



METROPOLITAN
TRANSPORTATION
COMMISSION

Agenda Item 3a

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Memorandum

TO: Operations Committee

DATE: October 27, 2017

FR: Deputy Executive Director, Operations

W.I.: 1231

RE: High Occupancy Vehicle (HOV) Lanes Degradation and HOV3+ Outreach Plan

California HOV Degradation Report and Action Plan

As required by U.S. Code Title 23 section 166, Caltrans has submitted to the Federal Highway Administration its 2016 California High Occupancy Vehicle Lane Degradation Determination Report regarding the performance of the HOV lane network in California. Caltrans has also prepared the companion 2016 California High Occupancy Vehicle Lane Degradation Action Plan, which discusses the causes of degradation and identifies remediation strategies to bring degraded HOV lane facilities into compliance with federal regulations.

By federal definition, an HOV lane is considered degraded if the average traffic speed during the morning or evening weekday peak commute hour is less than 45 miles per hour (mph) for more than 10 percent of the time over a consecutive 180-day period. For degraded HOV lanes, Caltrans is required to bring the facility into compliance by implementing strategies that include:

- 1) increasing the occupancy requirements of the HOV lanes;
- 2) varying the toll charged to high-occupancy toll vehicles to reduce demand;
- 3) discontinuing allowing non-HOV vehicles to use HOV lanes; and
- 4) increasing the available capacity of the HOV lane facility.

Caltrans reports that in 2016 California has experienced a three percent increase in degraded HOV lane-miles from 874 to 902 lane-miles compared between the first 180 days and the second 180 days in 2016. In the Bay Area, degradation has increased from 250 to 254 lane-miles between the first and second halves of 2016. This is up 2 percent from last year (63% vs 65%), and the severity of degradation is increasing. Between 2013 and 2016, the number of “Extremely” degraded lane miles has increased 253% from 25 to 89 miles.

As part of its 2016 Degradation Action Plan, Caltrans District 4 proposes to mitigate degradation for Santa Clara/Alameda I-880, Santa Clara SR 85 and Santa Clara SR 237 with the following strategy: “raise occupancy to HOV3+ with Express lane conversion by changing message on signing to indicate HOV requirement is 3+ when the lane is determined to still be degraded (Short-term to Long-term strategy).” For the Santa Clara SR 87 degraded HOV lanes, Caltrans stated “VTA has a future plan to convert HOV lane to an Express lane. At the time of the conversion, occupancy could be increased to HOV3+ (Long term strategy).” And, for San Mateo US 101, Caltrans notes the managed lane project, which is currently in the environmental and design phase, could “possibly operate as a HOV3+” when it opens in year 2020.

HOV3+ Outreach Plan

The Bay Area has no history of increasing HOV occupancy requirements. In fact, our only experience is to lower them. One notable example is the Marin US 101 carpool lane, which used to be reserved for buses only until it was opened for carpools in 1976. The persistent HOV degradation in the Bay Area is a call to action for the region to explore HOV policies to improve HOV lane operational performance. The willingness of Caltrans to consider increasing occupancy requirements to HOV3+ for degraded HOV lanes within I-880, SR 237 and US 101 express lane corridors presents an opportunity for a focused discussion about HOV occupancy change for these major corridors.

MTC staff has initiated a dialogue about the challenges and opportunities to change HOV occupancy requirements from HOV2+ to HOV3+ for the planned Alameda I-880, SR 237 and San Francisco/San Mateo/Santa Clara US 101 express lanes corridors that ring the Bay. The two southern most bridges (San Mateo-Hayward Bridge and Dumbarton Bridge), which are the only two of seven state-owned toll bridges with HOV2+, would be included in the discussion. Staff believes that early engagement and discussions may prepare our region for considering a HOV3+ policy as a mitigation strategy for HOV lane degradation.

