

SM 101 MANAGED LANES PROJECT



Joint Board Ownership Workshop – November 16, 2018



- **Introduction**
- Project Overview
- How Express Lanes Work
- 101 Managed Lane Financial Forecast
- Performance Comparison
- Ownership Considerations
- Transit
- Equity Considerations
- Discussion

SM 101 MANAGED LANES PROJECT THE PROBLEM



Every day!



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

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

Municipalities implementing TDM measures

SFCTA is coordinating with San Mateo to study an extension of the 101 Express Lanes into San Francisco

VTA is creating an Express Lanes network in Santa Clara County

Construction of the 101 Express Lanes from the San Mateo County line to SR-237 begins in early 2019

SM 101 MANAGED LANES PROJECT

PROJECT PURPOSE



- Encourage carpooling and transit use
- Improve travel-time reliability for HOV/express lane users
- Increase person throughput (number of people moved)
- Apply technology and/or design features to help manage traffic
- Reduce congestion in the corridor
- Minimize operational degradation of the general purpose lanes



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SM 101 MANAGED LANES PROJECT PROJECT LIMITS

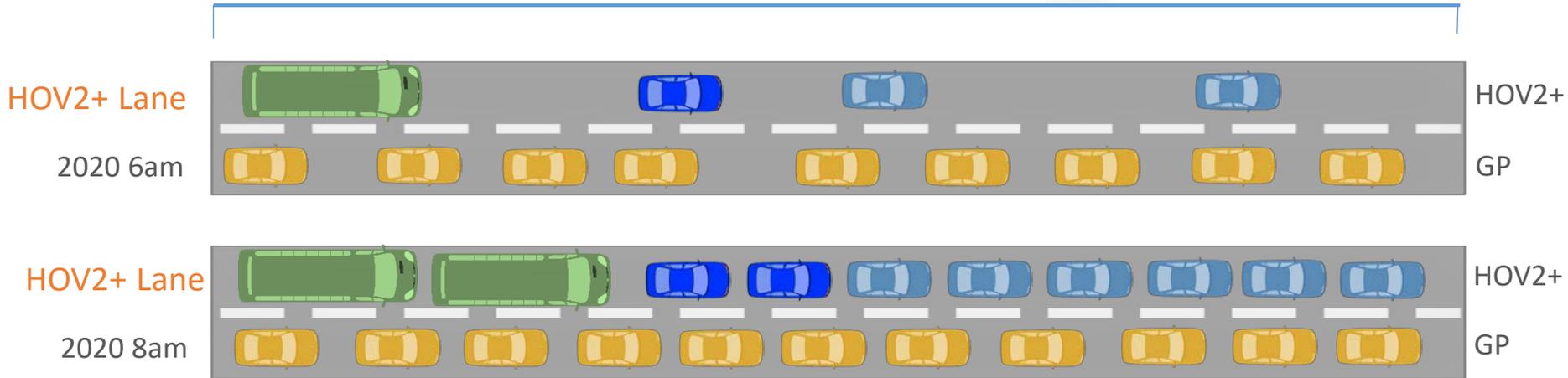


SM 101 MANAGED LANES PROJECT

LANE UTILIZATION – HOV 2+ LANE



1/4 Mile of Managed Lane



- If HOV2+ lane only, lane becomes congested like a General Purpose (GP) lane
- 1–2 years after opening an HOV2+ would need to convert to HOV3+ Lane due to poor performance



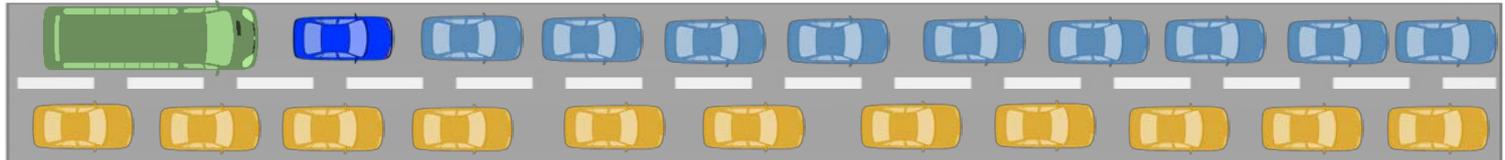
SM 101 MANAGED LANES PROJECT LANE UTILIZATION COMPARISON



1/4 Mile of Managed Lane

HOV2+ Lane

2020 8am



HOV3+ Lane

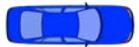
2020 8am



- If HOV 2+ lane only, demand exceeds capacity with no ability to manage
- If HOV 3+ lane only, there is excess capacity with no ability to fill



Bus



HOV 3+



HOV 2+ & CAV



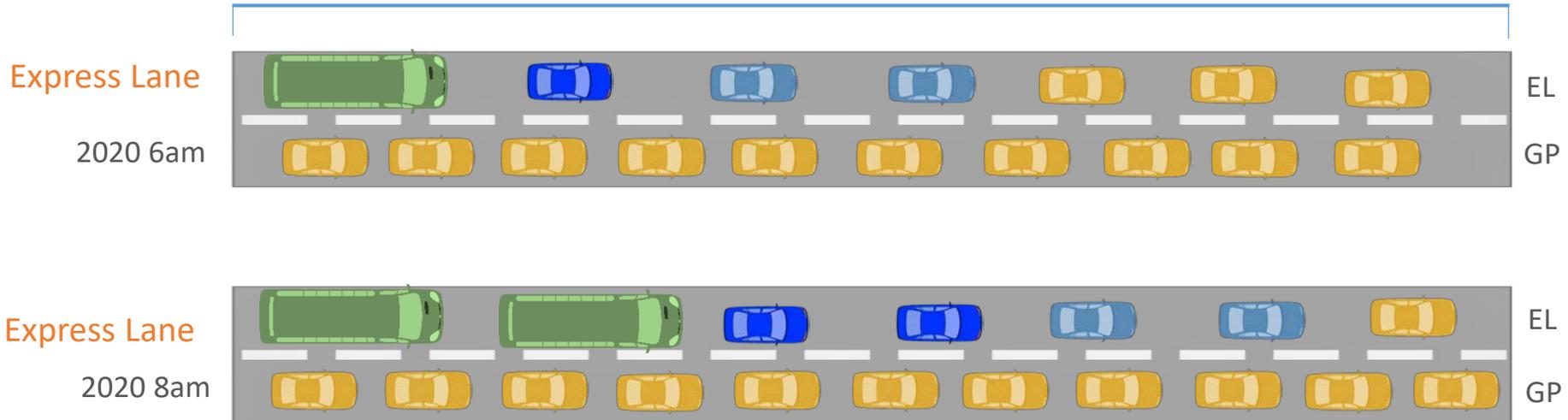
Single Occupant and Other Vehicles

SM 101 MANAGED LANES PROJECT LANE UTILIZATION – EXPRESS LANE

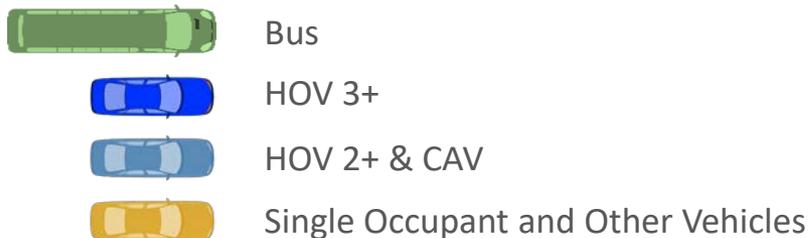


Express Lane (HOV 3+ free)

