

SM 101 MANAGED LANES PROJECT



C/CAG Board Meeting
November 9, 2017



- Brief recap from October
- Traffic Analysis Findings
- Draft Environmental Document Summarized Outcomes

Questions and Answers

- Toll System Roles Assessment

Discussion

SM 101 MANAGED LANES PROJECT THE PROBLEM



Jobs, housing and population growth continues

From 2011 – 2015, the Bay Area added 500,000 new jobs and 65,000 housing units

By 2040, San Mateo County will see an additional 128,700 new jobs and 60,200 new households

Vehicle trips to grow 4-7% by 2020

No incentive to share a ride

Cars avoid the freeway

The congestion on 101 has been bad and will continue to get worse.

SM 101 MANAGED LANES PROJECT BIG PICTURE



The
problem
is greater
than one
project
can solve.

The *Caltrain Electrification Project* will not fully address projected demand

SAMTRANS is studying regional express bus service on the 101 corridor

VTA is in final design to create an Express Lane from south of 85 to the San Mateo County line

SFCTA is coordinating with San Mateo to study an extension of the 101 managed lanes into SF

MTC is planning to improve and increase park-and-ride lots

Municipalities implementing TDM measures

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THE PROJECT LIMITS



SM 101 MANAGED LANES PROJECT THE ALTERNATIVES



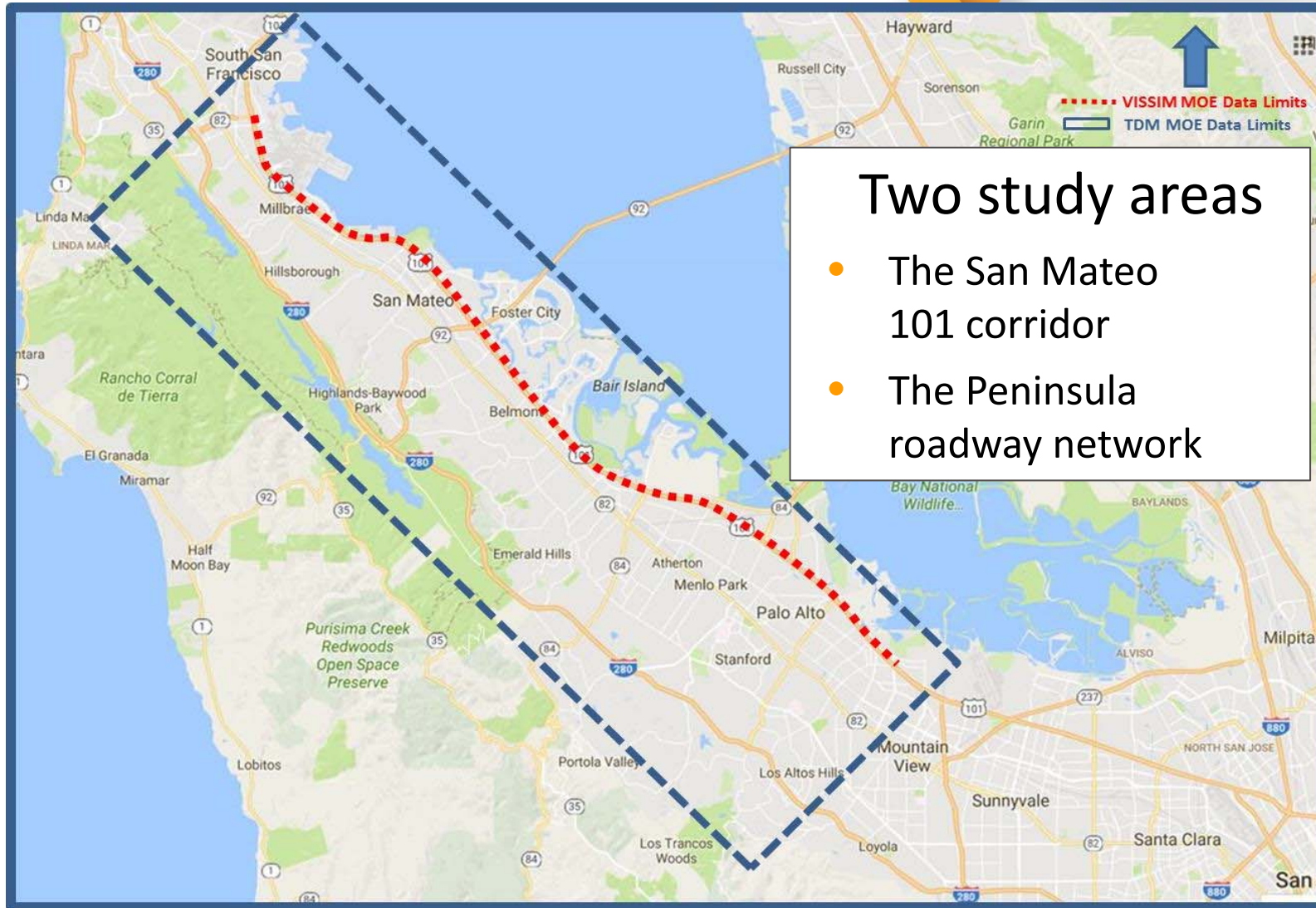
THE ALTERNATIVES

- **Alternative 1:** No project
- **Alternative 2:** Modify existing auxiliary lanes to make a new through lane from Whipple Avenue to I-380; convert median lane to an HOV lane for HOV 2+
- **Alternative 3:** Convert the existing median lane to an HOV 3+ Express Lane – *includes public express bus service in analysis*
- **Alternative 4:** Modify existing auxiliary lanes to make a new through lane from Whipple Avenue to I-380; convert median lane to an HOV 3+ Express Lane



Traffic Analysis Findings

SM 101 MANAGED LANES PROJECT MODEL LIMITS



Two study areas

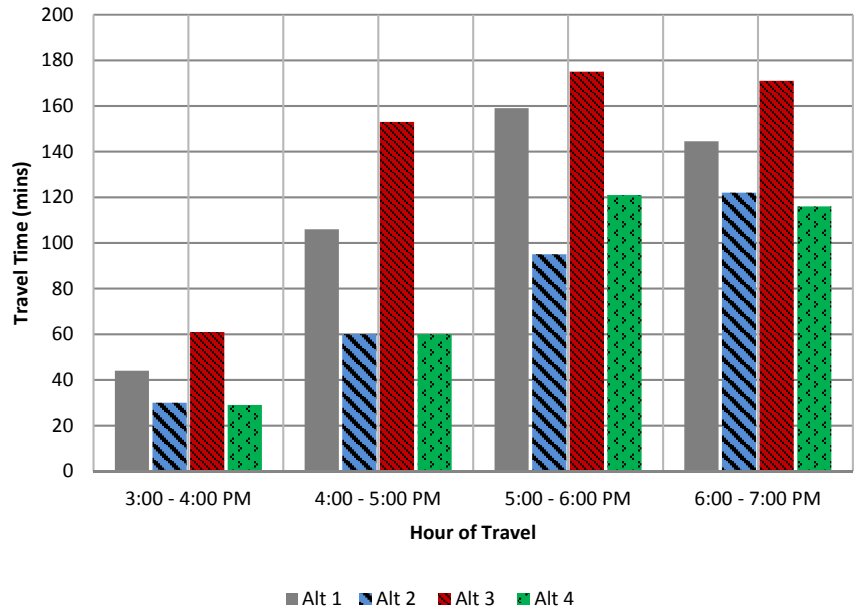
- The San Mateo 101 corridor
- The Peninsula roadway network