A coalition of Bay Area transportation agencies – Caltrans, MTC, Santa Clara Valley Transportation Authority, Alameda County Transportation Commission, San Mateo City/County Association of Governments, San Mateo Transportation Authority, San Francisco County Transportation Authority and others – will be involved in the outreach efforts. The key objective of this proposed HOV3+ outreach effort is to raise awareness and engage a cross-section of elected officials – mayors, congestion management agency board members and MTC Commissioners representing Alameda, Santa Clara, San Mateo and San Francisco Counties – as to the what, where, when and why behind considering HOV3+ change in planned express lanes corridors that ring the Bay. A change in HOV occupancy requirements is a policy decision; therefore, MTC staff wants to properly brief the policy makers on the HOV issues, identify concerns, and determine level of support for such a policy change.

Following the briefings with local elected officials, staff proposes a workshop in early 2018. At the workshop, MTC Commissioners will hear from transportation partners as to how HOV3+ could improve HOV lane performance. Carpool and transit service providers such as Scoop, Waze Carpool, Lyft, and Chariot will also be invited to the workshop so that they can share their strategies as to how they can help fill the third seat. With this input, Commissioners can discuss the challenges and opportunities of an HOV3+ policy and provide direction to staff on how to proceed.

Staff seeks your input on this initial phase of outreach.



Andrew B. Fremier

Attachments:

- PowerPoint Presentation – Caltrans
- PowerPoint Presentation - MTC

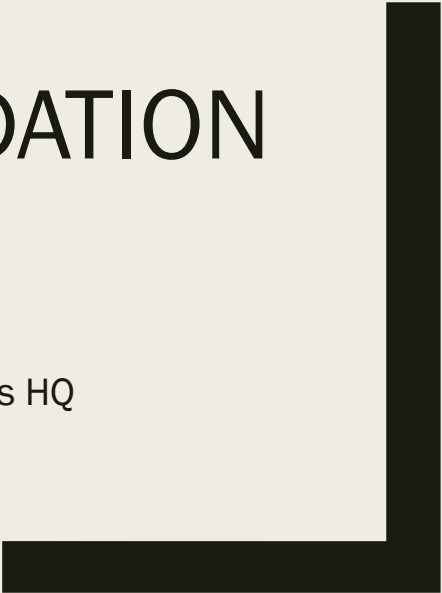
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2016 HOV DEGRADATION REPORT

Joe Rouse
Office of Traffic Management, Caltrans HQ

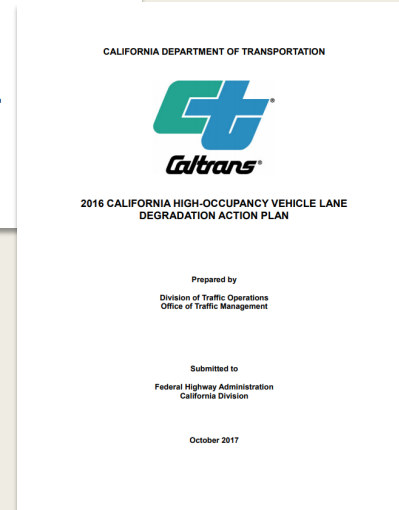
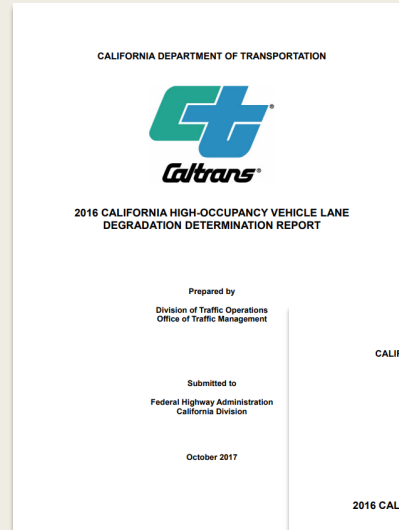


How Is HOV Degradation Measured and Reported?

- HOV facilities are broken up into 5-mile segments
- Speed data on these segments is collected from our traffic monitoring systems
- Data is analyzed against the degradation standard.

How Is Degradation Addressed?