1/4 Mile of Managed Lane



- An Express Lane can make use of excess capacity all of the time
- Reliable travel time encourages buses and HOV 3+ usage



SM 101 MANAGED LANES PROJECT

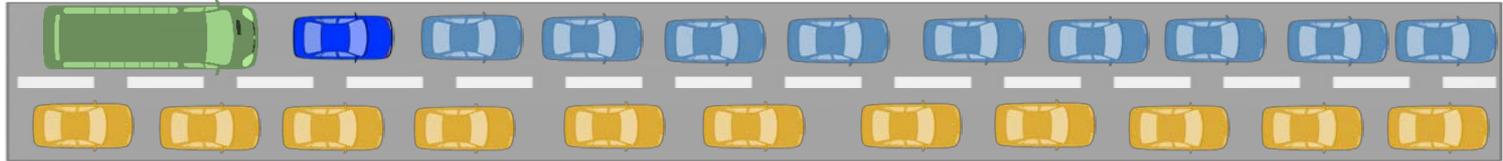
LANE UTILIZATION COMPARISON



1/4 Mile of Managed Lane

HOV Lane 2+

2020 8am



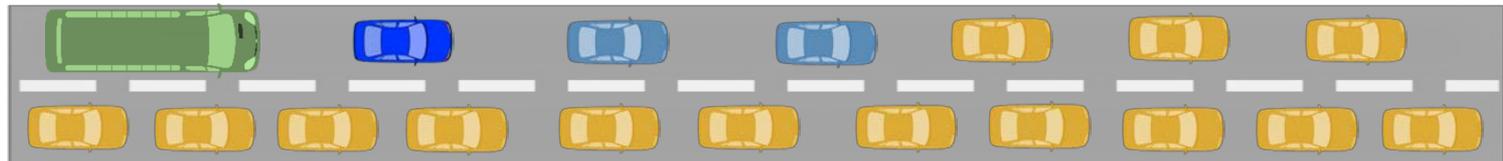
HOV Lane 3+

2020 8am



Express Lane

2020 8am



Bus



HOV 3+



HOV 2+ & CAV



Single Occupant and Other Vehicles



The Final Environmental Impact Report / Environmental Assessment (EIR/EA) with Finding of No Significant Impact (FONSI) was released on November 8, 2018.

- Caltrans is the designated environmental “Lead Agency” for major projects on the state highway system.
- Caltrans certified the environmental document (Both CEQA and NEPA).

SM 101 MANAGED LANES PROJECT SCHEDULE



Timeline for Phases

DEIR/EA
Circulated
Nov 20 2017

Begin Design
(PS&E) Phase
May 2018

End of
Environmental
Phase
Nov 2018

Begin
Construction
Phase
Spring 2019

End
Construction
Phase
Spring 2022



Timeline for Public Outreach

Scoping
Meeting
Oct 2016

Comment
Period Closed
Jan 19 2018

Second Comment
Period Closed
Aug 9, 2018

Public
Meetings
Dec 2017

Revised DEIR/EA
Circulated
Jul 10, 2018

Owner/Operator
Decision
Dec 2018

SM 101 MANAGED LANES PROJECT

COST ESTIMATE



	in \$millions
Environmental Clearance	\$ 21.0
Design	\$ 39.0
Right of Way	\$ 1.0
Construction Management	\$ 41.0
Capital Construction	\$ 408.0
Right of Way Capital	<u>\$ 3.0</u>
	\$ 513.0

SM 101 MANAGED LANES PROJECT

FUNDING SOURCES



FUNDING SOURCE	TOTAL FUNDS <i>(in millions)</i>
Federal	\$9.5
State	
Interregional Transportation Improvement Program (ITIP)	\$18.0
State Transportation Improvement Program (STIP)	\$33.5
SB1 Local Partnership Program (LPP)	\$21.5
SB 1 Solutions for Congested Corridors (SCC)	\$200.0
Regional	
Regional Bridge Tolls	\$95.0
Local	
San Mateo Measure A, Toll Revenues, Other	\$82.5
Private Sector	\$53.0
TOTAL	\$513.0



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SM 101 MANAGED LANES PROJECT

FASTRAK FLEX IS THE KEY



Set the switch, Take your trip!