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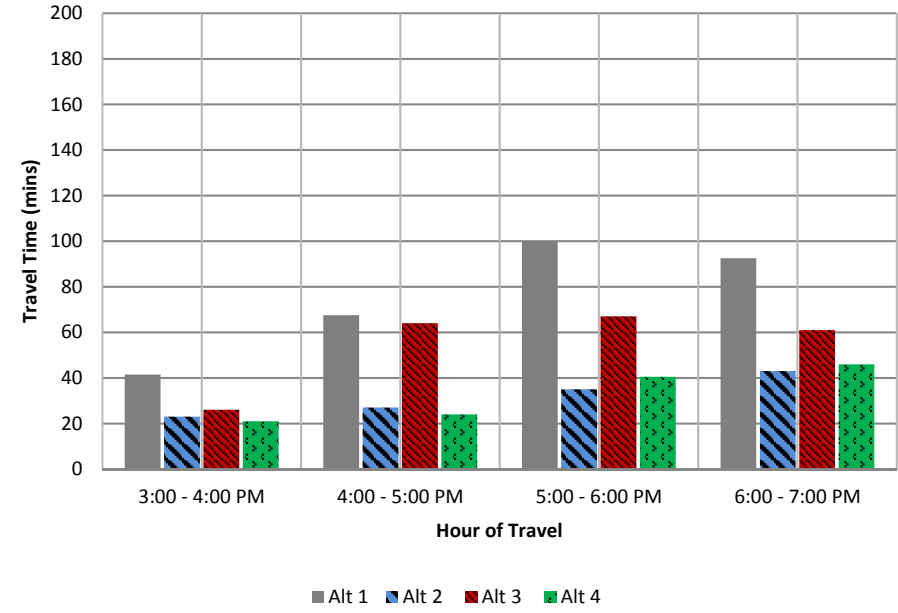
RESULTS: TRAVEL TIMES



