agency Strengths w/ Master Cooperative Agreement

TMC Operations



- TMC Software/Hardware O&M
- TMC Reconfiguration

Funding & Resources



- 5 year strategic plan
- O&M, enhancement
- Staff (agency & contract)
- Shared funding

Field Equipment O&M



- Performance based field equipment O&M
- Detection Pilot
- Communication Assessment

Decision Making Process



- TMS Organization Chart
- Regional O&M Priorities
- Innovative Project Delivery

Performance Based Management



- Equipment & System Performance Goals and Targets

Liability/Risk



- Shared Tort Liability