1



One person

2



Two people
Eligible Clean Air Vehicles



3+



Three or more people
Motorcycles

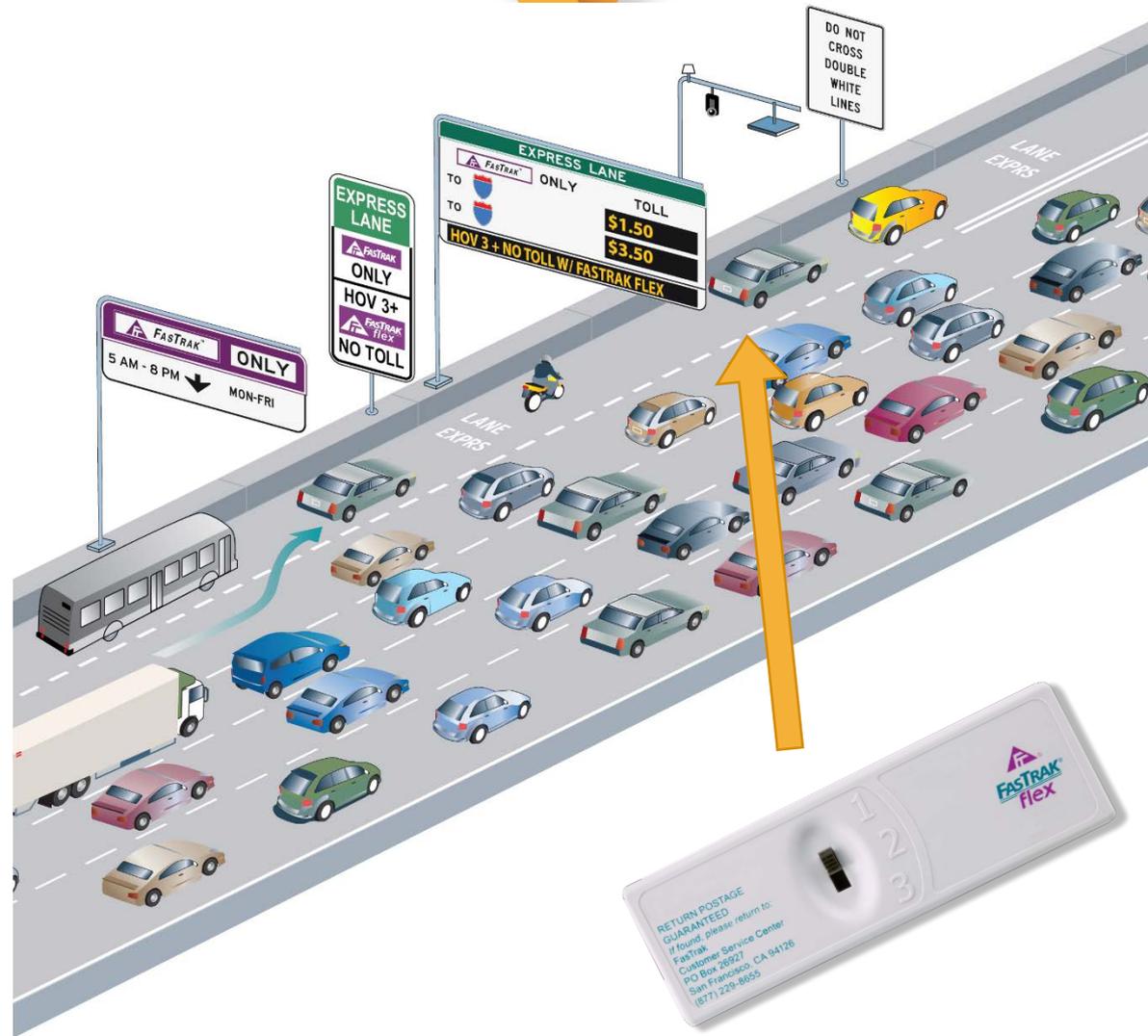
SM 101 MANAGED LANES PROJECT

EXPRESS LANE COMPONENTS

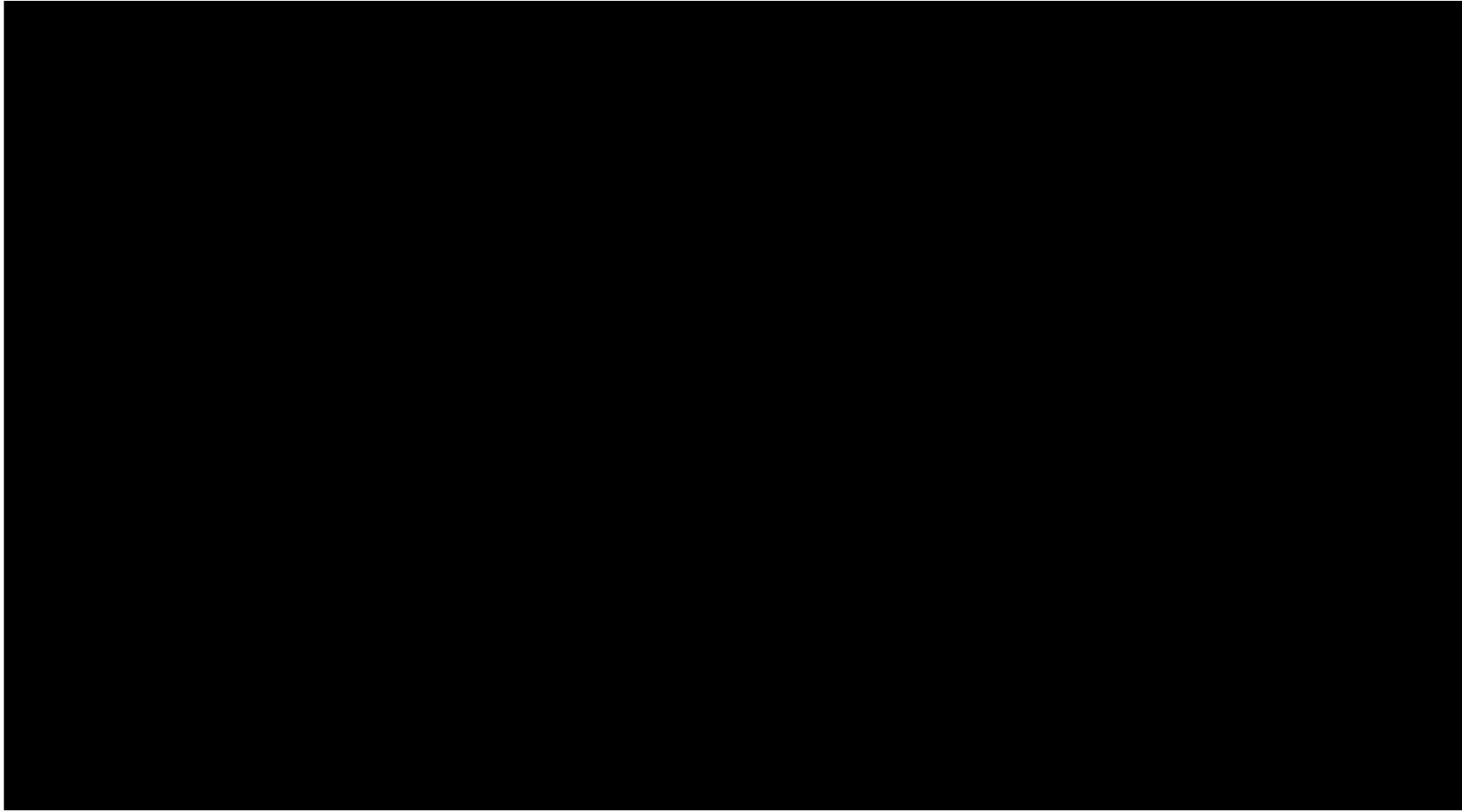


WHAT IS AN EXPRESS LANE?

- Carpools (HOV3+), buses, motorcycles free
- Carpools (HOV2), eligible clean air vehicles discounted tolls
- Other drivers can choose to pay
- Electronic toll collection
- Dynamic toll (congestion pricing) keep lane free flowing



SM 101
MANAGED LANES PROJECT
USING EXPRESS LANES



SM 101 MANAGED LANES PROJECT 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 (as done at bridges)
- ▶ Manual for HOV occupancy: beacons show CHP who is toll-free; web portal for tag look-up
- ▶ CHP enforcement contract provides for officers specifically for Express Lanes enforcement



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SM 101 MANAGED LANES PROJECT DEFINITIONS



Gross Revenue	Projected total revenue from the express lanes
Post-Processing Adjustments	Adjustments to the gross revenue that reflect violators using the lane, unknown toll policies, and other factors
Operation and Maintenance (O&M) Costs	Estimate of costs to operate and maintain an express lane
Net Revenue	Amount of money remaining after accounting for post-processing adjustments, debt service, O&M costs, and rehabilitation

SM 101 MANAGED LANES PROJECT

GROSS REVENUE ESTIMATE



	Annual Total
Low end estimate of gross revenue Makes optimum use of the lane	\$41.2 M
High end estimate of gross revenue Emphasizes the value of time in the pricing choices	\$49.2 M
Assumed revenue = average of high and low values	\$45.2 M

Revenue Assumptions

HOV 3+ vehicles will use the lane for free.

HOV 2 and Clean Air Vehicles (CAVs) will be half-priced.

The facility will operate from 5am to 8pm.

The maximum toll rate will be set at \$3/mile.

