

Item 9 Enclosure
Transportation Authority Board
March 24, 2015

San Francisco Freeway Corridor Management Study (SF FCMS)

Phase 1 Findings and Recommendations
Agenda Item 9



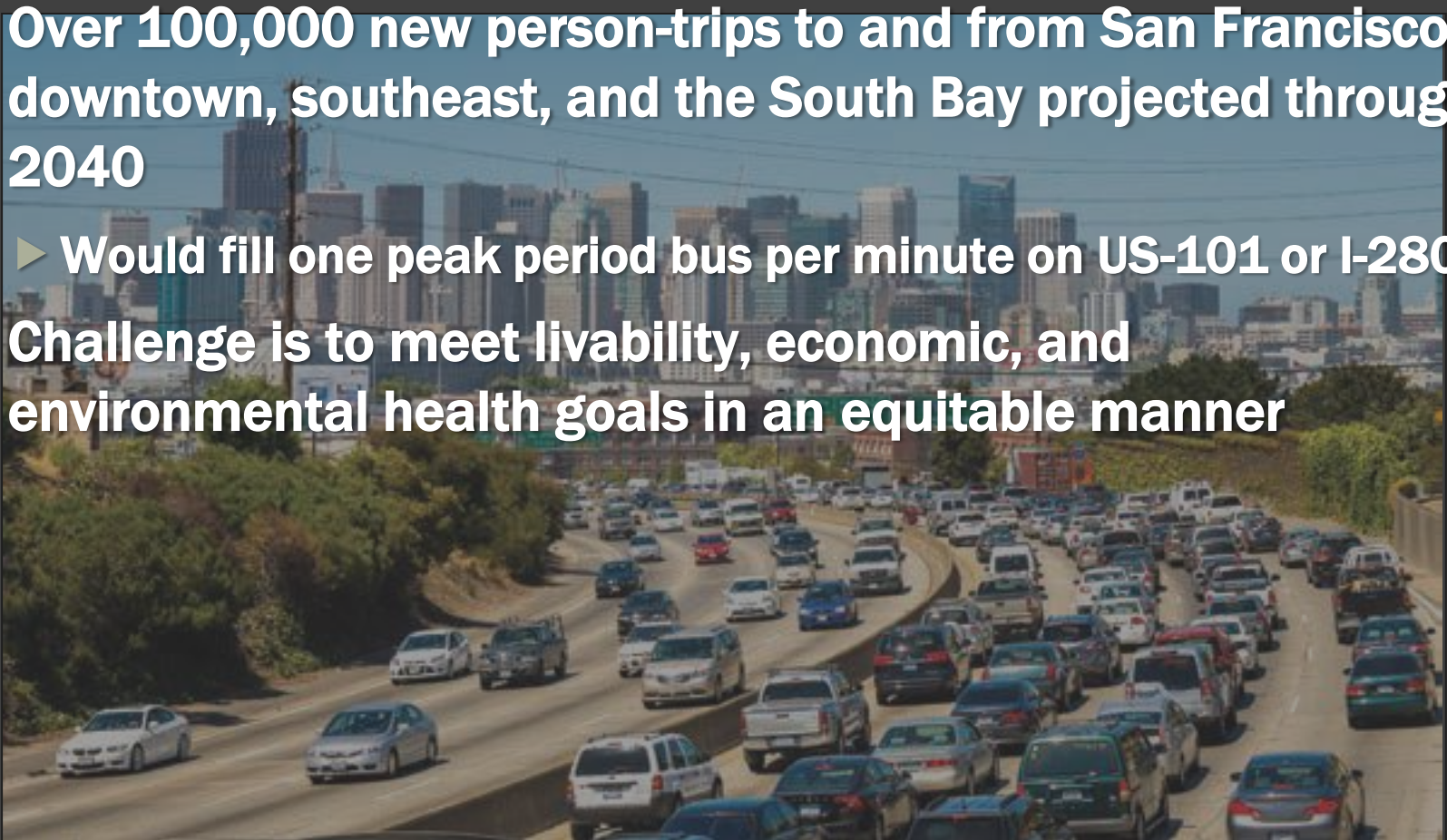
SAN FRANCISCO COUNTY TRANSPORTATION AUTHORITY
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What is the San Francisco Freeway Corridor Management Study?