Travel Time Comparison - GP Lanes - Northbound PM Peak Period



Travel Time Comparison - HOV / EL Lanes - Northbound PM Peak Period

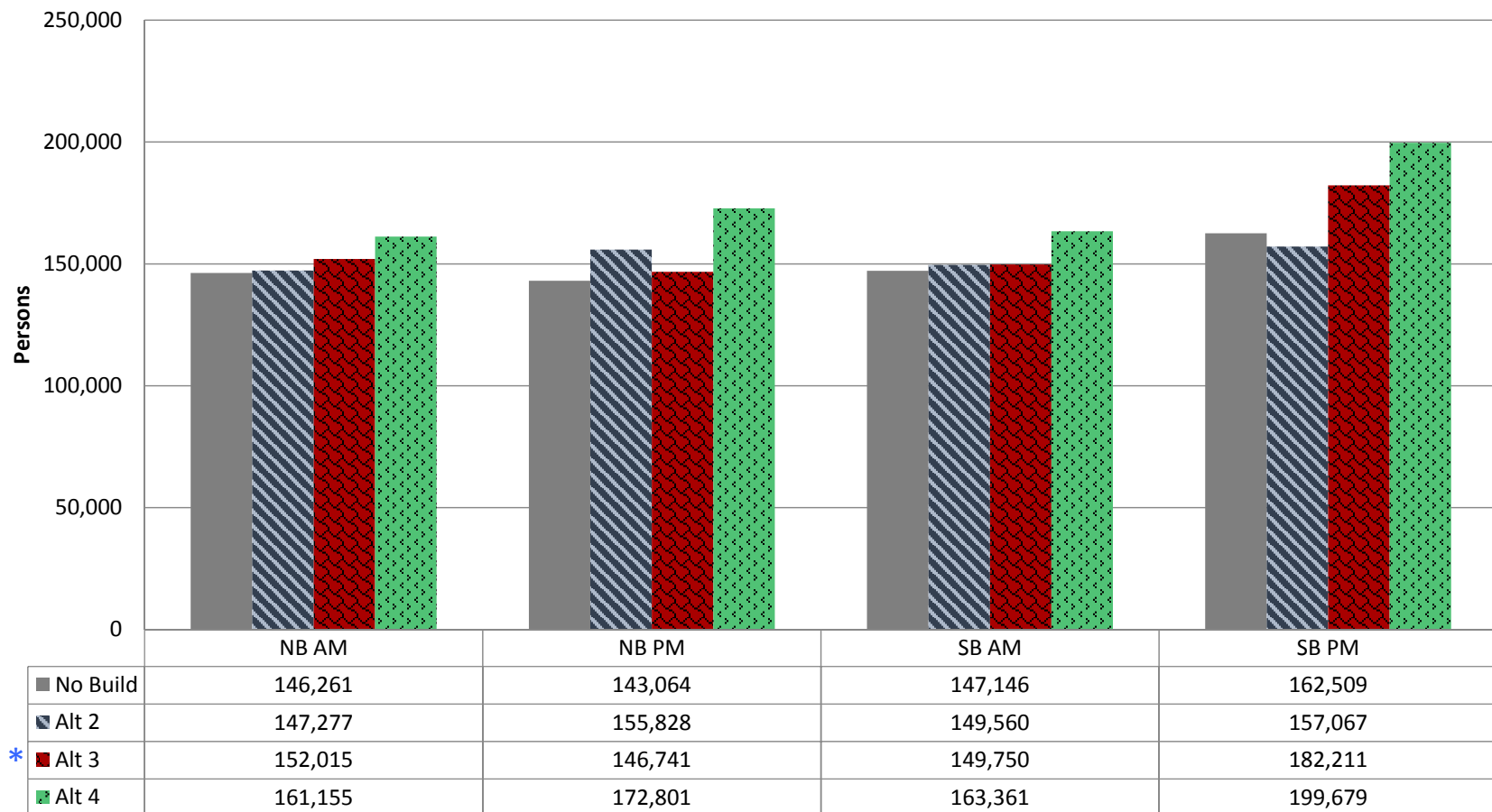


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RESULTS: PERSON THROUGHPUT



Person Throughput on NB & SB US 101
During AM & PM Peak Periods



* Alternative 3 includes Express Bus Service

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KEY MEASURES OF EFFECTIVENESS



Measures Of Effectiveness (MOEs) Used To Evaluate Purpose

Encourage Carpooling
And Transit Use

- HOV Lanes Travel Time During Peak Period
- Travel Time During Peak Period in GP Lanes vs. HOV Lanes

Provided Managed Lanes
For Travel Time Reliability

- Travel Time During Peak Period in GP Lanes vs. HOV Lanes

Increase Person Throughput

- Person Throughput During Peak Periods

Apply Technology and/or
Design Features To
Help Manage Traffic

- Travel Time During Peak Period in GP Lanes vs. HOV Lanes
- Person Throughput During Peak Periods

Reduce Congestion
In The Corridor

- Vehicle Hours of Delay During Peak Period
- Maximum Peak Hour GP Lane Travel Time

Minimize Operational
Degradation Of
General Purpose Lanes

- Maximum Peak Hour GP Lane Travel Time
- GP Lanes Travel Time During Peak Period
- Vehicle Hours of Delay

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MEASURE ASSESSMENT



MEASURES OF EFFECTIVENESS (MOE) ALTERNATIVES EVALUATION				
MOEs	ALT 1	ALT 2	ALT 3*	ALT 4
	NO BUILD	HOV 2+ ADD LANE	HOT 3+ CONVERT GP LANE	HOT 3+ ADD LANE
Vehicle Miles Traveled (VMT) on Corridor				
Vehicle Miles Traveled (VMT) in Study Area				
Vehicle Hours of Delay (VHD)				
Person Throughput				
Total GP Lanes Travel Time				
Total HOV/Express Lanes Travel Time				

* Alternative 3 includes Express Bus Service

	Very Good
	Good
	Fair
	Poor

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RESULTS VS. PURPOSE STATEMENT



PURPOSE & NEED - ALTERNATIVES MATRIX				
PURPOSE	ALT 1	ALT 2	ALT 3 *	ALT 4
	NO BUILD	HOV 2+ ADD LANE	HOT 3+ CONVERT GP LANE	HOT 3+ ADD LANE
1. Encouraging carpooling and transit use				
2. Improve travel time reliability for HOV/Express Lane users				
3. Increase person throughput (number of people moved)				
4. Apply technology and/or design features to help manage traffic				
5. Reduce congestion in the corridor				
6. Minimize operational degradation of general purpose lanes				
Reduce local road impacts				

* Alternative 3 includes Express Bus Service

	Very Good
	Good
	Fair
	Poor

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TRAFFIC ANALYSIS CONCLUSION



- Alternatives 2 and 3 do not meet the purpose of the project.
- They have been set aside from further analysis.
- The Draft Environmental Document carries only Alternatives 1 and 4 through complete analysis.