- Districts are asked to review the potential causes of degradation.
- Depending on the causes, the districts identify actions that may help





HOV Degradation: January - June 2016

Degraded	250 lane-miles
Not Degraded	139 lane-miles
No Data	17 lane-miles

Slightly Degraded	61 lane-miles
Very Degraded	83 lane-miles
Extremely Degraded	106 lane-miles

Trouble Spots:
 SCL-101 (NB & SB)
 ALA-880 (NB)
 CC-80 (EB & WB))
 MRN-101 (NB)
 SCL-280 (NB)
 SCL-85 (SB)
 SCL-87 (NB)



HOV Degradation: July – December 2016

Degraded	254 lane-miles
Not Degraded	135 lane-miles
No Data	17 lane-miles

Slightly Degraded	53 lane-miles
Very Degraded	99 lane-miles
Extremely Degraded	102 lane-miles

Trouble Spots:
 SCL-101 (NB & SB)
 ALA-880 (NB)
 CC-80 (EB & WB))
 MRN-101 (NB)
 SCL-280 (NB)
 SCL-85 (SB)
 SCL-87 (NB)

How is Degradation Going to be Addressed?

- Some of it is attributable to ongoing construction and actions are deferred until after that work is complete.
- Convert HOV lanes to HOT lanes (express lanes)
 - Add access restrictions
 - Add capacity
- Increases in occupancy are proposed for several facilities as part of conversion to HOT
- ACTC is monitoring their own express lane performance and making adjustments



Questions or Comments?

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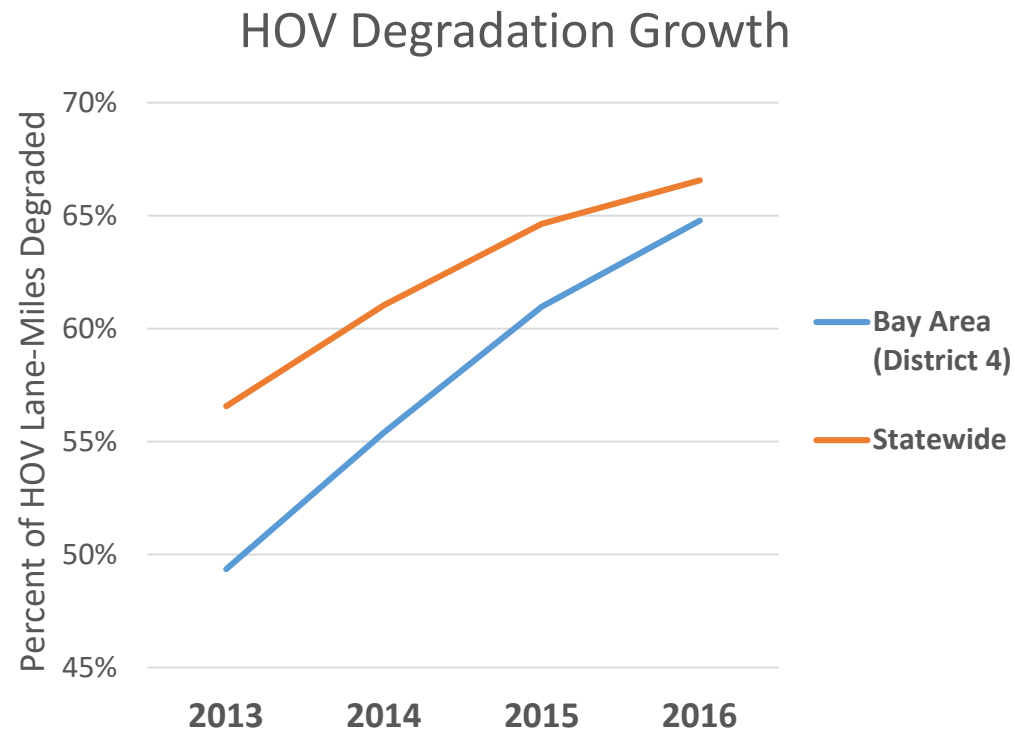
Paul.Ma@dot.ca.gov