WHY AN SF FCMS? > APPROACH AND GOALS > POTENTIAL STRATEGIES > NEXT STEPS

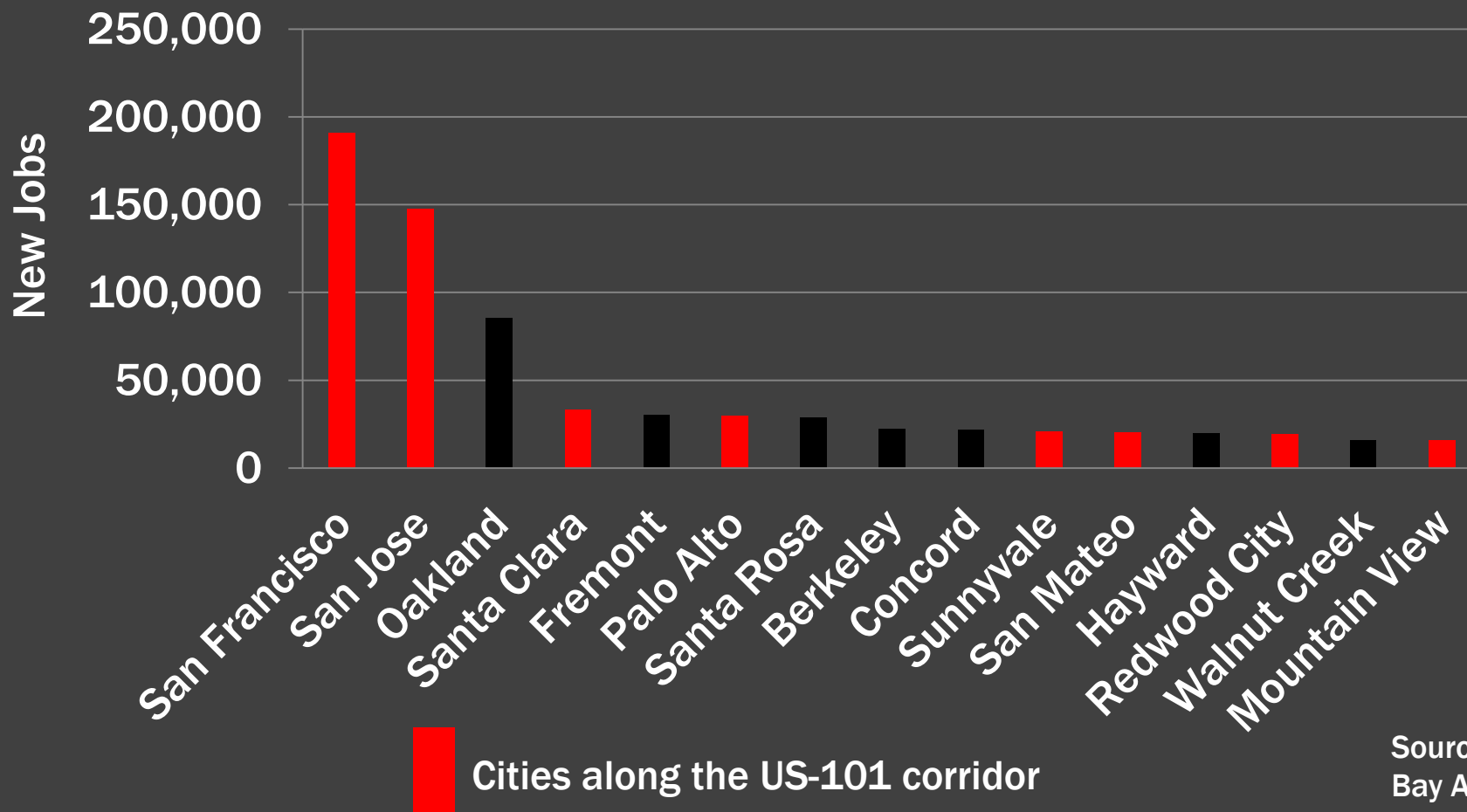
- ▶ **Recommendation of 2013 SFTP**
- ▶ **Over 100,000 new person-trips to and from San Francisco's downtown, southeast, and the South Bay projected through 2040**
 - ▶ **Would fill one peak period bus per minute on US-101 or I-280**
- ▶ **Challenge is to meet livability, economic, and environmental health goals in an equitable manner**



70% of “Big 15” Cities’ New Jobs Planned for US-101 & I-280 Corridors



Bay Area Job Growth, 2010-2040, Top 15 Cities



Why a San Francisco Freeway Corridor Management Study?