Draft Environmental Document Summarized outcomes

United States Highway 101 Managed Lanes Project

SANTA CLARA COUNTY, CALIFORNIA AND SAN MATEO COUNTY, CALIFORNIA
DISTRICT 4 – SCL – 101 (PM 50.6/52.6)
4 – SM – 101 (PM 0.0/21.8)
EA 04-1J560/ID 413000206

Draft Environmental Impact Report/ Environmental Assessment



Prepared by the State of California Department of Transportation,
San Mateo County Transportation Authority,
and City/County Association of Governments of San Mateo County

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.



November 2017



- **Changes limited primarily to the freeway**
 - Adds new lanes between Whipple Ave. and I-380
 - Achieves widening mostly within existing right-of-way
 - Adds needed width by realigning frontage roads
 - Relocates some soundwalls to accommodate freeway realignment
 - No residential or business acquisitions
 - No additional soundwalls

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DRAFT ENVIRONMENTAL DOCUMENT



- No widening is proposed south of Whipple Avenue
- New signage and lighting throughout corridor
- Monte Diablo Avenue Pedestrian/Bicycle Overcrossing will require reconstruction
- Evaluated construction and operation impacts



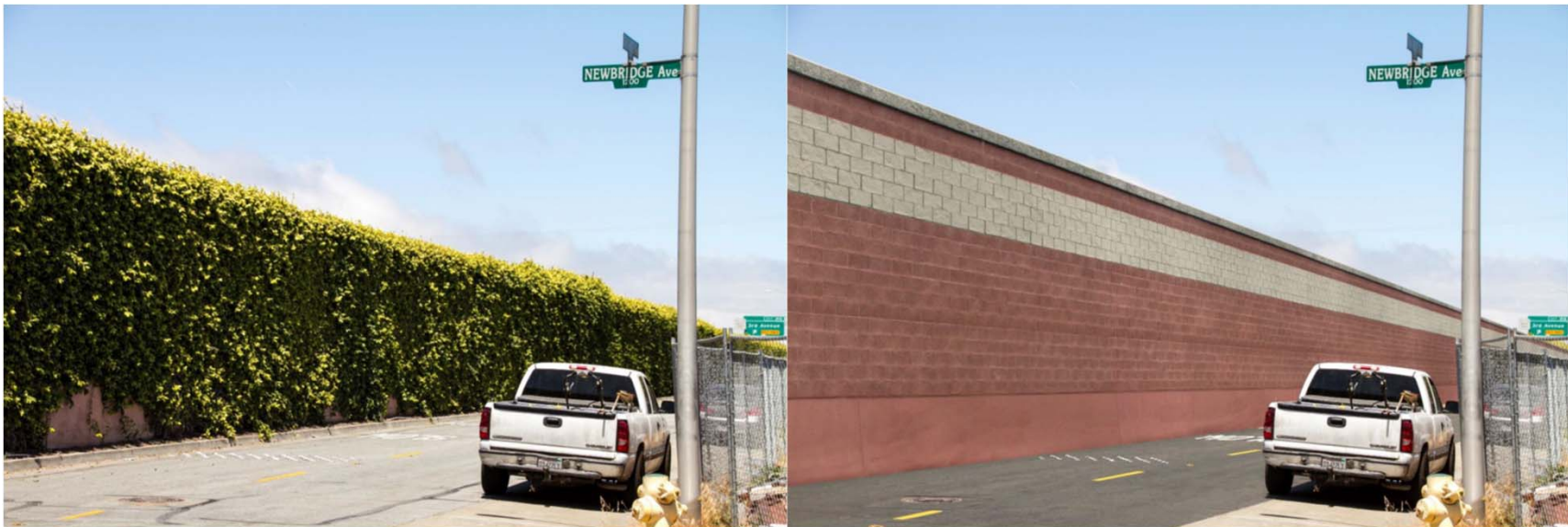
Realigned northbound soundwalls in San Mateo

- **S. Bayshore Blvd. between Kehoe and Third**
- **S. Bayshore Blvd. between Third and Dore**
- **S. Bayshore north of Dore**

Realigned southbound soundwalls in Burlingame and San Mateo

- **Rollins Rd. south of Broadway**
- **N. Amphlett before E. Poplar**
- **N. Amphlett south of E. Poplar**