SM 101 MANAGED LANES PROJECT

PRELIMINARY O&M COST ESTIMATE



	SM/VTA Owner/Operator*	BAIFA/MTC Owner/Operator*
Customer Service Center (BAIFA costs for processing transactions and violations)	\$8.0	\$8.0
Annual Operations Staffing Costs	\$1.2	\$0.7
Annual Operations Contractor O&M Costs	\$2.9	\$2.9
Annual Roadway Maintenance Costs	\$2.6	\$2.6
Annual Contribution to Future Rehabilitation and Reserves	\$2.0	\$2.0
Annual CHP Enforcement in Field	\$1.3	\$1.3
Subtotal	\$18.0	\$17.5
10% Contingency	\$1.8	\$1.7
Total Estimated Annual Operating Costs	\$19.8	\$19.2

*These are preliminary estimates based on discussions with VTA and MTC staff

SM 101 MANAGED LANES PROJECT

ANNUAL NET REVENUE ESTIMATES



	Low Level Loss (In annual \$M)	High Level Loss (In annual \$M)
Average Gross Revenue of TOM runs	\$45.2	\$45.2
Post-processing adjustment range*		
Toll violation/uncollected revenue	(\$2.3)	(\$4.5)
HOV-only mode losses	(\$2.3)	(\$9.0)
Actual v. model losses	(\$1.2)	(\$2.3)
Subtotal	\$39.4	\$29.4
Operations and Maintenance Costs	(\$19.2)	(\$19.8)
Approximate Annual Net Revenue	\$20.2	\$9.6

*These are preliminary estimates to be refined over time.

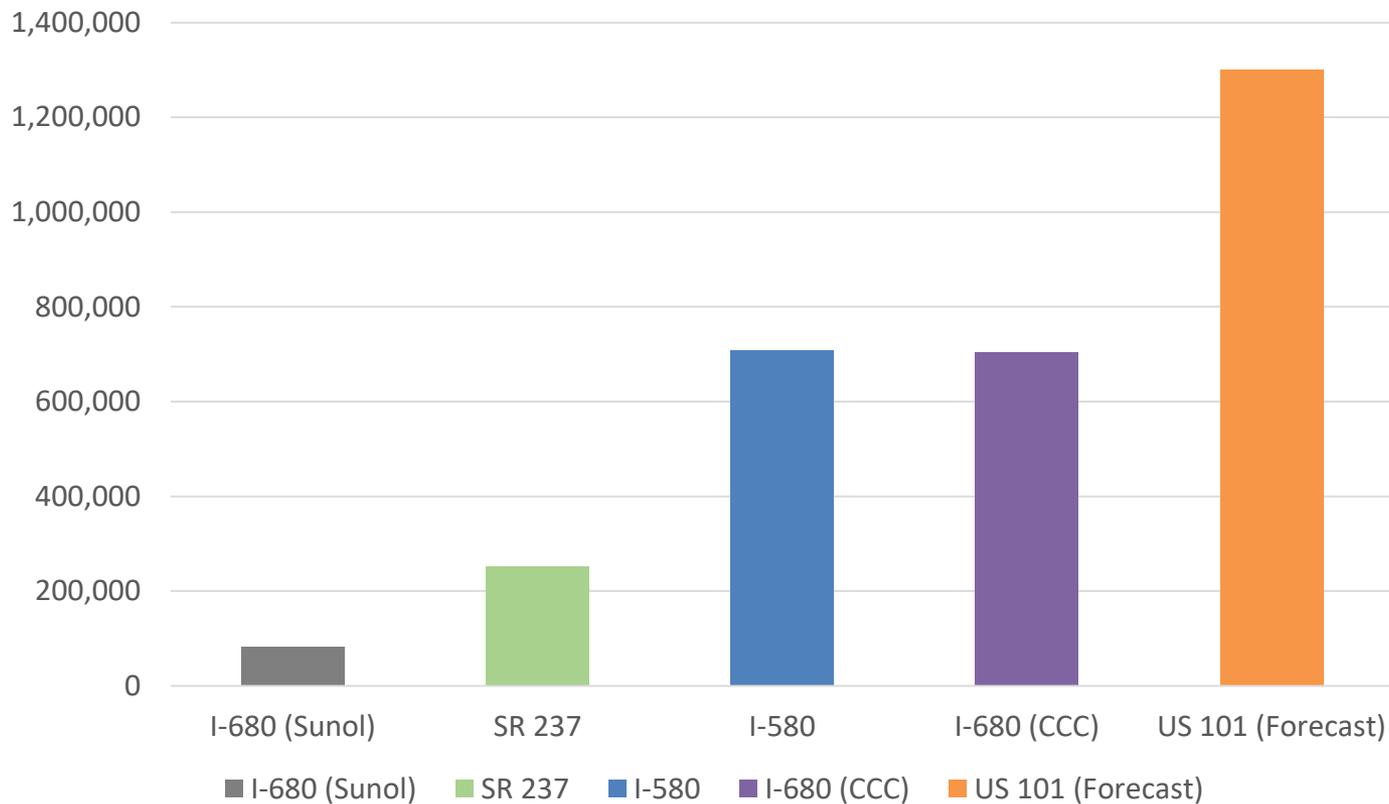


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SM 101 MANAGED LANES PROJECT BAY AREA EXPRESS LANES TRIPS



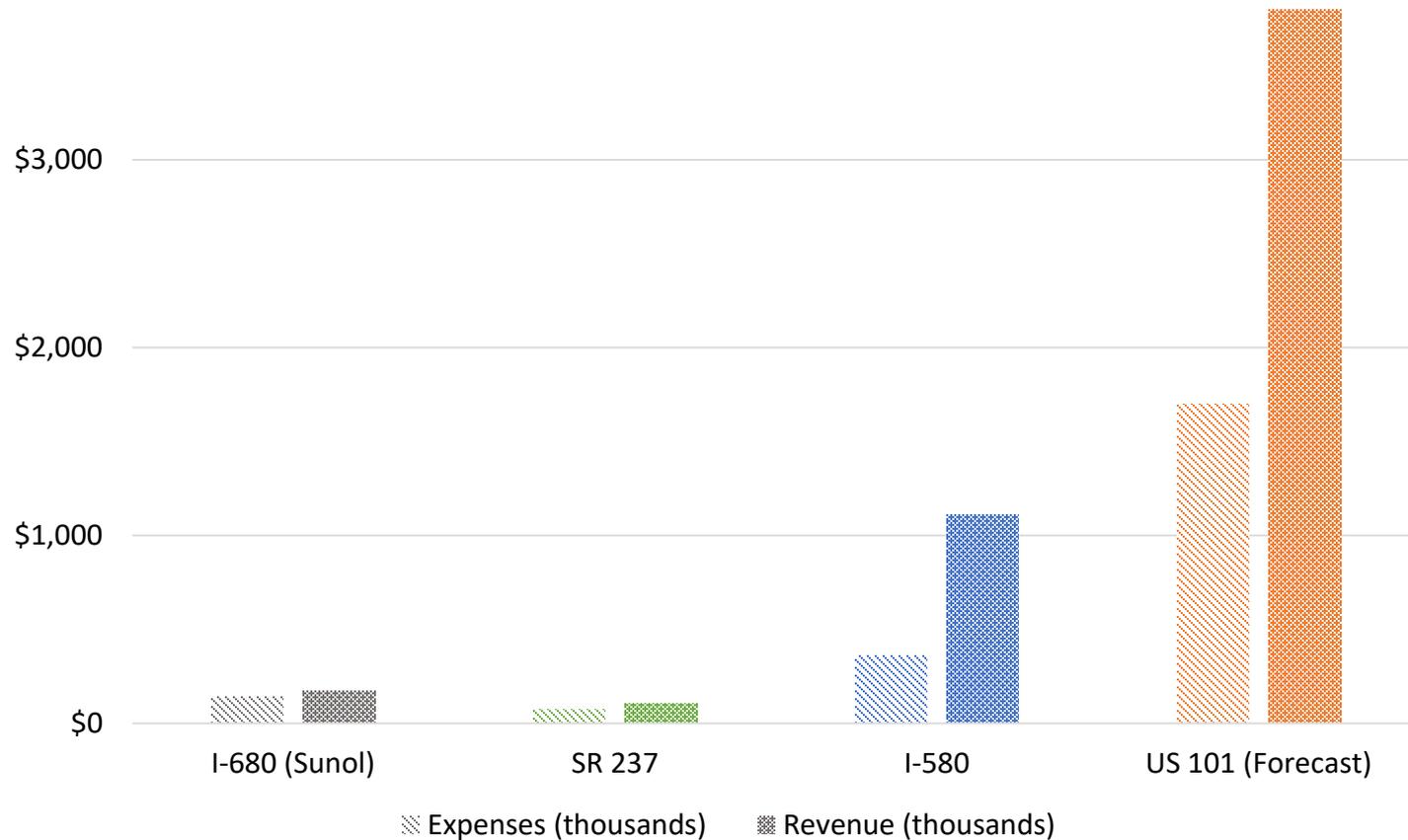
Average Monthly Express Lane Trips FY 2017-2018