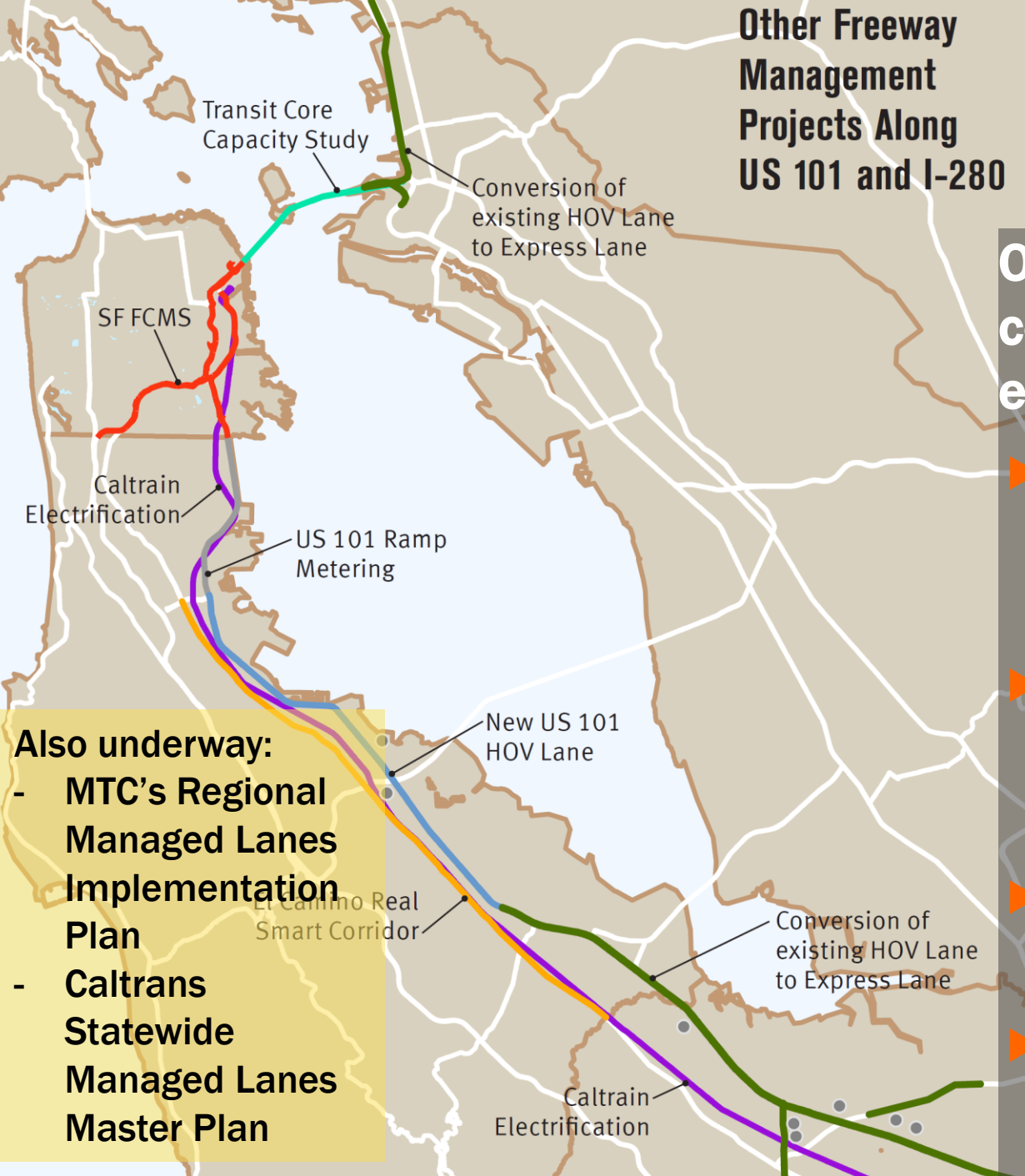
WHY AN SF FCMS? > APPROACH AND GOALS > POTENTIAL STRATEGIES > NEXT STEPS

- ▶ **Performance-based assessment of strategies for managing growth in travel demand & raising fwy performance**
- ▶ **Focused on US-101, I-280, and related local streets**
- ▶ **For near- and mid-term implementation**
- ▶ **Phase 1: today's management approach; goals; range of potential strategies**
- ▶ **Phase 2: technical analysis; recommended strategies; implementation plan**
- ▶ **Throughout: Stakeholder outreach**

Sources: 2013 San Francisco
Transportation Plan; Caltrans
2014



Other Freeway Management Projects Along US 101 and I-280



Other agencies' US-101 corridor management efforts

- ▶ Valley Transportation Authority US-101 Express Lanes
- ▶ San Mateo US-101 High Occupancy Vehicle (HOV) Lanes
- ▶ Ramp metering throughout Peninsula
- ▶ El Camino Real "Smart Corridor"

Also underway:

- MTC's Regional Managed Lanes Implementation Plan
- Caltrans Statewide Managed Lanes Master Plan