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SOUNDWALL REALIGNMENT



Example: relocated wall at Bayshore Blvd. and Newbridge Ave., City of San Mateo



- **Visual Impacts identified**

- There will be some ramp realignments that require vegetation removal
- Toll pricing signs will be placed in the median
- Additional highway lighting throughout the corridor



Example of ramp realignment at southbound off-ramp at Holly Street, San Carlos



- **Air Quality:** Not a project of air quality concern for particulate matter emissions - Bay Area Air Quality Conformity Task Force
- **Greenhouse Gas Emissions:** Potential temporary increase during construction. Emissions would improve in the Opening and Design Years when compared to Existing Conditions.
- **Wetlands:** Less than one acre of permanent and temporary impacts to wetlands
- **Species Habitat:** Less than ½ acre of impacts to sensitive biological habitat
- **Water Quality Impacts:** Must capture and filter runoff
- **Community Impacts:** Studies indicate that Express Lanes are used by all income groups

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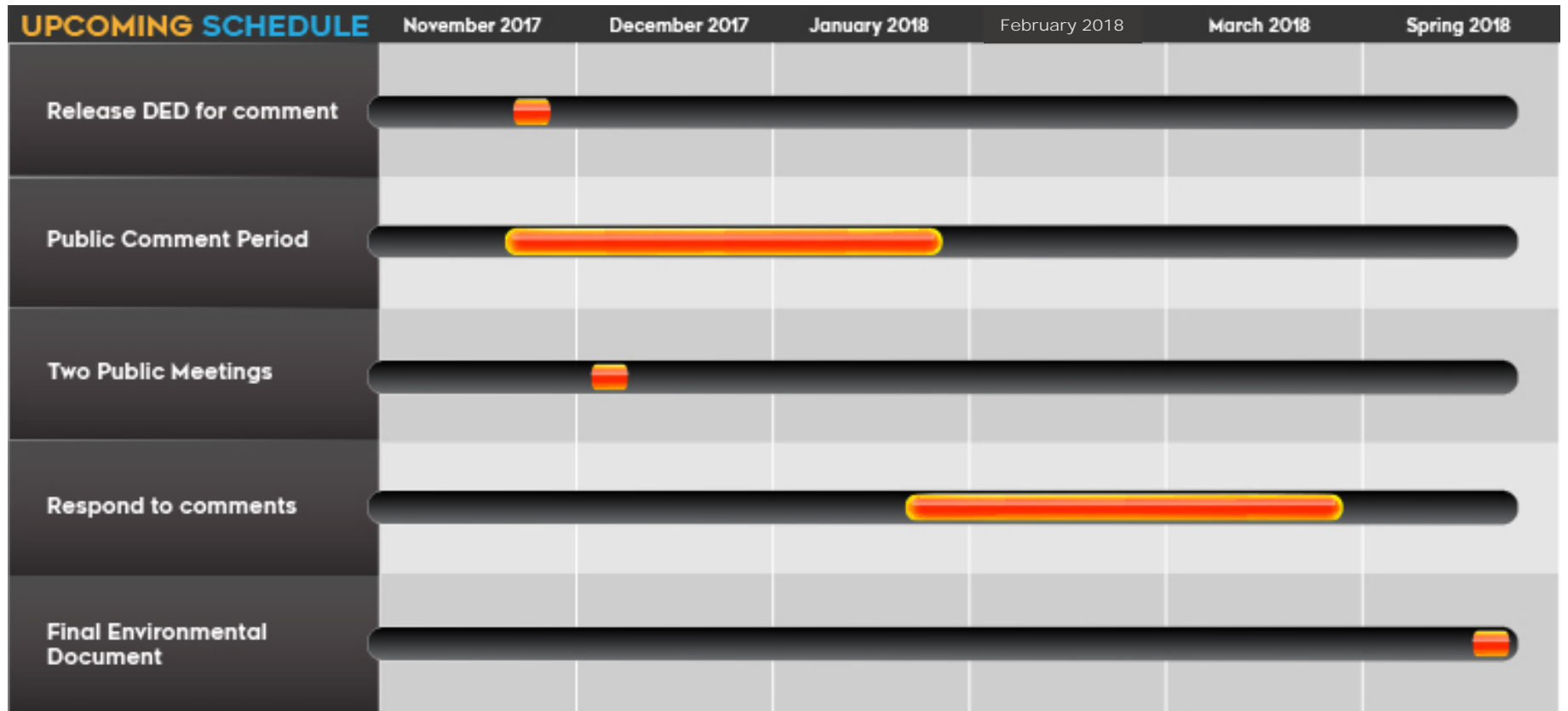
COST ESTIMATE