SM 101 MANAGED LANES PROJECT REVENUE VS. EXPENSES



Bay Area Express Lane Average Monthly Revenue and Expenses
FY 2016-2017





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The decision of the Owner and Operator of the facility rest with the TA and C/CAG Boards.

This decision will impact:

- Operating Control
- Revenue Control
- Financial Risk
- Bonding Capacity



• Facility Owner

- Owns tolling equipment and related highway improvements
- Sets tolling policy and rates; issues toll violations
- Adopts equity and other incentive programs
- Budgets and pays for the operation & maintenance of the facility
- Assumes liabilities, including tort liability and any debt or budgetary shortfalls
- Adopts Expenditure Plan and directs investments of the net revenues
- Establishes the State of Good Repair capital reserve



• Facility Operator

- Manages the day to day operation of the facility on behalf of owner
- Defines toll system communication, equipment and data security requirements
- Ensures that the system is implemented, managed and maintained



Options available:

1. San Mateo Owner and VTA Operator

- San Mateo Agency to be formed:
 1. Agreement
 2. Joint Policy Committee
 3. Joint Powers Authority
- San Mateo Agency will contract with Santa Clara Valley Transportation (VTA) Authority [SB 595 enabling legislation] to operate

2. MTC is Owner and Operator

- Bay Area Infrastructure Finance Authority [MTC] will serve as both owner and operator of the express lane [AB 194 enabling legislation subject to CTC approval]



Options available (cont'd):

3. San Mateo Owner and Operator

- San Mateo Agency to be formed as the owner.
- San Mateo to seek legislation for becoming an operator. This will require a legislation process.

4. C/CAG Owner and Operator

- Requires application to CTC via AB194 to secure authority
- Requires consent of MTC
- Would require separate agreement with SMCTA

SM 101 MANAGED LANES PROJECT



	Option	Description	Pros	Cons
SAN MATEO COUNTY ENTITY/ENTITIES OWN AND OPERATE				
1.	Stand-alone three-party agreement (TA, C/CAG, VTA)	TA, C/CAG, and VTA would enter into three-party agreement governing ownership and operation. There would be no joint advisory or decision-making body	<ul style="list-style-type: none"> Retains SMC control. 	<ul style="list-style-type: none"> Assumes financial liabilities. Cumbersome decision-making. Agreement cannot anticipate all issues, requiring many actions by all three boards. May be difficult to achieve consensus among all three boards.
2.	Joint policy committee	TA and C/CAG Boards would set up cross-agency joint committee to make recommendations for managing the express lanes, then enter into agreement with VTA.	<ul style="list-style-type: none"> Retains SMC control. Agency boards retain control. Could make decision-making by individual boards more efficient. 	<ul style="list-style-type: none"> Assumes financial liabilities. Uncommon. Advisory only; still requires that all three boards agree on most actions. May be difficult to achieve consensus among all three boards. Requires decisions about committee members, etc.
3.	Joint powers authority	TA and C/CAG would form new JPA, which would enter agreement with VTA. JPA's scope and authority is flexible; could be repealed by TA and C/CAG.	<ul style="list-style-type: none"> Retains SMC control. Could transfer financial liabilities to new entity. More efficient decision-making than (1) and (2). JPA is a more familiar concept/structure. 	<ul style="list-style-type: none"> Slow setup (but could be combined with #1 or #2 on interim basis). TA and C/CAG Boards must feel comfortable relinquishing at least some authority. Requires decisions about JPA board members, liability, staff, etc.
MTC/BAIFA OWN AND OPERATE				
4.	MTC/BAIFA	Once capital project is completed, ownership and control over express lanes would be transferred to BAIFA; MTC would own/operate toll facility.	<ul style="list-style-type: none"> Transfers financial liabilities. MTC is experienced in owning/operating express lanes. MTC staff had provided in writing that TA and C/CAG would control net revenues, through development of an expenditure plan for projects that would benefit the 101 corridor. 	<ul style="list-style-type: none"> Cedes SMC control over ownership and operation. TA and C/CAG would have 1 seat on 7-member board. MTC receives gross revenues, but MTC staff indicated in writing that SMC would control net revenues, but still subject to MTC BAIFA vote. Would require clear understanding on what revenues MTC takes for O&M. May require future negotiations with other corridor agencies (e.g., SFCTA) on the use of net revenues.
IMPRACTICABLE OPTIONS				
5.	C/CAG seeks authority from CTC to own and operate	C/CAG would apply to California Transportation Commission as a "regional transportation agency" to receive authority to own/operate express lanes under AB 194.	<ul style="list-style-type: none"> Retains SMC control. Relatively fast setup. Does not require new legislation or JPA. 	<ul style="list-style-type: none"> Not practicable – requires consent of "transportation planning agency," which is MTC; MTC will likely oppose as that adds another entity in the Bay Area to own/operate managed lanes. Would require separate agreement/arrangement with TA.
6.	Legislation	TA and/or C/CAG run bill to secure authority to own/operate express lanes.	<ul style="list-style-type: none"> Retains SMC control. 	<ul style="list-style-type: none"> Not practicable – questionable chance of success (MTC will likely oppose for reason stated above). Process for legislation is at least a year or more. Need to secure a legislative sponsor.