HOV3+ Policy Outreach Plan

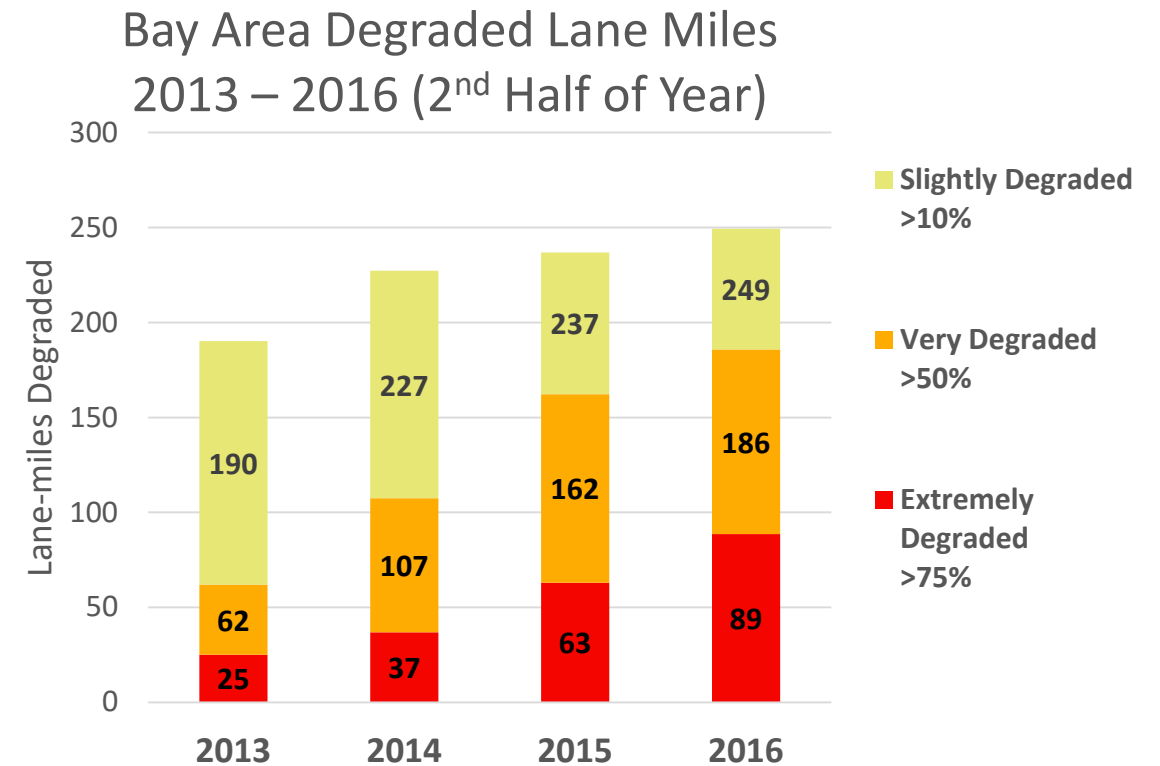
US 101, I-880, & SR 237 Express Lanes + Southern Bridges

Operations Committee
November 3, 2017

HOV Degradation Continues to Worsen in the Bay Area & California



Federal Standard: maintain an average speed of 45 mph at least 90 percent of the time during the peak hour over a consecutive 180-day period.