	in \$ millions
Environmental Clearance	\$ 21.0
Design	\$ 38.0
Right of Way Support	\$ 2.0
Right of Way Capital	\$ 17.2
Construction Management	\$ 41.0
Capital Construction	<u>\$ 414.8</u>
	\$ 534.0

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SHORT TERM SCHEDULE



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ENFORCEMENT PLANNING



- ▶ FasTrak® requirement improves enforcement
- ▶ Automated for toll evasion: if no toll tag, license plate cameras used to send vehicle owner a violation notice (like at bridges)
- ▶ Manual for HOV occupancy: beacons show CHP who is toll-free; web portal for tag look-up
- ▶ CHP enforcement contract



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TOLLING SYSTEM PLANNING



Tolling System Roles Assessment

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TOLLING SYSTEM ROLES



- **Facility Owner (an Agency)**
 - Owns tolling equipment and related highway improvements
 - Sets tolling policy and rates
 - Budgets and pays for the operation, maintenance and liabilities of the facility
 - Distributes revenues
- **Facility Operator (an Agency)**
 - Manages the day-to-day operation of the facility on behalf of owner
 - Ensures that the system is maintained
- **Toll System Manager (a Consultant)**
 - Defines toll system requirements
 - Oversees Toll System Integrator to ensure requirements are met
- **Toll System Integrator (a Contractor)**
 - Designs and implements the Toll System according to the requirements
 - Supports operation of the Toll System for year 1 under warranty

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OWNER/OPERATOR OPTIONS - COMPARISONS



Santa Clara Valley Transportation Agency

SB 595: VTA authority as owner/operator for US 101 in San Mateo County in coordination with C/CAG & SMCTA

VTA operates 11 miles of SR 237 since 2012

Express lanes in Santa Clara County expected 2021 - continuity when ML are operational in San Mateo

VTA has a system manager (VTA staff) and a system integrator (TransCore)

Metropolitan Transportation Commission

BAIFA oversees planning, financing, construction & operation of express lanes

BAIFA is joint powers authority between MTC & the Bay Area Toll Authority

MTC operates I-680; started in 2017

MTC has contracts in place for system manager & system integrator (TransCore)

San Mateo agency to be formed

C/CAG & TA would need to agree on how to form such a partnership

Secure State sponsor & seek legislation to provide authority to the joint partnership

Process: 1+ years (assuming legislation will pass)