SF Fwy Corridor Management Goals and Objectives



WHY AN SF FCMS? > **APPROACH AND GOALS** > POTENTIAL STRATEGIES > NEXT STEPS

GOALS	OBJECTIVES
Move people to support economic competitiveness	Improve freeway corridor productivity, utilization, & efficiency Increase vehicle occupancy levels Reduce recurrent delay
Travel reliability	Reduce non-recurrent delay Improve travel time predictability
Travel choices	Increase transit competitiveness Provide better information
Coordination across jurisdictions	Coordinate recommendations with other citywide and regional projects & programs
Reduce traveler emissions	Reduce per capita vehicle tripmaking Reduce per capita vehicle emissions
Balanced effects: Avoid disparities, minimize impacts on neighborhoods	Mitigate the impact of through-trips on local streets Ensure equitable access Avoid disparities in distribution of benefits / impacts

Potential Freeway Corridor Management Strategies



WHY AN SF FCMS? > APPROACH AND GOALS > **POTENTIAL STRATEGIES** > NEXT STEPS

- Caltrain Electrification and DTX
- Muni T-Third
- Express bus
- Shuttle services

**Transit
Alternatives**

**Travel
Demand
Management
(TDM)**

- Employer-based incentives (flex time, parking cash-out)
- First / last mile solutions

Potential Freeway Corridor Management Strategies



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Travel Demand Management (TDM)

Lane Management

- Ramp metering
- Weave / merge guidance
- High Occupancy Vehicle (HOV) Lanes
- Express Lanes

Operations Technologies

- Adaptive signal control
- Real-time and advance information
- Dynamic speed advisories

Operations Technology Strategies: Real Time Information



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- ▶ **Uses real-time info and changeable message signs to guide drivers**
- ▶ **Example goal: shift drivers to other routes or modes**
- ▶ **Operated by Caltrans at some locations along US-101 and I-280**
- ▶ **Award-winning 2009 Caltrain info pilot (image)**



Image source:
Caltrans, 2009

Operations Technology Strategies: Adaptive Signal Timing

WHY AN SF FCMS? > APPROACH AND GOALS > POTENTIAL STRATEGIES > NEXT STEPS



- ▶ **Technology at intersections sends continuous data to a Transportation Management Center (TMC)**
- ▶ **Example goal: manage system more efficiently in real time**
- ▶ **Many cities deploy adaptive signal timing; TMCs operated by numerous state, regional, countywide, and local jurisdictions**
- ▶ **SFMTA's SFgo signal technology and new TMC allow for adaptive signal control**

Image: SFMTA TMC,
2014

Managed Lanes Strategies: Adaptive Ramp Metering

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- ▶ **Uses signals and real-time information to limit number of vehicles entering a freeway**
- ▶ **Example goal: increase freeway speed**
- ▶ **In-place along much of US-101 in San Mateo and Santa Clara; planned for the remainder in these counties**
- ▶ **Planned in SF for Treasure Island ramps**



Image source:
Federal Highway
Administration **11**

Managed Lanes Strategies: High Occupancy Vehicle (HOV) Lanes

WHY AN SF FCMS? > APPROACH AND GOALS > **POTENTIAL STRATEGIES** > NEXT STEPS



- ▶ **Prioritize ramps or lanes for transit and vehicles with many passengers**
- ▶ **US-101 has HOV lanes in Santa Clara; HOV planned for San Mateo**
- ▶ **HOV in San Francisco**
 - ▶ **Essex Street on-ramp, SOMA**
 - ▶ **I-280 from Alemany to 6th Street, 1975 – 1989**



Images: WS DOT,
FHWA

Recommendations and Next Steps



WHY AN SF FCMS? > APPROACH AND GOALS > POTENTIAL STRATEGIES > NEXT STEPS

- ▶ **Complete Scope of Work for FCMS Phase 2**
 - ▶ **Technical analysis based on Phase 1**
 - ▶ **Outreach**
- ▶ **Initiate FCMS Phase 2 technical work and outreach in parallel with regional and state efforts**
- ▶ **Participate in regional coordination forums**
 - ▶ **Express Lanes Executive Steering Committee**
 - ▶ **Managed Lanes Leadership Team**
 - ▶ **Arterial Operations Committee**

Schedule



WHY AN SF FCMS? > APPROACH AND GOALS > POTENTIAL STRATEGIES > NEXT STEPS

	2014		2015				2016		
	JUL	OCT	JAN	MAR	JUL	OCT	JAN	MAR	JUL
SF FCMS									
Phase 1									
Phase 2									
Agency Coordination									
Public Outreach									
RELATED STUDIES									
San Mateo US 101 HOV Study									
MTC Managed Lanes Implementation Plan									
Caltrans Managed Lanes Master Plan									

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