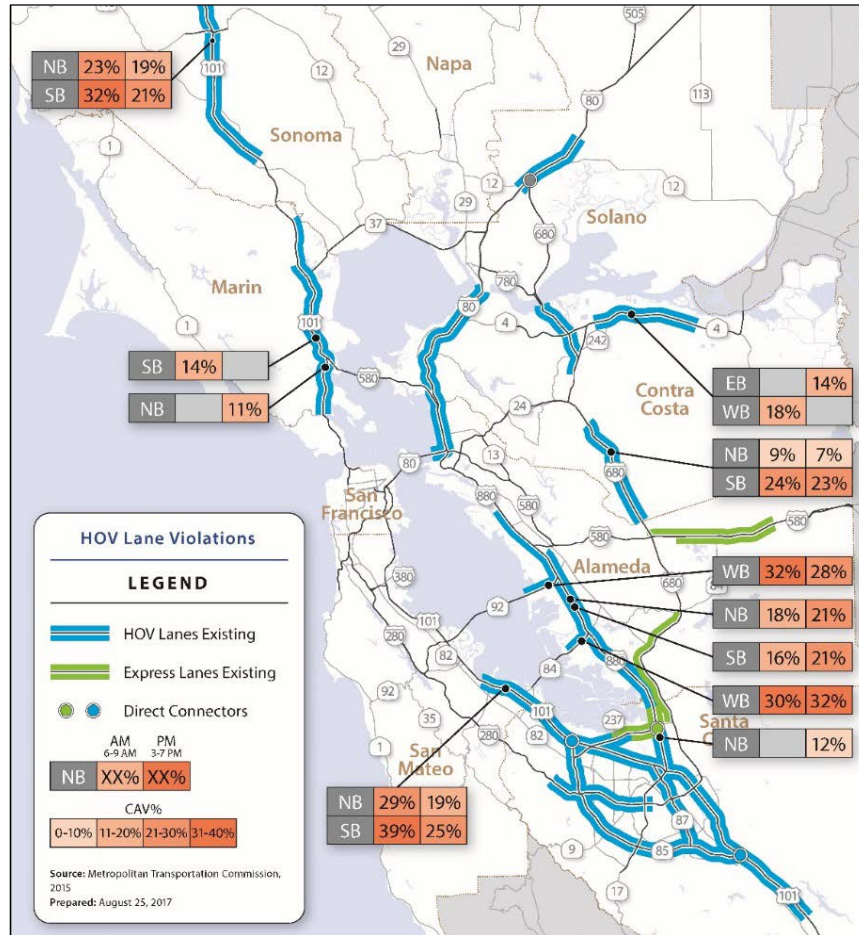


2016 v 2013:

- Total degraded miles increased by 49 miles (+31%)
- “Very” degraded miles increased by 124 miles (+200%)

Addressing Degradation

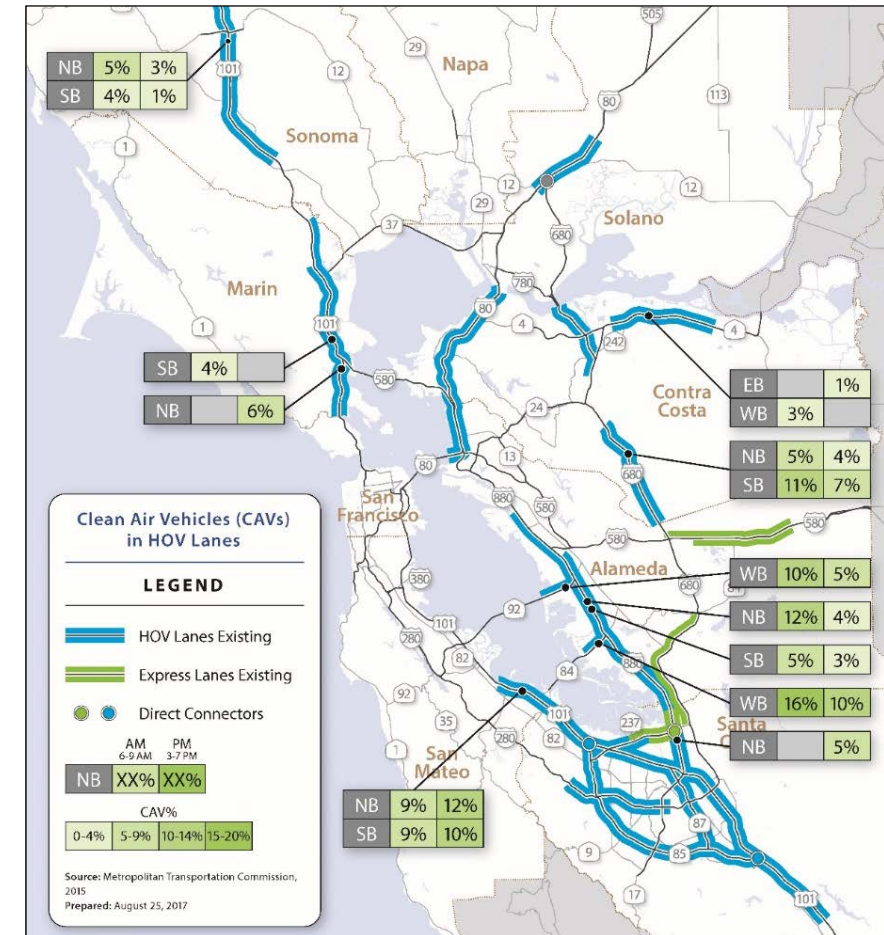
Step 1: Enforce Violations



Average Violations in HOV Lanes (2015)