San Mateo County as Owner and VTA as Operator

1. Three Party Agreement with TA, CCAG and VTA
 - Decision-making process by agreement, and likely cumbersome
2. Joint Policy Committee (JPC) – TA and CCAG Boards set up cross-agency joint committee to make recommendations to the two boards
 - Decision-making process could be time consuming
 - Will need to determine membership of the JPC
3. Joint Powers Authority (JPA) – TA and CCAG form new JPA
 - Decision-making powers vested in JPA
 - Will need to determine membership of the JPA
 - Set up could take some time
 - Could use #1 or #2 above as interim steps



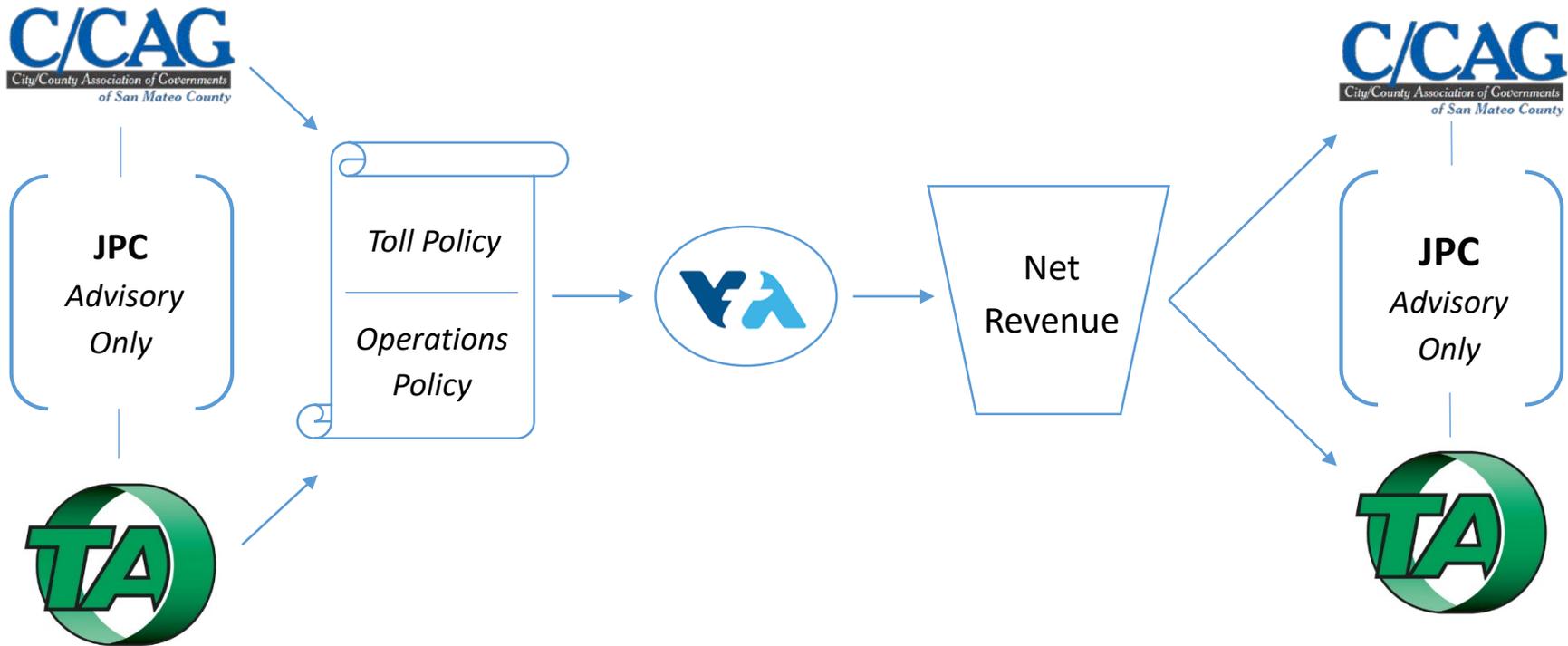
San Mateo County as Owner – policy issues to be resolved between TA and C/CAG

- Membership of the Joint Policy Committee or Joint Powers Agency
- Powers to be delegated to the joint entity
- Sharing of revenues
- Sharing of financial liabilities
- Determine appropriate staffing to oversee San Mateo-VTA contract
- Term of the joint relationship before a re-evaluation

SM 101 MANAGED LANES PROJECT TOLL SYSTEM NEAR-TERM DECISIONS

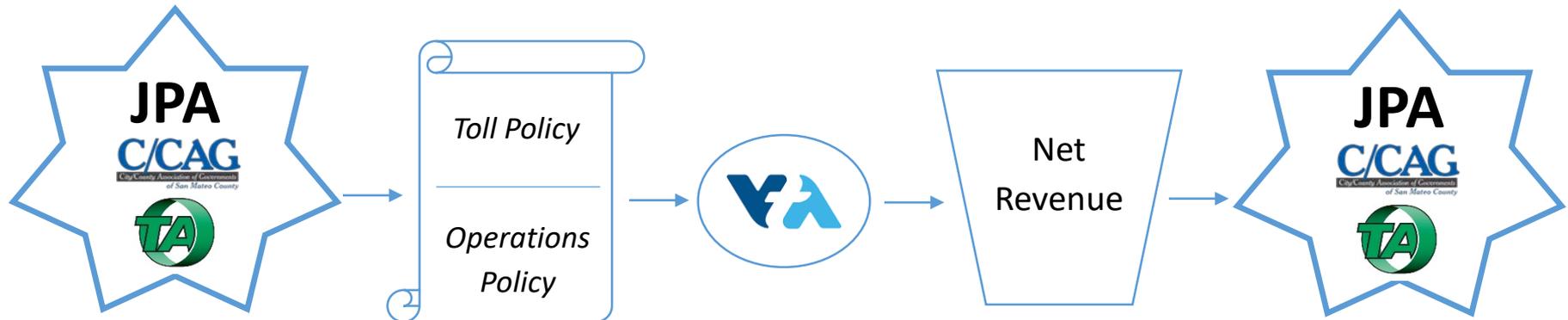


Joint Powers Committee (JPC)





Joint Powers Agreement (JPA)





Santa Clara Valley Transportation Authority (VTA)

- AB 2032 in 2004 granted VTA Express Lanes authority
- SB 595, signed in October 2017, provides the VTA the authority to be the operator for US101 in San Mateo County in coordination with the C/CAG and SMCTA
- VTA operates 11 miles of SR 237 since 2012
- VTA anticipates to implement express lanes on US101 in Santa Clara County some time in 2021; provides continuity for users when managed lanes are operational in San Mateo and Santa Clara counties



Santa Clara Valley Transportation Authority (VTA)

- San Mateo would enter into a contract with VTA to serve as operator
- Contract terms include: roles & responsibilities, staffing, costs and compensation, term, performance standards, reporting and monitoring, issue resolution.
- Process with VTA would include the following:
 - SMCTA and CCAG decide on how to create joint relationship with each other (Jan/Feb 2019)
 - San Mateo and VTA boards approve contract terms (March/April 2019)



Metropolitan Transportation Commission

- Bay Area Infrastructure Financing Authority, or BAIFA, is a six-member committee that oversees the planning, financing, construction and operation of freeway express lanes and related transportation projects
- BAIFA is joint powers authority between MTC and the Bay Area Toll Authority
- Membership currently includes one MTC Commissioner from Alameda, Contra Costa, Solano Counties, plus the chair of MTC and chair of BATA, and non-voting member from CalSTA.
- MTC operates I-680 in Contra Costa County; will begin to operate I-880 in Alameda County in 2019/20