Will need to secure contracts for system manager & system integrator

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COMPARISON OF THE OPTIONS



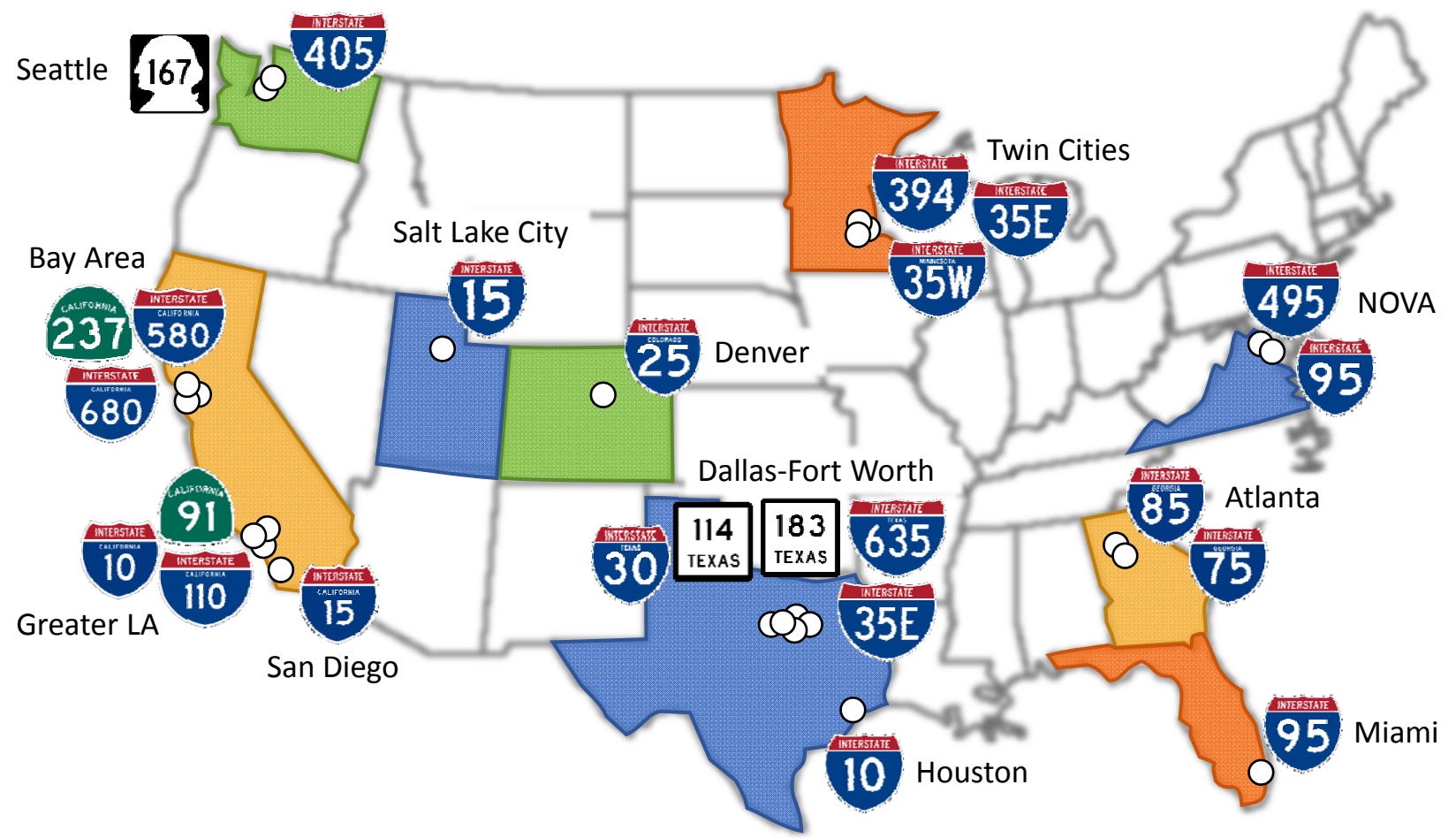
	VTA	MTC	San Mateo
Continuity of operations	✓		✓
Experience of the owner/operator	✓	✓	
Financial independence / Bonding capacity	TBD	TBD	✓
Available Now	✓	✓	

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U.S. EXPRESS LANE FACILITIES



25 OPERATING HIGH-OCCUPANCY TOLL FACILITIES



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U.S. EXPRESS LANE FACILITIES



FACILITIES STUDIED



Seattle, WA
20 lane-miles (1 lane each dir.)



Alameda/Santa Clara Co.
14 lane-miles (1 lane SB)



Alameda Co.
36 lane-miles (1 lane WB, 2 lanes EB)



Santa Clara Co.
8 lane-miles (1 lane each dir.)



Los Angeles, CA*
56 lane-miles (2 lanes each dir.)



Los Angeles, CA
44 lane-miles (2 lanes each dir.)



Orange/Riverside Co.
72 lane-miles (2 lane each dir.)



San Diego, CA
80 lane-miles (1 lane each dir. + 2 reversible)



Minneapolis, MN*
36 lane-miles (1 lane each dir.)



Houston, TX*
48 lane-miles (2 lanes each dir.)



Atlanta, GA
32 lane-miles (1 lane each dir.)



Miami, FL*
84 lane-miles (2 lanes each dir.)

*New HOT lanes were created via widening or restriping. All other facilities are converted HOV lanes

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Questions?