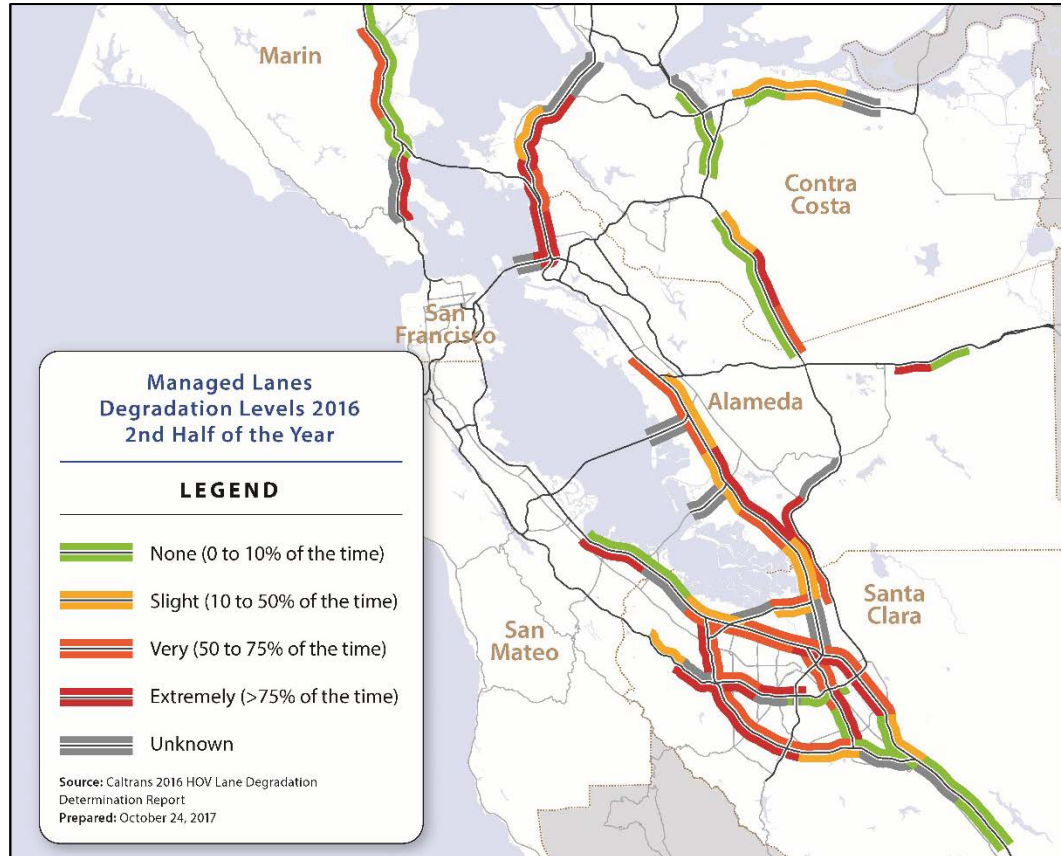
- AM – 24%
- PM – 19%

Step 2: Toll Clean Air Vehicles



- HOV lanes had 6-8% CAVs in 2015
- 38% CAVs on SR-237 WB in 2017

Consider Change to HOV3+ for “Ring Around the Bay” & Southern Bridges



“Very” Degraded Express Lane Corridors

- Existing SR-237 Express Lane
- Existing I-880 HOV (Future I-880 Express Lane in 2019)
- Existing US 101 HOV (Future US-101 Express Lane in 2021+)