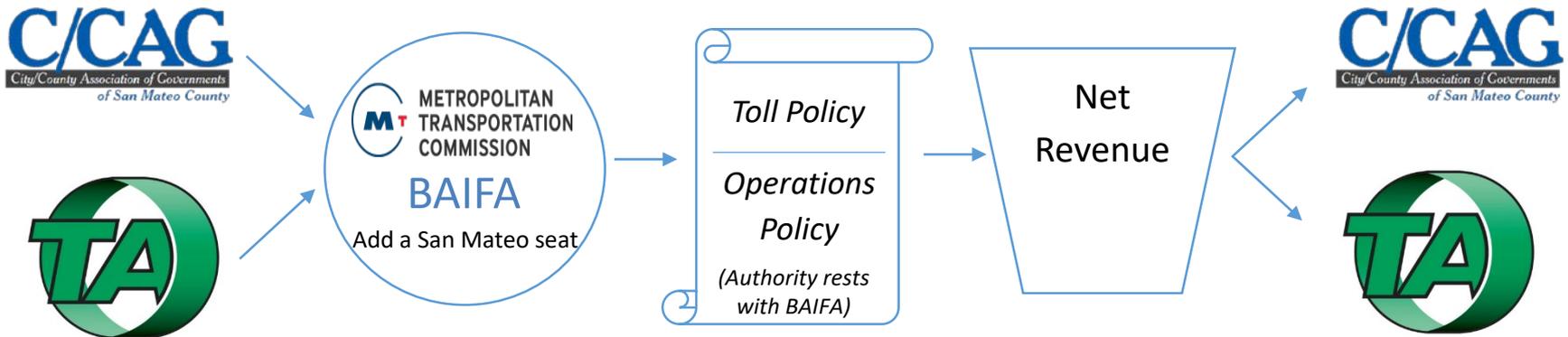
Metropolitan Transportation Commission

- BAIFA increases membership to include San Mateo County (January - March 2019)
 - San Mateo membership – one MTC Commissioner from San Mateo
 - Definition of corridor
 - Definition of revenues to be used in corridor after off-the-top for operating & maintenance costs; no debt service will be assumed to be deducted from gross revenues
 - State of good repair capital reserves
- BAIFA applies to CTC to operate the managed lane in San Mateo (March – May 2019)

SM 101 MANAGED LANES PROJECT TOLL SYSTEM NEAR-TERM DECISIONS



BAIFA Structure





How to compare the two options:

User Experience

- Would user experience be different depending on who owns and operates system?

Operating Control

- Tolling policies: including setting toll rates, establishing equity program, and enforcement such as establishing penalties for violators

Revenue Investment Decisions

- Use of revenues net of O&M within corridor, including providing for transit and other mobility options

Financial Risks

- Revenue generation can be affected by traffic volume growth, economy, enforcement, and other factors; access to future capital

Bonding capacity

- If revenue generation is not stable, ability to bond against future revenues for future projects would be reduced

SM 101 MANAGED LANES PROJECT

COMPARISON OF THE OPTIONS



	VTA	MTC
Governance Structure	SM Co. owns; VTA operates	BAIFA owns and operates
User Experience	+	+
Enabling Legislation/ Existing Authority	+	+
Experience of the owner	-	+
Experience of operator	+	+
Revenue investment decisions	+	+/-
Operating & Toll Policies/ Control	+	-
Equipment Maintenance	+	+
Public Relations	-	+/-
Financial risks – operations & maintenance	-	+
Bonding capacity for future extension of project north of I-380, and other improvements	-	+

SM 101 MANAGED LANES PROJECT NET REVENUES INVESTMENTS



- Per Streets & Highway Code 149.6 (h)(3)(B), net revenues are to be spent on “...preconstruction, construction, and other related costs of high-occupancy vehicle facilities, transportation corridor improvements, and the improvement of transit service, including, but not limited to, support for transit operations...”
- Some examples of Net Revenues Investments may include:
 - Increased transit services, including express bus service
 - Park & ride lots
 - Transit signal priorities
 - Offset for potential equity and incentive programs
 - Local improvements such as first & last mile projects to support transit operations
 - Expansion of express lanes north of I-380



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SAMTRANS is currently leading an Express Bus Study for the US 101 Corridor

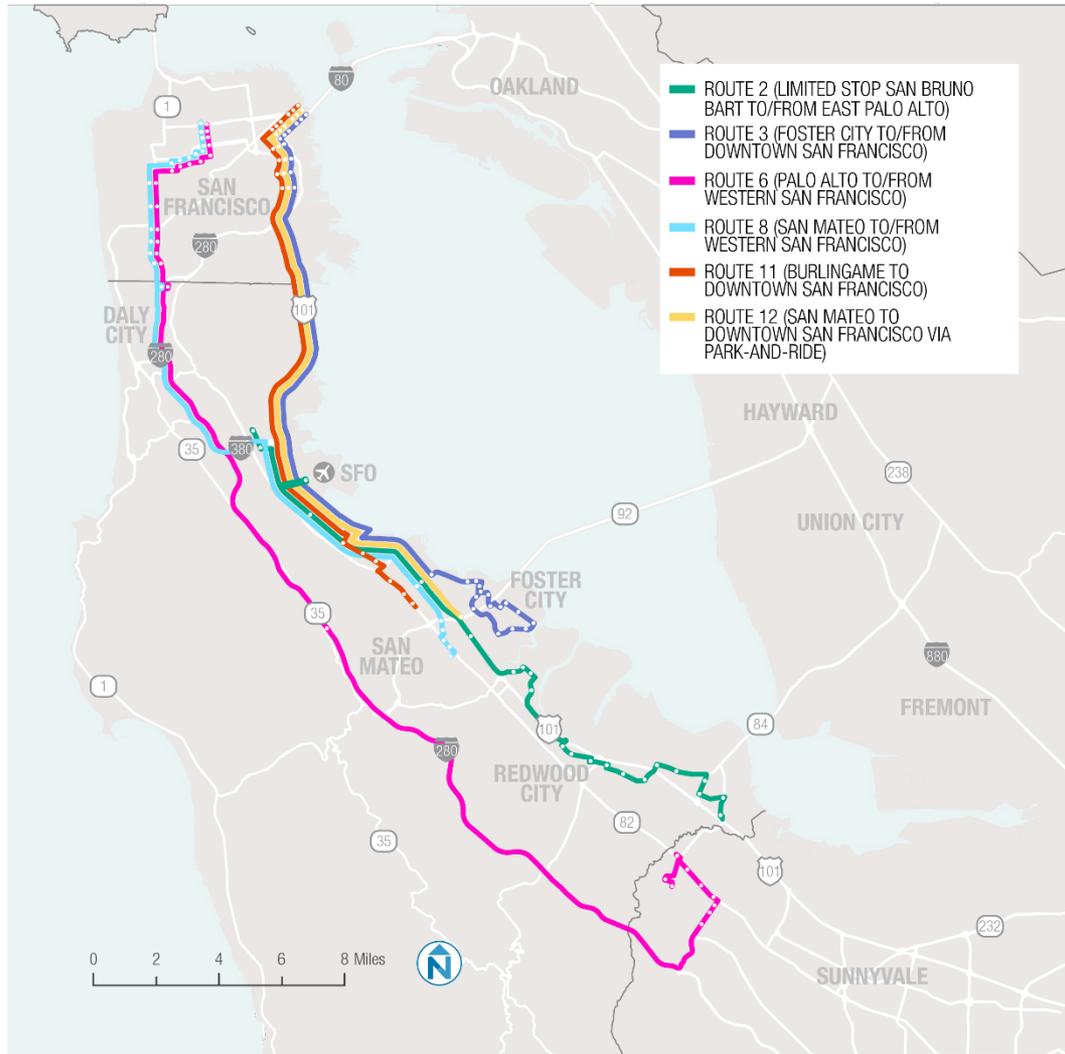
PURPOSE

- Provide a direct, fast, frequent and reliable choice of travel for commute trips between SF, San Mateo and Santa Clara Counties