Only 2/7 State-Owned Toll Bridges @ HOV2+

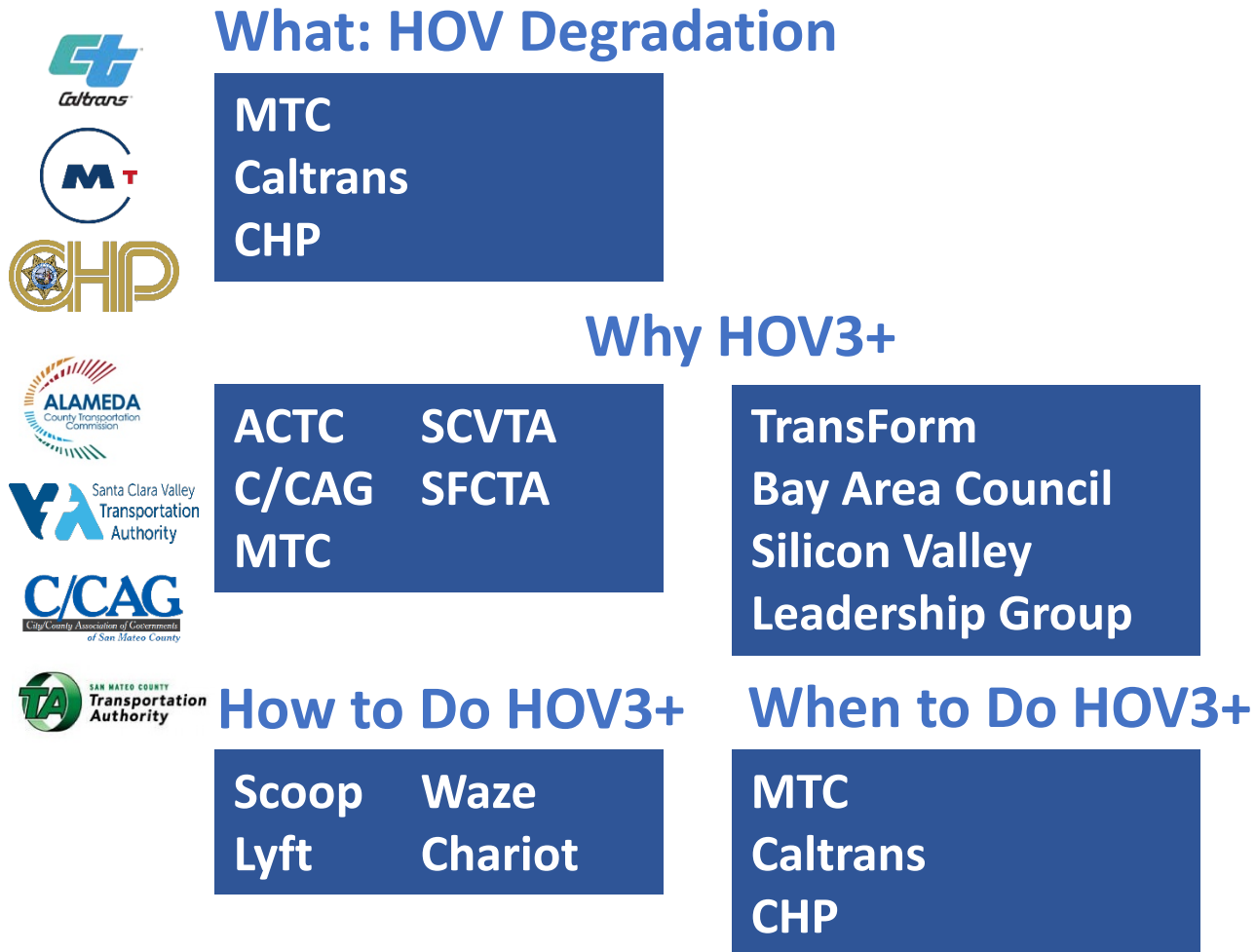
- Dumbarton Bridge
- San Mateo Bridge

HOV3+ for Express Lanes Outreach Plan

“Ring Around the Bay”: I-880, SR 237, US 101 + Southern Bridges



MTC Commission Workshop



Workshop Format

- × Panel Presentations
- × Facilitated Question & Answer
- × Commission Discussion
- × Next Steps