STUDY STATUS

- Completed route evaluation; in process of identifying express bus network & phased implementation plan
- Anticipates completion of a draft and final Express Bus Feasibility Study December 2018

SM 101 MANAGED LANES PROJECT SAMTRANS US 101 EXPRESS BUS



- Study began April 2017
- Analyzed market demand and identified 15 route concepts
- Recommending implementation of six new express routes over three phases – one phase tied to opening of Managed Lanes Project
- Draft final report available online now on project webpage (www.samtrans.com/expressbusstudy)
- Anticipating adoption of final Express Bus Feasibility Study in December 2018



SAMTRANS is also leading a Mobility Action Plan for the US 101 Corridor

PURPOSE

- Develop a cohesive operational vision for the corridor based on innovative solutions and strategies to significantly increase vehicle occupancy, decrease the share of single occupancy vehicle trips and manage congestion in an environmentally-sustainable way along the US101 corridor

STUDY STATUS

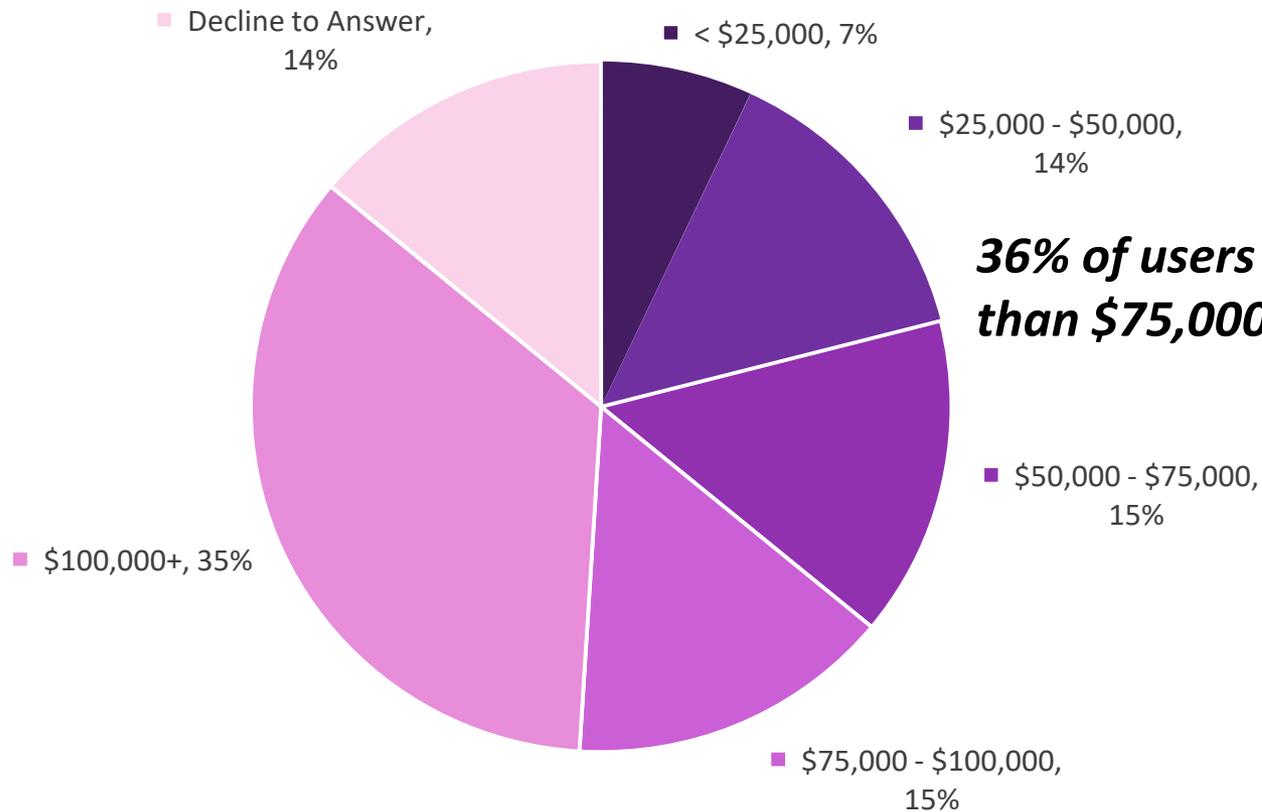
- Project team, including SamTrans, C/CAG, SFCTA, VTA, MTC and Transform, kicked off study Fall 2018
- Anticipates completion of a draft and final Plan Summer 2019



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Metro Express Lanes Users by Income (August 2016)



36% of users earn less than \$75,000 annually

Source: Metro Express Lanes FY 2016 Performance Report

SM 101 MANAGED LANES PROJECT INCENTIVE AND LOW INCOME PROGRAMS



Low-Income Assistance Plan

\$25 toll credit for new low-income users, and waives the monthly maintenance fee.



Transit Rewards Program

\$5 toll credit for every 16 one-way trips on Metro busses travelling along the Express Lanes



Carpool Loyalty Program

All Express Lane users are entered into a monthly raffle for gift cards & toll credits

SM 101 MANAGED LANES PROJECT

TOLLING & EQUITY – KEY POINTS



TOLLING & EQUITY - KEY POINTS

Successful equity policies can benefit all income levels.

Disadvantaged groups may benefit from policies that help them drive, but can benefit more from policies that increase mobility options.

Automobile mode share, annual vehicle travel and peak-period trips tend to increase with income. Lower income groups drive less during peak periods.

Low-income households less likely to have a credit card or bank account.

Completion of a Toll Equity Study can help to inform policy options.



Complete Toll Equity Study – Policy Input

Use toll revenues to increase mobility options

- Alternate Travel Routes Improvements
- Transit Credit and/or Improvements

Provide discounts to low-income drivers on the purchase price of transponders

Other Options to be identified in Toll Equity Study

SM 101 MANAGED LANES PROJECT

CONCLUSIONS & NEXT STEPS



CONCLUSIONS & NEXT STEPS

Operating Express Lanes offers benefits to all users by providing reliable travel time

This operational improvement provides incentive for people to shift modes

Express Lanes are not intended to make money but because of congestion and the value of time, they will generate healthy returns

San Mateo 101 is one of several express lanes in the Bay Area and all policy decisions will be made collaboratively to make user experience seamless

Both ownership choices make it possible to operate the lane effectively and address equity concerns

Primary decision point is how revenue is managed and who can do it effectively



Discussion